State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

12/01/05

CERTIFIED MAIL

RE: Final Title V Significant Permit Modification Chapter 3745-77 permit

07-73-00-0080
Sunoco Inc (R&M)
Bernie Marshall
1019 Haverhill-Ohio Furnace Road
Haverhill, OH 45636-0127

Dear Bernie Marshall:

Enclosed is the Title V permit that allows you to operate the facility in the manner indicated in the permit. Because this permit may contain several conditions and restrictions, we urge you to read it carefully.

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Review Appeals Commission within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. It is also requested by the Director that a copy of the appeal be served upon the Environmental Enforcement Section of the Office of the Attorney General. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, Ohio 43215

If you have any questions, please contact Portsmouth Air Pollution Group.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

cc: Portsmouth Air Pollution Group
File, DAPC PMU

State of Ohio Environmental Protection Agency

FINAL TITLE V SIGNIFICANT PERMIT MODIFICATION

Original Effective Date: 01/01/05	Expiration Date: 01/01/10	Modification Effective Date: 12/01/05

This document constitutes issuance of a Title V significant permit modification for Facility ID: 07-73-00-0080 to:
Sunoco Inc (R&M)
1019 Haverhill-Ohio Furnace Road
Haverhill, OH 45636-0127

Emissions Unit ID (Company ID)/Emissions Unit Activity Description

B004 (2001-UA)
Natural Gas,Oil or By-product Fuel Fired Boiler

B005 (2001-UB)
Natural Gas,Oil or By-product Fuel Fired Boiler

B006 (2001-UC)
Natural Gas or By-product Fuel Fired Boiler

B009 (2001-UD)
Natural Gas & Oil Fired Boiler

B010 (2001-UE)
Natural Gas,Oil or By-product Fuel Fired Boiler

F001 (Polycarbonate and Epoxy Grade BPA Railcar Loading)
Poly/Epoxy BPA Railcar Loading

F002 (Poly and Epoxy Grade BPA Bagging/Warehouse Sweeper)
Poly/Epoxy BPA Bagging Operations and Vacuum Sweeper System

F003 (Polycarbonate Grade BPA Truck Loading)
Poly BPA Truck Loading

F004 (Polycarbonate Grade BPA Powerliner)
BPA Powerliner

J004 (Phenol/Acetone/AMS Railcar Loading)
Phenol/Acetone/AMS Railcar Loading

J006 (Phenol/Acetone/AMS Truck Loading)
Phenol/Acetone/AMS Truck Loading

J008 (Cumene Railcar Unloading)
Cumene Railcar Unloading

P001 (Cumene Oxidation)
Cumene Oxidation Process Unit

P003 (BPA Process Unit)
Bisphenol-A Process Unit

P004 (Aniline Process Unit)
Aniline Process Unit

P006 (AMS Hydrogenation Process Unit)
AMS Hydrogenation Process Unit

P007 (Phenol II Process Unit)
Phenol II Process Unit

P008 (Phenol I Process Unit)
Phenol I Process Unit

P009 (Phenol WWT)
Phenol Waste Water Treatment

P012 (Phenol III Process Unit)
Phenol III Process Unit

P013 (AMS Distillation Process Unit)
AMS Distillation Process Unit

T022 (2003-F)
Light Hydrocarbon Fuel Storage Tank

T023 (2101-FA)
Cumene Storage Tank

T024 (2101-FB)
Cumene Storage Tank

T025 (2102-FA)
Phenol Storage Tank

T026 (2102-FB)
Phenol Storage Tank

T029 (2104-F)
Heavy Hydrocarbons Storage Tank

T030 (2105-F)
Heavy Hydrocarbons Storage Tank

T033 (2101-FC)
Cumene Storage Tank

T034 (2102-FC)
Phenol Storage Tank

T039 (2003-FA)
Cumene or Crude AMS Storage Tank

T045 (F-91A)
Aniline Storage Tank

T046 (F-91B)
Aniline Storage Tank

T059 (3510-F)
Alpha Methyl Styrene Hydrogenation Feed Tank

T063 (2108-F)
Heavy Hydrocarbons Storage Tank

T064 (326-F)
Hydrogenation AMS Storage Tank

You will be contacted approximately eighteen (18) months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency listed below. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, provided that a complete renewal application is submitted no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

Described below is the current Ohio EPA District Office or local air agency that is responsible for processing and administering your Title V permit:

Portsmouth Air Pollution Group
605 Washington Street, Third Floor
Portsmouth, OH 45662
(740) 353-5156

Ohio Environmental Protection Agency

Joseph P. Koncelik
Director

PART I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Section

1. Monitoring and Related Record Keeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Section A.III of Part III of this Title V permit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

i. The date, place (as defined in the permit), and time of sampling or measurements.

ii. The date(s) analyses were performed.

iii. The company or entity that performed the analyses.

iv. The analytical techniques or methods used.

v. The results of such analyses.

vi. The operating conditions existing at the time of sampling or measurement.
(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

c. The permittee shall submit required reports in the following manner:

i. **All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:**

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year in accordance with General Term and Condition A.1.c.ii below; and each report shall cover the previous calendar quarter.

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) constitutes a violation of an emission limitation (or control requirement) and, therefore, is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any scheduled maintenance, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.
(Authority for term: OAC rule 3745-77-07(A)(3)(c))

ii. **Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Section A.IV of Part III of this Title V permit or, in some cases, in Part II of this Title V permit, all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:**

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as provided below, the written reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this General Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this General Term and Condition.

See B.6 below if no deviations occurred during the quarter.
(Authority for term: OAC rule 3745-77-07(A)(3)(c))

iii. **All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with General Term and Condition A.1.c.ii above shall be submitted in the following manner:**

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; General Terms and Conditions: A.2, A.3, A.4, A.6.e, A.7, A.12, A.14, A.18, A.19, A.20, and A.22 of Part I of this Title V permit, as well as any deviations from the requirements in Section A.V or A.VI of Part III of this Title V permit**,** and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with General Term and Condition A.1.c.ii above shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable requirements not specifically addressed by permit or rule for the insignificant activities or emissions levels (IEU) identified in Part II.A of this Title V permit. Annual reporting of deviations is

deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with General Term and Condition A.1.c.ii above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.
(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))

iv. Each written report shall be signed by a responsible official certifying that, "based on information and belief formed after reasonable inquiry, the statements and information in the report (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."
(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))

v. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
(Authority for term: OAC rule 3745-77-07(A)(3)(c))

2. Scheduled Maintenance

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in General Term and Condition A.1.c.i above.
(Authority for term: OAC rule 3745-77-07(A)(3)(c))

3. Risk Management Plans

If applicable, the permittee shall develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq. (“Act”); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

a. a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or

b. as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

(Authority for term: OAC rule 3745-77-07(A)(4))

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
(Authority for term: OAC rule 3745-77-07(A)(5))

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

(Authority for term: OAC rule 3745-77-07(A)(6))

6. General Requirements

a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.

b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.10 below. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d. This permit does not convey any property rights of any sort, or any exclusive privilege.

e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

f. Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable upon final issuance of all applicable OAC Chapter 3745-35 operating permits and/or registrations for all subject emissions units located at the facility and:

   i. the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a “major source” as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or

   ii. the permittee no longer meets the definition of a “major source” as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or

   iii. a combination of i. and ii. above.

   The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.
   (Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.
(Authority for term: OAC rule 3745-77-07(A)(8))

8. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.
(Authority for term: OAC rule 3745-77-07(A)(9))

9. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these general terms and conditions shall apply to all operating scenarios authorized in this permit.
(Authority for term: OAC rule 3745-77-07(A)(10))

10. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b. This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c. The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d. The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

11. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.
(Authority for term: OAC rule 3745-77-07(B))

12. Compliance Requirements

a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.

iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted (i.e., postmarked) on or before April 30th of each year during the permit term.

ii. Compliance certifications shall include the following:

(a) An identification of each term or condition of this permit that is the basis of the certification.

(b) The permittee's current compliance status.

(c) Whether compliance was continuous or intermittent.

(d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.

(e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.

iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

13. Permit Shield

a. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b. This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

14. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The

notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).
(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

15. Emergencies
The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.
(Authority for term: OAC rule 3745-77-07(G))

16. Off-Permit Changes
The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a. The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b. The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emissions levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).

d. The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit to install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.
(Authority for term: OAC rule 3745-77-07(I))

17. Compliance Method Requirements
Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.
(This term is provided for informational purposes only.)

18. Insignificant Activities or Emissions Levels
Each IEU that has one or more applicable requirements shall comply with those applicable requirements.
(Authority for term: OAC rule 3745-77-07(A)(1))

19. Permit to Install Requirement
Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.
(Authority for term: OAC rule 3745-77-07(A)(1))

20. Air Pollution Nuisance
The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC

rule 3745-15-07.
(Authority for term: OAC rule 3745-77-07(A)(1))

21. Permanent Shutdown of an Emissions Unit

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the responsible official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the responsible official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

No emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.
(Authority for term: OAC rule 3745-77-01)

22. Title VI Provisions

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

(Authority for term: OAC rule 3745-77-01(H)(11))

B. *State Only Enforceable Section*

1. Reporting Requirements Related to Monitoring and Record Keeping Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

2. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

3. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

4. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

5. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

6. Additional Reporting Requirements When There Are No Deviations of <u>Federally Enforceable</u> Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

a. where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in General Term and Condition A.1.c.ii; or

b. where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potentials to emit; or

c. where the company's responsible official has certified that an emissions unit has been permanently shut down.

Part II - Specific Facility Terms and Conditions

A. State and Federally Enforceable Section

I. Applicable Emission Limitations and/or Control Requirements Pertaining to Facility-wide Fugitive Equipment Leaks:

1. Applicable Rules and Emission Limitations:

OAC rule 3745-31-05(A)(3)	VOC emissions from facility-wide fugitive equipment leaks shall not exceed 147.80 tons per year. Acetone emissions from facility-wide fugitive equipment leaks shall not exceed 73.89 tons per year. Ammonia emissions from facility-wide fugitive equipment leaks shall not exceed 183.31 tons per year.

2. Additional Terms and Conditions

2.a Modifications of the equipment at this facility shall not require a PTI pursuant to OAC Chapter 3745-31 that result solely in increases in fugitive equipment leaks unless and until the calculated facility-wide PTE for fugitive emissions equals or exceeds the appropriate facility-wide allowable fugitive emission limit in A.I.1.

2.b The permittee shall consider only those fugitive emissions from the equipment being installed or modified (i.e., not the facility-wide fugitive equipment limit) when determining applicability under OAC rule 3745-31-11 through OAC rule 3745-31-20.

2.c The permittee shall maintain a leak detection and repair (LDAR) program for equipment (pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, or instrumentation system) in volatile organic compound (VOC) service at the facility. The LDAR program shall be maintained in accordance with the requirements specified in 40 CFR Part 63, Subpart H (see Attachment 3).

For specific equipment which are subject to the provisions of 40 CFR Part 60, Subpart VV and also subject to 40 CFR Part 63, Subpart H, the permittee is required to only comply with 40 CFR Part 63, Subpart H. The provisions in 40 CFR 63.1(a)(3) of Subpart A do not alter the provisions in this section.

For equipment in VOC service which are subject to 40 CFR Part 60, Subpart VV, but are not subject to 40 CFR Part 63, Subpart H, the permittee has elected to apply 40 CFR Part 63, Subpart H to all such equipment, in accordance with 40 CFR 63.160(c) of Subpart H. All VOC in such equipment shall be considered, for purposes of applicability and compliance with 40

CFR Part 63, Subpart H, as if it were organic HAP. Compliance with the provisions of 40 CFR Part 63, Subpart H, in the manner described in this section, shall be deemed to constitute compliance with 40 CFR Part 60, Subpart VV.

For equipment in VOC service which are subject to OAC rule 3745-21-09(DD), the permittee shall maintain a LDAR program for equipment in VOC service. Consistent with U.S. EPA streamlining policy, the permittee has elected to demonstrate compliance with OAC rule 3745-21-09(DD) by demonstrating compliance with the equipment leak standards in 40 CFR Part 63, Subpart H and considering all VOC as if it were organic HAP. The requirements in 40 CFR Part 63, Subpart H are generally more stringent than the LDAR requirements of OAC rule 3745-21-09(DD).

3. Operational Restrictions

None

4. Monitoring and/or Record keeping

a. Monitoring for the LDAR program shall comply with Method 21 of 40 CFR Part 60, Appendix A, as specified in 40 CFR 63.180 (see Attachment 3).

The permittee shall maintain records for the LDAR program in accordance with the requirements of 40 CFR 63.181 (see Attachment 3).

5. Reporting Requirements

a. The permittee shall submit semiannual reports for the LDAR program for equipment in accordance with the requirements of 40 CFR 63.182 (see Attachment 3).

b. Reports required by 40 CFR Part 63, Subparts F, G, and H (see Attachments 1, 2, and 3) shall be submitted to USEPA Region 5, with a copy to the Portsmouth local air agency, in accordance with 40 CFR 63.103(c) (see Attachment 1).

c. By April 15 of each year, the permittee shall submit a report to the Portsmouth local air agency that specifies the VOC, acetone and ammonia emissions from the facility-wide fugitive equipment during the previous calendar year. Each report also shall include the calculations for the VOC, acetone and ammonia emissions.

6. Testing Requirements

a. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

i. Emission Limitation:

VOC emissions from facility-wide fugitive equipment leaks shall not exceed 147.80 tons per year.

Acetone emissions from facility-wide fugitive equipment leaks shall not exceed 73.89 tons per year.

Ammonia emissions from facility-wide fugitive equipment leaks shall not exceed 183.31 tons per year.

Applicable Compliance Method:

The facility-wide PTE fugitive emissions shall be calculated using the following methodology:

The facility-wide PTE fugitive emissions are based upon the sum of PTE fugitive emissions from components in each emissions unit at the facility. These components include all valves, pumps, pressure relief valves, connectors, open-ended lines, and sampling connections in regulated service at the facility. PTE fugitive emissions are calculated using the facility component count, component service type, and PTE fugitive emission factors.

PTE fugitive emission factors are calculated utilizing synthetic organic chemical manufacturing industry (SOCMI) Screening Ranges Emission Factors and SOCMI Average Emission Factors as listed in U.S. EPA's "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017). The service type for each component is determined according to the definitions contained in the SOCMI NESHAP (40 CFR Part 63, Subpart H) for gas, light liquid, and heavy liquid service. For the purposes of regulatory overlap (applicability and compliance) with 40 CFR Part 60, Subpart VV and OAC rule 3745-21-09(DD), all VOC in such equipment at the facility is considered as if it were organic HAP.

The PTE fugitive emission factors for monitored components in light liquid and gas/vapor service are calculated using the SOCMI Screening Ranges Emission Factors and "potential to emit" leak rates. A leak rate of 0.5% for pumps in light liquid service and a leak rate of 0.1% for all other monitored components in light liquid and gas/vapor service is used to calculate "potential to emit" leak rates. PTE fugitive emission factors

are then calculated for each component type based on the SOCMI Screening Ranges Emission Factors and the "potential to emit" leak rates using the following equation:

PTE Fugitive Emission Factor = PTE Leak Rate * (>10,000 ppm Screening Ranges Emission Factor) + (1 – PTE Leak Rate) * (<10,000 ppm Screening Ranges Emission Factor)

This same methodology is used to calculate the PTE fugitive emission factors for all components in heavy liquid service using a "potential to emit" leak rate of 0.1%. The PTE fugitive emission factors for unmonitored components in light liquid and gas/vapor service (i.e. components in acetone or ammonia service that are not required to be monitored by any applicable regulations) are set equal to the SOCMI Average Emission Factors. The table below lists the SOCMI Screening Ranges and Average Emissions Factors, the leak rate (if any), and the resulting PTE fugitive emission factor for each component type.

The PTE fugitive emissions can be calculated by multiplying all the components in a given service type by the respective PTE fugitive emission factor as listed in the table below. The summation of emissions from all components in each service type is the facility-wide PTE fugitive emissions.

	Service Component	Screening Concentrations >10,000 ppm lb/hr	Screening Concentrations < 10,000 ppm lb/hr	Assumed % of components Leaking for Year (%)	Facility PTE Emission Factor Set lb/hr
Monitored Gas/Vapor and Light Liquid components	Gas/Vapor				
	Valves	0.172	0.000289	0.1	0.000461
	Compressor Seals	3.545	0.197	0.1	0.2003
	Pressure Relief Valves	3.728	0.0985	0.1	0.1021
	Connectors (Flanges)	0.249	0.00018	0.1	0.000429
	Open-Ended Lines	0.0264	0.0033	0.1	0.00332
	Sampling Connections	-	-	Default to Average Factor	0.0331
	Light Liquid				
	Valves	0.197	0.000364	0.1	0.000561
	Pump Seals/Agitator Seals	0.536	0.0041	0.5	0.00676
	Connectors (Flanges)	0.249	0.00018	0.1	0.000429
	Open-Ended Lines	0.02635	0.0033	0.1	0.00332
	Sampling Connections	-	-	Default to Average Factor	0.0331
Unmonitored Heavy Liquid Components	Heavy Liquid				
	Valves	0.00051	0.00051	0.1	0.00051
	Pump Seals	0.476	0.0046	0.1	0.00507
	Connectors (Flanges)	0.249	0.00018	0.1	0.000429
	Open-Ended Lines	0.02635	0.0033	0.1	0.00332
	Sampling Connections	-	-	Default to Average Factor	0.0331

		Facility PTE Emission Factor Set equal to SOCMI Average Emission Factors lb/hr
Unmonitored Light Liquid and Gas/Vapor Components	Gas/Vapor	
	Valves	0.0132
	Compressor Seals	0.503
	Pressure Relief Valves	0.229
	Connectors (Flanges)	0.00403
	Open-Ended Lines	0.0037
	Sampling Connections	0.0331
	Light Liquid	
	Valves	0.00888
	Pump Seals/Agitator Seals	0.0439
	Connectors (Flanges)	0.00403
	Open-Ended Lines	0.0037
	Sampling Connections	0.0331

II. Requirements of 40 CFR Part 60, Subpart NNN

[The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart NNN: P003, P004, P007, P008, P012, and P013.]

40 CFR 60.660 Applicability and designation of affected facility.

(a) The provisions of this subpart apply to each affected facility designated in paragraph (b) of this section that is part of a process unit that produces any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate, except as provided in paragraph (c).

(b) The affected facility is any of the following for which construction, modification, or reconstruction commenced after December 30, 1983:

(1) Each distillation unit not discharging its vent stream into a recovery system.
(2) Each combination of a distillation unit and the recovery system into which its vent stream is discharged.
(3) Each combination of two or more distillation units and the common recovery system into which their vent streams are discharged.

(c) Exemptions from the provisions of paragraph (a) of this section are as follows:

(1) Any distillation unit operating as part of a process unit which produces coal tar or beverage alcohols, or which uses, contains, and produces no VOC is not an affected facility.
(2) Any distillation unit that is subject to the provisions of Subpart DDD is not an affected facility.
(3) Any distillation unit that is designed and operated as a batch operation is not an affected facility.
(4) Each affected facility that has a total resource effectiveness (TRE) index value greater than 8.0 is exempt from all provisions of this subpart except for §§60.662; 60.664(d), (e), and (f); and 60.665 (h) and (l).
(5) Each affected facility in a process unit with a total design capacity for all chemicals produced within that unit of less than one gigagram per year is exempt from all provisions of this subpart except for the record keeping and reporting requirements in paragraphs (j), (l)(6), and (n) of §60.665.
(6) Each affected facility operated with a vent stream flow rate less than 0.008 scm/min is exempt from all provisions of this subpart except for the test method and procedure and the record keeping and reporting requirements in §60.664(g) and paragraph (i), (l)(5), and (o) of §60.665.

(d) *Alternative means of compliance.*

(1) *Option to comply with part 65.* Owners or operators of process vents that are subject to this subpart may choose to comply with the provisions of 40 CFR part 65, subpart D, to satisfy the requirements of §§60.662 through 60.665 and 60.668. The provisions of 40 CFR part 65 also satisfy the criteria of paragraphs (c)(4) and (6) of this section. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.
(2) *Part 60, subpart A.* Owners or operators who choose to comply with 40 CFR part 65, subpart D, must also comply with §§60.1, 60.2, 60.5, 60.6, 60.7(a)(1) and (4), 60.14, 60.15, and 60.16 for those process vents. All

sections and paragraphs of subpart A of this part that are not mentioned in this paragraph (d)(2) do not apply to owners or operators of process vents complying with 40 CFR part 65, subpart D, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with 40 CFR part 65, subpart D, must comply with 40 CFR part 65, subpart A.
(3) *Compliance date.* Owners or operators who choose to comply with 40 CFR part 65, subpart D, at initial startup shall comply with paragraphs (d)(1) and (2) of this section for each vent stream on and after the date on which the initial performance test is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial startup, whichever date comes first.
(4) *Initial startup notification.* Each owner or operator subject to the provisions of this subpart that chooses to comply with 40 CFR part 65, subpart D, at initial startup shall notify the Administrator of the specific provisions of 40 CFR 65.63(a)(1), (2), or (3), with which the owner or operator has elected to comply. Notification shall be submitted with the notifications of initial startup required by 40 CFR 65.5(b).

NOTE: The intent of these standards is to minimize the emissions of VOC through the application of best demonstrated technology (BDT). The numerical emission limits in these standards are expressed in terms of total organic compounds (TOC), measured as TOC less methane and ethane. This emission limit reflects the performance of BDT.

40 CFR 60.661 Definitions.

As used in this subpart, all terms not defined here shall have the meaning given them in the Act and in subpart A of part 60, and the following terms shall have the specific meanings given them.

Batch distillation operation means a noncontinuous distillation operation in which a discrete quantity or batch of liquid feed is charged into a distillation unit and distilled at one time. After the initial charging of the liquid feed, no additional liquid is added during the distillation operation.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam.

By compound means by individual stream components, not carbon equivalents.

Continuous recorder means a data recording device recording an instantaneous data value at least once every 15 minutes.

Distillation operation means an operation separating one or more feed stream(s) into two or more exit stream(s), each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor-phase as they approach equilibrium within the distillation unit.

Distillation unit means a device or vessel in which distillation operations occur, including all associated internals (such as trays or packing) and accessories (such as reboiler, condenser, vacuum pump, steam jet, etc.), plus any associated recovery system.

Flame zone means the portion of the combustion chamber in a boiler occupied by the flame envelope.

Flow indicator means a device which indicates whether gas flow is present in a vent stream.

Halogenated vent stream means any vent stream determined to have a total concentration (by volume) of compounds containing halogens of 20 ppmv (by compound) or greater.

Incinerator means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

Process heater means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that is heated to produce steam.

Process unit means equipment assembled and connected by pipes or ducts to produce, as intermediates or final products, one or more of the chemicals in §60.667. A process unit can operate independently if supplied with sufficient fuel or raw materials and sufficient product storage facilities.

Product means any compound or chemical listed in §60.667 that is produced for sale as a final product as that chemical, or for use in the production of other chemicals or compounds. By-products, co-products, and intermediates are considered to be products.

Recovery device means an individual unit of equipment, such as an absorber, carbon adsorber, or condenser, capable of and used for the purpose of recovering chemicals for use, reuse, or sale.

Recovery system means an individual recovery device or series of such devices applied to the same vent stream. *Total organic compounds* (TOC) means those compounds measured according to the procedures in §60.664(b)(4). For the purposes of measuring molar composition as required in §60.664(d)(2)(i); hourly emissions rate as required in §60.664(d)(5) and §60.664(e); and TOC concentration as required in §60.665(b)(4) and §60.665(g)(4), those compounds which the Administrator has determined do not contribute appreciably to the formation of ozone are to be excluded. The compounds to be excluded are identified in Environmental Protection Agency's statements on ozone abatement policy for State Implementation Plans (SIP) revisions (42 FR 35314; 44 FR 32042; 45 FR 32424; 45 FR 48942).

TRE index value means a measure of the supplemental total resource requirement per unit reduction of TOC associated with an individual distillation vent stream, based on vent stream flow rate, emission rate of TOC net heating value, and corrosion properties (whether or not the vent stream is halogenated), as quantified by the equation given under §60.664(e).

Vent stream means any gas stream discharged directly from a distillation facility to the atmosphere or indirectly to the atmosphere after diversion through other process equipment. The vent stream excludes relief valve discharges and equipment leaks including, but not limited to, pumps, compressors, and valves.

40 CFR 60.662 Standards.

Each owner or operator of any affected facility shall comply with paragraph (a), (b), or (c) of this section for each vent stream on and after the date on which the initial performance test required by §60.8 and §60.664 is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial start-up, whichever date comes first. Each owner or operator shall either:

(a) Reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent. If a boiler or process heater is used to comply with this paragraph, then the vent stream shall be introduced into the flame zone of the boiler or process heater; or

(b) Combust the emissions in a flare that meets the requirements of §60.18; or
(c) Maintain a TRE index value greater than 1.0 without use of VOC emission control devices.

40 CFR 60.663 Monitoring of emissions and operations.

(a) The owner or operator of an affected facility that uses an incinerator to seek to comply with the TOC emission limit specified under §60.662(a) shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment:
(1) A temperature monitoring device equipped with a continuous recorder and having an accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±0.5EC, whichever is greater.
(i) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the firebox.
(ii) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.
(2) A flow indicator that provides a record of vent stream flow to the incinerator at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each affected facility at a point closest to the inlet of each incinerator and before being joined with any other vent stream.

(b) The owner or operator of an affected facility that uses a flare to seek to comply with §60.662(b) shall install, calibrate, maintain and operate according to manufacturer's specifications the following equipment:
(1) A heat sensing device, such as a ultra-violet beam sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame.
(2) A flow indicator that provides a record of vent stream flow to the flare at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each affected facility at a point closest to the flare and before being joined with any other vent stream.

(c) The owner or operator of an affected facility that uses a boiler or process heater to seek to comply with §60.662(a) shall install, calibrate, maintain and operate according to the manufacturer's specifications the following equipment:

(1) A flow indicator that provides a record of vent stream flow to the boiler or process heater at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each distillation unit within an affected facility at a point closest to the inlet of each boiler or process heater and before being joined with any other vent stream.
(2) A temperature monitoring device in the firebox equipped with a continuous recorder and having an accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5EC, whichever is greater, for boilers or process heaters of less than 44 MW (150 million Btu/hr) heat input design capacity.

(d) Monitor and record the periods of operation of the boiler or process heater if the design heat input capacity of the boiler or process heater is 44 MW (150 million Btu/hr) or greater. The records must be readily available for inspection.

(e) The owner or operator of an affected facility that seeks to comply with the TRE index value limit specified under §60.662(c) shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment, unless alternative monitoring procedures or requirements are approved for that facility by the Administrator:
(1) Where an absorber is the final recovery device in the recovery system:
(i) A scrubbing liquid temperature monitoring device having an accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±0.5EC, whichever is greater, and a specific gravity monitoring device having an accuracy of ±0.02 specific gravity units, each equipped with a continuous recorder, or
(ii) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.
(2) Where a condenser is the final recovery device in the recovery system:
(i) A condenser exit (product side) temperature monitoring device equipped with a continuous recorder and having an accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±0.5EC, whichever is greater, or
(ii) An organic monitoring device used to monitor organic compounds exiting the recovery device based on a detection principle such as infra-red, photoionization, or thermal conductivity, each equipped with a continuous recorder.
(3) Where a carbon adsorber is the final recovery device unit in the recovery system:
(i) An integrating steam flow monitoring device having an accuracy of ±10 percent, and a carbon bed temperature monitoring device having an accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±0.5EC, whichever is greater, both equipped with a continuous recorder, or
(ii) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infra-red, photoionization, or thermal conductivity, each equipped with a continuous recorder.

(f) An owner or operator of an affected facility seeking to demonstrate compliance with the standards specified under §60.662 with control devices other than incinerator, boiler, process heater, or flare; or recovery device other than an absorber, condenser, or carbon adsorber shall provide to the Administrator information describing the operation of the control device or recovery device and the process parameter(s) which would indicate proper operation and maintenance of the device. The Administrator may request further information and will specify appropriate monitoring procedures or requirements.

See section 40 CFR 60.664 for test methods and procedures .

40 CFR 60.665 Reporting and record keeping requirements.

(a) Each owner or operator subject to §60.662 shall notify the Administrator of the specific provisions of §60.662 (§60.662(a), (b), or (c)) with which the owner or operator has elected to comply. Notification shall be submitted with the notification of initial start-up required by §60.7(a)(3). If an owner or operator elects at a later date to use an alternative provision of §60.662 with which he or she will comply, then the Administrator shall be notified by the owner or operator 90 days before implementing a change and, upon implementing the change, a performance test shall be performed as specified by §60.664 within 180 days.

(b) Each owner or operator subject to the provisions of this subpart shall keep an up-to-date, readily accessible record of the following data measured during each performance test, and also include the following data in the report of the initial performance test required under §60.8. Where a boiler or process heater with a design heat input capacity of 44 MW (150 million Btu/hour) or greater is used to comply with §60.662(a), a report containing performance test data need not be submitted, but a report containing the information in §60.665(b)(2)(i) is required. The same data specified in this section shall be submitted in the reports of all subsequently required performance tests where either the emission control efficiency of a control device, outlet concentration of TOC, or the TRE index value of a vent stream from a recovery system is determined.
(1) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.662(a) through use of either a thermal or catalytic incinerator:
(i) The average firebox temperature of the incinerator (or the average temperature upstream and downstream of the catalyst bed for a catalytic incinerator), measured at least every 15 minutes and averaged over the same time period of the performance testing, and
(ii) The percent reduction of TOC determined as specified in §60.664(b) achieved by the incinerator, or the concentration of TOC (ppmv, by compound) determined as specified in §60.664(b) at the outlet of the control device on a dry basis corrected to 3 percent oxygen.
(2) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.662(a) through use of a boiler or process heater:
(i) A description of the location at which the vent stream is introduced into the boiler or process heater, and
(ii) The average combustion temperature of the boiler or process heater with a design heat input capacity of less than 44 MW (150 million Btu/hr) measured at least every 15 minutes and averaged over the same time period of the performance testing.
(3) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.662(b) through use of a smokeless flare, flare design (i.e., steam-assisted, air-assisted or nonassisted), all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the performance test, continuous records of the flare pilot flame monitoring, and records of all periods of operations during which the pilot flame is absent.
(4) Where an owner or operator subject to the provisions of this subpart seeks to demonstrate compliance with §60.662(c):
(i) Where an absorber is the final recovery device in the recovery system, the exit specific gravity (or alternative parameter which is a measure of the degree of absorbing liquid saturation, if approved by the Administrator), and average exit temperature, of the absorbing liquid measured at least every 15 minutes and

averaged over the same time period of the performance testing (both measured while the vent stream is normally routed and constituted), or
(ii) Where a condenser is the final recovery device in the recovery system, the average exit (product side) temperature measured at least every 15 minutes and averaged over the same time period of the performance testing while the vent stream is routed and constituted normally, or
(iii) Where a carbon adsorber is the final recovery device in the recovery system, the total steam mass flow measured at least every 15 minutes and averaged over the same time period of the performance test (full carbon bed cycle), temperature of the carbon bed after regeneration (and within 15 minutes of completion of any cooling cycle(s)), and duration of the carbon bed steaming cycle (all measured while the vent stream is routed and constituted normally), or
(iv) As an alternative to §60.665(b)(4) (i), (ii) or (iii), the concentration level or reading indicated by the organics monitoring device at the outlet of the absorber, condenser, or carbon adsorber, measured at least every 15 minutes and averaged over the same time period of the performance testing while the vent stream is normally routed and constituted.
(v) All measurements and calculations performed to determine the TRE index value of the vent stream.
(c) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored under §60.663(a) and (c) as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The Administrator may at any time require a report of these data. Where a combustion device is used to comply with §60.662(a), periods of operation during which the parameter boundaries established during the most recent performance tests are exceeded are defined as follows:

(1) For thermal incinerators, all 3-hour periods of operation during which the average combustion temperature was more than 28EC (50EF) below the average combustion temperature during the most recent performance test at which compliance with §60.662(a) was determined.

(2) For catalytic incinerators, all 3-hour periods of operation during which the average temperature of the vent stream immediately before the catalyst bed is more than 28EC (50EF) below the average temperature of the vent stream during the most recent performance test at which compliance with §60.662(a) was determined. The owner or operator also shall record all 3-hour periods of operation during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent performance test at which compliance with §60.662(a) was determined.
(3) All 3-hour periods of operation during which the average combustion temperature was more than 28EC (50EF) below the average combustion temperature during the most recent performance test at which compliance with §60.662(a) was determined for boilers or process heaters with a design heat input capacity of less than 44 MW (150 million Btu/hr).
(4) For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under §60.662(a).

(d) Each owner or operator subject to the provisions of this subpart shall keep up to date, readily accessible continuous records of the flow indication specified under §60.663(a)(2), §60.663(b)(2) and §60.663(c)(1), as well as up-to-date, readily accessible records of all periods when the vent stream is diverted from the control device or has no flow rate.

(e) Each owner or operator subject to the provisions of this subpart who uses a boiler or process heater with a design heat input capacity of 44 MW (150 million Btu/hour) or greater to comply with §60.662(a) shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State or Federal regulatory requirements.)

(f) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the flare pilot flame monitoring specified under §60.663(b), as well as up-to-date, readily accessible records of all periods of operations in which the pilot flame is absent.

(g) Each owner or operator subject to the provisions of this subpart shall keep up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored under §60.663(e), as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The Administrator may at any time require a report of these data. Where an owner or operator seeks to comply with §60.662(c), periods of operation during which the parameter boundaries established during the most recent performance tests are exceeded are defined as follows:

(1) Where an absorber is the final recovery device in a recovery system, and where an organic compound monitoring device is not used:
(i) All 3-hour periods of operation during which the average absorbing liquid temperature was more than 11EC (20EF) above the average absorbing liquid temperature during the most recent performance test, or
(ii) All 3-hour periods of operation during which the average absorbing liquid specific gravity was more than 0.1 unit above, or more than 0.1 unit below, the average absorbing liquid specific gravity during the most recent performance test (unless monitoring of an alternative parameter, which is a measure of the degree of absorbing liquid saturation, is approved by the Administrator, in which case he will define appropriate parameter boundaries and periods of operation during which they are exceeded).
(2) Where a condenser is the final recovery device in a system, and where an organic compound monitoring device is not used, all 3-hour periods of operation during which the average exit (product side) condenser operating temperature was more than 6EC (11EF) above the average exit (product side) operating temperature during the most recent performance test.
(3) Where a carbon adsorber is the final recovery device in a system, and where an organic compound monitoring device is not used:
(i) All carbon bed regeneration cycles during which the total mass steam flow was more than 10 percent below the total mass steam flow during the most recent performance test, or
(ii) All carbon bed regeneration cycles during which the temperature of the carbon bed after regeneration (and after completion of any cooling cycle(s)) was more than 10 percent greater than the carbon bed temperature (in degrees Celsius) during the most recent performance test.
(4) Where an absorber, condenser, or carbon adsorber is the final recovery device in the recovery system and where an organic compound monitoring device is used, all 3-hour periods of operation during which the average organic compound concentration level or reading of organic compounds in the exhaust gases is more than 20 percent greater than the exhaust gas organic compound concentration level or reading measured by the monitoring device during the most recent performance test.

(h) Each owner or operator of an affected facility subject to the provisions of this subpart and seeking to demonstrate compliance with §60.662(c) shall keep up-to-date, readily accessible records of:
(1) Any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal or addition of recovery equipment or a distillation unit;
(2) Any recalculation of the TRE index value performed pursuant to §60.664(f); and
(3) The results of any performance test performed pursuant to the methods and procedures required by §60.664(d).
(i) Each owner or operator of an affected facility that seeks to comply with the requirements of this subpart by complying with the flow rate cutoff in §60.660(c)(6) shall keep up-to-date, readily accessible records to indicate that the vent stream flow rate is less than 0.008 scm/min (0.3 scf/min) and of any change in equipment or process operation that increases the operating vent stream flow rate, including a measurement of the new vent stream flow rate.
(j) Each owner or operator of an affected facility that seeks to comply with the requirements of this subpart by complying with the design production capacity provision in §60.660(c)(5) shall keep up-to-date, readily accessible records of any change in equipment or process operation that increases the design production capacity of the process unit in which the affected facility is located.
(k) Each owner and operator subject to the provisions of this subpart is exempt from the quarterly reporting requirements contained in §60.7(c) of the General Provisions.
(l) Each owner or operator that seeks to comply with the requirements of this subpart by complying with the requirements of §60.660(c)(4), (c)(5), or (c)(6) or §60.662 shall submit to the Administrator semiannual reports of the following recorded information. The initial report shall be submitted within 6 months after the initial start-up date.
(1) Exceedances of monitored parameters recorded under §60.665(c) and (g).
(2) All periods recorded under §60.665(d) when the vent stream is diverted from the control device or has no flow rate.
(3) All periods recorded under §60.665(e) when the boiler or process heater was not operating.
(4) All periods recorded under §60.665(f) in which the pilot flame of the flare was absent.
(5) Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in §60.660(c)(6), including a measurement of the new vent stream flow rate, as recorded under §60.665(i). These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed with the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and E_{TOC}. The performance test is subject to the requirements of §60.8 of the General Provisions. Unless the facility qualifies for an exemption under the low capacity exemption status in §60.660(c)(5), the facility must begin compliance with the requirements set forth in §60.662.
(6) Any change in equipment or process operation, as recorded under paragraph (j) of this section, that increases the design production capacity above the low capacity exemption level in §60.660(c)(5) and the new capacity resulting from the change for the distillation process unit containing the affected facility. These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed within the same time period to obtain the vent stream flow rate, heating value, and E_{TOC}. The performance test is subject to the requirements of §60.8. The facility must begin compliance with the

requirements set forth in §60.660(d) or §60.662. If the facility chooses to comply with §60.662, the facility may qualify for an exemption in §60.660(c)(4) or (6).
(7) Any recalculation of the TRE index value, as recorded under §60.665(h).
(m) The requirements of §60.665(l) remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with §60.665(l), provided that they comply with the requirements established by the State.
(n) Each owner or operator that seeks to demonstrate compliance with §60.660(c)(5) must submit to the Administrator an initial report detailing the design production capacity of the process unit.
(o) Each owner or operator that seeks to demonstrate compliance with §60.660(c)(6) must submit to the Administrator an initial report including a flow rate measurement using the test methods specified in §60.664.
(p) The Administrator will specify appropriate reporting and record keeping requirements where the owner or operator of an affected facility complies with the standards specified under §60.662 other than as provided under §60.663(a), (b), (c) and (d).

40 CFR 60.666 Reconstruction.

For purposes of this subpart "fixed capital cost of the new components," as used in §60.15, includes the fixed capital cost of all depreciable components which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following December 30, 1983. For purposes of this paragraph, "commenced" means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of component replacement.

See section 40 CFR 60.667 for the listing of chemicals affected by Subpart NNN.

40 CFR 60.668 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under §111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.
(b) Authorities which will not be delegated to States: §60.663(e).

III. Requirements of 40 CFR Part 63, Subpart A

[The following emissions units contained in this permit are subject to 40 CFR Part 63, Subpart A: B009, J004, J006, J008, P001, P003, P004, P006, P007, P008, P009, P012, P013, T022, T023, T024, T025, T026, T029, T030, T033, T034, T039, T045, T046, T059, T063, and T064.]

40 CFR 63.1 Applicability.

(a) *General.*

(1) Terms used throughout this part are defined in section 63.2 or in the Clean Air Act (Act) as amended in 1990, except that individual subparts of this part may include specific definitions in addition to or that supersede definitions in section 63.2.
(2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in 40 CFR part 61. The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of enactment of the Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.
(3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act (section 111, part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard.
(4) (i) Each relevant standard in this part 63 must identify explicitly whether each provision in this subpart A is or is not included in such relevant standard.
(ii) If a relevant part 63 standard incorporates the requirements of 40 CFR part 60, part 61 or other part 63 standards, the relevant part 63 standard must identify explicitly the applicability of each corresponding part 60, part 61, or other part 63 subpart A (General) provision.
(iii) The General Provisions in this subpart A do not apply to regulations developed pursuant to section 112(r) of the amended Act, unless otherwise specified in those regulations.

(5) [Reserved]
(6) To obtain the most current list of categories of sources to be regulated under section 112 of the Act, or to obtain the most recent regulation promulgation schedule established pursuant to section 112(e) of the Act, contact the Office of the Director, Emission Standards Division, Office of Air Quality Planning and Standards, U.S. EPA (MD-13), Research Triangle Park, North Carolina 27711.
(7) [Reserved]
(8) [Reserved]
(9) [Reserved]
(10) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word "calendar" is absent, unless otherwise specified in an applicable requirement.
(11) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, test plan, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the

Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery agreed to by the permitting authority, is acceptable.
(12) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in section 63.9(i).
(13) [Removed]
(14) [Removed]
(b) *Initial applicability determination for this part*.
(1) The provisions of this part apply to the owner or operator of any stationary source that:
(i) Emits or has the potential to emit any hazardous air pollutant listed in or pursuant to section 112(b) of the Act; and
(ii) Is subject to any standard, limitation, prohibition, or other federally enforceable requirement established pursuant to this part.
(2) [Reserved]
(3) An owner or operator of a stationary source who is in the relevant source category and who determines that the source is not subject to a relevant standard or other requirement established under this part must keep a record as specified in section 63.10(b)(3).
(c) *Applicability of this part after a relevant standard has been set under this part*.
(1) If a relevant standard has been established under this part, the owner or operator of an affected source must comply with the provisions of that standard and of this subpart as provided in paragraph (a)(4)of this section.
(2) Except as provided in section 63.10(b)(3), if a relevant standard has been established under this part, the owner or operator of an affected source may be required to obtain a title V permit from a permitting authority in the State in which the source is located. Emission standards promulgated in this part for area sources pursuant to section 112(c)(3) of the Act will specify whether:
(i) States will have the option to exclude area sources affected by that standard from the requirement to obtain a title V permit (i.e., the standard will exempt the category of area sources altogether from the permitting requirement);
(ii) States will have the option to defer permitting of area sources in that category until the Administrator takes rulemaking action to determine applicability of the permitting requirements; or
(iii) If a standard fails to specify what the permitting requirements will be for area sources affected by such a standard, then area sources that are subject to the standard will be subject to the requirement to obtain a title V permit without any deferral.
(3) [Reserved]
(4) [Reserved]
(5) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source that is subject to the emission standard or other requirement, such source also shall be subject to the notification requirements of this subpart.
(d) [Reserved]
(e) If the Administrator promulgates an emission standard under section 112(d) or (h) of the Act that is applicable to a source subject to an emission limitation by permit established under section 112(j) of the Act, and the requirements under the section 112(j) emission limitation are substantially as effective as the promulgated emission standard, the owner or operator may request the permitting authority to revise the

source's title V permit to reflect that the emission limitation in the permit satisfies the requirements of the promulgated emission standard. The process by which the permitting authority determines whether the section 112(j) emission limitation is substantially as effective as the promulgated emission standard must include, consistent with part 70 or 71 of this chapter, the opportunity for full public, EPA, and affected State review (including the opportunity for EPA's objection) prior to the permit revision being finalized. A negative determination by the permitting authority constitutes final action for purposes of review and appeal under the applicable title V operating permit program.

40 CFR 63.2 Definitions.

The terms used in this part are defined in the Act or in this section as follows:

Act means the Clean Air Act (42 U.S.C. 7401 *et seq*., as amended by Pub. L. 101-549, 104 Stat. 2399).

Actual emissions is defined in subpart D of this part for the purpose of granting a compliance extension for an early reduction of hazardous air pollutants.

Administrator means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).

Affected source, for the purposes of this part, means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112 of the Act. Each relevant standard will define the "affected source," as defined in this paragraph unless a different definition is warranted based on a published justification as to why this definition would result in significant administrative, practical, or implementation problems and why the different definition would resolve those problems. The term "affected source," as used in this part, is separate and distinct from any other use of that term in EPA regulations such as those implementing title IV of the Act. Affected source may be defined differently for part 63 than affected facility and stationary source in parts 60 and 61, respectively. This definition of "affected source," and the procedures for adopting an alternative definition of "affected source," shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002.

Alternative emission limitation means conditions established pursuant to sections 112(i)(5) or 112(i)(6) of the Actby the Administrator or by a State with an approved permit program.

Alternative emission standard means an alternative means of emission limitation that, after notice and opportunity for public comment, has been demonstrated by an owner or operator to the Administrator's satisfaction to achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such pollutant achieved under a relevant design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act.

Alternative test method means any method of sampling and analyzing for an air pollutant that is not a test method in this chapter and that has been demonstrated to the Administrator's satisfaction, using Method 301 in Appendix A of this part, to produce results adequate for the Administrator's determination that it may be used in place of a test method specified in this part.

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to title V of the Act (42 U.S.C. 7661).

Area source means any stationary source of hazardous air pollutants that is not a major source as defined in this part.

Commenced means, with respect to construction or reconstruction of an affected source, that an owner or operator has undertaken a continuous program of construction or reconstruction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or reconstruction.

Compliance date means the date by which an affected source is required to be in compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established by the Administrator (or a State with an approved permit program) pursuant to section 112 of the Act.
Compliance plan [Removed]

Compliance schedule means: (1) In the case of an affected source that is in compliance with all applicable requirements established under this part, a statement that the source will continue to comply with such requirements; or
(2) In the case of an affected source that is required to comply with applicable requirements by a future date, a statement that the source will meet such requirements on a timely basis and, if required by an applicable requirement, a detailed schedule of the dates by which each step toward compliance will be reached; or
(3) In the case of an affected source not in compliance with all applicable requirements established under this part, a schedule of remedial measures, including an enforceable sequence of actions or operations with milestones and a schedule for the submission of certified progress reports, where applicable, leading to compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established pursuant to section 112 of the Act for which the affected source is not in compliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based.

Construction means the on-site fabrication, erection, or installation of an affected source. Construction does not include the removal of all equipment comprising an affected source from an existing location and reinstallation of such equipment at a new location. The owner or operator of an existing affected source that is relocated may elect not to reinstall minor ancillary equipment including, but not limited to, piping, ductwork, and valves. However, removal and reinstallation of an affected source will be construed as reconstruction if it satisfies the criteria for reconstruction as defined in this section. The costs of replacing minor ancillary equipment must be considered in determining whether the existing affected source is reconstructed.

Continuous emission monitoring system (CEMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of emissions.

Continuous monitoring system (CMS) is a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by the regulation.

Continuous opacity monitoring system (COMS) means a continuous monitoring system that measures the opacity of emissions.

Continuous parameter monitoring system means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Effective date means:
(1) With regard to an emission standard established under this part, the date of promulgation in the FEDERAL REGISTER of such standard; or
(2) With regard to an alternative emission limitation or equivalent emission limitation determined by the Administrator (or a State with an approved permit program), the date that the alternative emission limitation or equivalent emission limitation becomes effective according to the provisions of this part.

Emission standard means a national standard, limitation, prohibition, or other regulation promulgated in a subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act.

Emissions averaging is a way to comply with the emission limitations specified in a relevant standard, whereby an affected source, if allowed under a subpart of this part, may create emission credits by reducing emissions from specific points to a level below that required by the relevant standard, and those credits are used to offset emissions from points that are not controlled to the level required by the relevant standard.

EPA means the United States Environmental Protection Agency.

Equivalent emission limitation means any maximum achievable control technology emission limitation or requirements which are applicable to major source of hazardous air pollutants and are adopted by the Administrator (or a State with an approved permit program) on a case-by-case basis, pursuant to section 112(g) or (j) of the Act.

Excess emissions and continuous monitoring system performance report is a report that must be submitted periodically by an affected source in order to provide data on its compliance with relevant emission limits, operating parameters, and the performance of its continuous parameter monitoring systems.

Existing source means any affected source that is not a new source.

Federally enforceable means all limitations and conditions that are enforceable by the Administrator and citizens under the Act or that are enforceable under other statutes administered by the Administrator. Examples of federally enforceable limitations and conditions include, but are not limited to:
(1) Emission standards, alternative emission standards, alternative emission limitations, and equivalent emission limitations established pursuant to section 112 of the Act as amended in 1990;
(2) New source performance standards established pursuant to section 111 of the Act, and emission standards established pursuant to section 112 of the Act before it was amended in 1990;
(3) All terms and conditions in a title V permit, including any provisions that limit a source's potential to emit, unless expressly designated as not federally enforceable;
(4) Limitations and conditions that are part of an approved State Implementation Plan (SIP) or a Federal Implementation Plan (FIP);
(5) Limitations and conditions that are part of a Federal construction permit issued under 40 CFR 52.21 or any construction permit issued under regulations approved by the EPA in accordance with 40 CFR part 51;
(6) Limitations and conditions that are part of an operating permit where the permit and the permitting program pursuant to which it was issued meet all of the following criteria:
(i) The operating permit program has been submitted to and approved by EPA into a State implementation plan (SIP) under section 110 of the CAA;
(ii) The SIP imposes a legal obligation that operating permit holders adhere to the terms and limitations of such permits and provides that permits which do not conform to the operating permit program requirements and the requirements of EPA's underlying regulations may be deemed not "federally enforceable" by EPA;
(iii) The operating permit program requires that all emission limitations, controls, and other requirements imposed by such permits will be at least as stringent as any other applicable limitations and requirements contained in the SIP or enforceable under the SIP, and that the program may not issue permits that waive, or make less stringent, any limitations or requirements contained in or issued pursuant to the SIP, or that are otherwise "federally enforceable";
(iv) The limitations, controls, and requirements in the permit in question are permanent, quantifiable, and otherwise enforceable as a practical matter; and
(v) The permit in question was issued only after adequate and timely notice and opportunity for comment for EPA and the public.

(7) Limitations and conditions in a State rule or program that has been approved by the EPA under subpart E of this partfor the purposes of implementing and enforcing section 112; and
(8) Individual consent agreements that the EPA has legal authority to create.

Fixed capital cost means the capital needed to provide all the depreciable components of an existing source.

Fugitive emissions means those emissions from a stationary source that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Under section 112 of the Act, all fugitive emissions are to be considered in determining whether a stationary source is a major source.

Hazardous air pollutant means any air pollutant listed in or pursuant to section 112(b) of the Act.
Issuance of a part 70permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the

permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

Lesser quantity [Removed]

Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Monitoring means the collection and use of measurement data or other information to control the operation of a process or pollution control device or to verify a work practice standard relative to assuring compliance with applicable requirements. Monitoring is composed of four elements:

(1) Indicator(s) of performance: the parameter or parameters you measure or observe for demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates, and recorded findings of inspection of work practice activities, materials tracking, or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking), or an interdependency between two or among more than two variables.

(2) Measurement techniques: the means by which you gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include continuous emission monitoring systems, continuous opacity monitoring systems, continuous parametric monitoring systems, and manual inspections that include making records of process conditions or work practices.

(3) Monitoring frequency: the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems, and at least once per operating day (or week, month, etc.) for work practice or design inspections.

(4) Averaging time: the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, and an instantaneous alarm.

New affected source means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory that is subject to a section 112(d) or other relevant standard for new sources. This definition of "new affected source," and the criteria to be utilized in implementing it, shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002. Each relevant standard will define the term "new affected source," which will be the same as the "affected source" unless a different collection is warranted based on consideration of factors including:

(1) Emission reduction impacts of controlling individual sources versus groups of sources;
(2) Cost effectiveness of controlling individual equipment;
(3) Flexibility to accommodate common control strategies;
(4) Cost/benefits of emissions averaging;
(5) Incentives for pollution prevention;
(6) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices);
(7) Feasibility and cost of monitoring; and
(8) Other relevant factors.

New source means any affected source the construction or reconstruction of which is commenced after the Administrator first proposes a relevant emission standard under this part establishing an emission standard applicable to such source.

One-hour period, unless otherwise defined in an applicable subpart, means any 60-minute period commencing on the hour.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. For continuous opacity monitoring systems, opacity means the fraction of incident light that is attenuated by an optical medium.

Owner or operator means any person who owns, leases, operates, controls, or supervises a stationary source.
Part 70 permit [Removed]

Performance audit means a procedure to analyze blind samples, the content of which is known by the Administrator, simultaneously with the analysis of performance test samples in order to provide a measure of test data quality.

Performance evaluation means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

Permit modification means a change to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permit program means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

Permit revision means any permit modification or administrative permit amendment to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).
Permitting authority means: (1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or
(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Pollution Prevention means *source reduction* as defined under the Pollution Prevention Act (42 U.S.C. 13101-13109). The definition is as follows:
(1) *Source reduction* is any practice that:
(i) Reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and
(ii) Reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.
(2) The term *source reduction* includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control.
(3) The term *source reduction* does not include any practice that alters the physical, chemical, or biological characteristics or the volume of a hazardous substance, pollutant, or contaminant through a process or activity which itself is not integral to and necessary for the production of a product or the providing of a service.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

Reconstruction, unless otherwise defined in a relevant standard, means the replacement of components of an affected or a previously nonaffected source to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and
(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

Regulation promulgation schedule means the schedule for the promulgation of emission standards under this part, established by the Administrator pursuant to section 112(e) of the Act and published in the FEDERAL REGISTER.

Relevant standard means:
(1) An emission standard;
(2) An alternative emission standard;
(3) An alternative emission limitation; or
(4) An equivalent emission limitation established pursuant to section 112 of the Act that applies to the collection of equipment, activities, or both regulated by such standard or limitation. A relevant standard may include or consist of a design, equipment, work practice, or operational requirement, or other measure, process, method, system, or technique (including prohibition of emissions) that the Administrator (or a State) establishes for new or existing sources to which such standard or limitation applies. Every relevant standard established pursuant to section 112 of the Act includes subpart A of this part, as provided by section 63.1(a)(4), and all applicable appendices of this part or of other parts of this chapter that are referenced in that standard.

Responsible official means one of the following:
(1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:
(i) The facilities employ more than 250 persons or have gross annual sales or ex penditures exceeding $25 million (in second quarter 1980 dollars); or
(ii) The delegation of authority to such representative is approved in advance by the Administrator.
(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.
(3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).
(4) For affected sources (as defined in this part) applying for or subject to a title V permit: "responsible official" shall have the same meaning as defined in part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever is applicable.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this part.

Shutdown means the cessation of operation of an affected source or portion of an affected source for any purpose.

Six-minute period means, with respect to opacity determinations, any one of the 10 equal parts of a 1-hour period.

Source at a Performance Track member facility means a major or area source located at a facility which has been accepted by EPA for membership in the Performance Track Program (as described at *www.epa.gov/PerformanceTrack*) and is still a member of the Program. The Performance Track Program is a voluntary program that encourages continuous environmental improvement through the use of environmental management systems, local community outreach, and measurable results.

Standard conditions means a temperature of 293 K (68EF) and a pressure of 101.3 kilopascals (29.92 in. Hg).

Startup means the setting in operation of an affected source or portion of an affected source for any purpose.

State means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement:
(1) The provisions of this part and/or
(2) the permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant.

Test method means the validated procedure for sampling, preparing, and analyzing for an air pollutant specified in a relevant standard as the performance test procedure. The test method may include methods described in an appendix of this chapter, test methods incorporated by reference in this part, or methods validated for an application through procedures in Method 301 of Appendix A of this part.
Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

Visible emission means the observation of an emission of opacity or optical density above the threshold of vision.

Working day means any day on which Federal Government offices (or State government offices for a State that has obtained delegation under section 112(l)) are open for normal business. Saturdays, Sundays, and official Federal (or where delegated, State) holidays are not working days.

40 CFR 63.3 Units and abbreviations.

Used in this part are abbreviations and symbols of units of measure. These are defined as follows:
(a) *System International (SI) units of measure:*

A = ampere
g = gram
Hz = hertz
J = joule
EK = degree Kelvin
kg = kilogram
l = liter
m = meter
m^3 = cubic meter
mg = milligram = 10^{-3} gram
ml = milliliter = 10^{-3} liter
mm = millimeter = 10^{-3} meter
Mg = megagram = 10^6 gram = metric ton
MJ = megajoule
mol = mole
N = newton
ng = nanogram = 10^{-9} gram
nm = nanometer = 10^{-9} meter
Pa = pascal
s = second
V = volt
W = watt
V = ohm
Fg = microgram = 10^{-6} gram
Fl = microliter = 10^{-6} liter

(b) *Other units of measure:*

Btu = British thermal unit
EC = degree Celsius (centigrade)
cal = calorie
cfm = cubic feet per minute
cc = cubic centimeter
cu ft = cubic feet
d = day
dcf = dry cubic feet
dcm = dry cubic meter
dscf = dry cubic feet at standard conditions
dscm = dry cubic meter at standard conditions
eq = equivalent
EF = degree Fahrenheit
ft = feet
ft^2 = square feet
ft^3 = cubic feet
gal = gallon
gr = grain

g-eq = gram equivalent
g-mole = gram mole
hr = hour
in. = inch
in. H_2O = inches of water
K = 1,000
kcal = kilocalorie
lb = pound
lpm = liter per minute
meq = milliequivalent
min = minute
MW = molecular weight
oz = ounces
ppb = parts per billion
ppbw = parts per billion by weight
ppbv = parts per billion by volume
ppm = parts per million
ppmw = parts per million by weight
ppmv = parts per million by volume
psia = pounds per square inch absolute
psig = pounds per square inch gage
ER = degree Rankine
scf = cubic feet at standard conditions
scfh = cubic feet at standard conditions per hour
scm = cubic meter at standard conditions
scmm = cubic meter at standard conditions per minute
sec = second
sq ft = square feet
std = at standard conditions
v/v = volume per volume
yd^2 = square yards
yr = year
(c) *Miscellaneous:*
act = actual
avg = average
I.D. = inside diameter
M = molar
N = normal
O.D. = outside diameter
% = percent

40 CFR 63.4 Prohibited activities and circumvention.

(a) *Prohibited activities.*

(1) No owner or operator subject to the provisions of this part must operate any affected source in violation of the requirements of this part. Affected sources subject to and in compliance with either an extension of compliance or an exemption from compliance are not in violation of the requirements of this part. An extension of compliance can be granted by the Administrator under this part; by a State with an approved permit program; or by the President under section 112(i)(4) of the Act.
(2) No owner or operator subject to the provisions of this part shall fail to keep records, notify, report, or revise reports as required under this part.
(3) [Reserved]
(4) [Reserved]
(5) [Reserved]
(b) *Circumvention*. No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to:
(1) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere;
(2) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions; and
(3) [Removed]
(c) *Fragmentation.* Fragmentation after November 15, 1990 which divides ownership of an operation, within the same facility among various owners where there is no real change in control, will not affect applicability. The owner and operator must not use fragmentation or phasing of reconstruction activities (i.e., intentionally dividing reconstruction into multiple parts for purposes of avoiding new source requirements) to avoid becoming subject to new source requirements.

40 CFR 63.5 Preconstruction review and notification requirements.

(a) *Applicability*.

(1) This section implements the preconstruction review requirements of section 112(i)(1). After the effective date of a relevant standard, promulgated pursuant to section 112(d), (f), or (h) of the Act, under this part, the preconstruction review requirements in this section apply to the owner or operator of new affected sources and reconstructed affected sources that are major-emitting as specified in this section. New and reconstructed affected sources that commence construction or reconstruction before the effective date of a relevant standard are not subject to the preconstruction review requirements specified in paragraphs (b)(3), (d), and (e) of this section.
(2) This section includes notification requirements for new affected sources and reconstructed affected sources that are not major-emitting affected sources and that are or become subject to a relevant promulgated emission standard after the effective date of a relevant standard promulgated under this part.

(b) *Requirements for existing, newly constructed, and reconstructed affected sources*.
(1) A new affected source for which construction commences after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates. An affected source for which reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

(2) [Reserved]
(3) After the effective date of any relevant standard promulgated by the Administrator under this part, no person may, without obtaining written approval in advance from the Administrator in accordance with the procedures specified in paragraphs (d) and (e) of this section, do any of the following:
(i) Construct a new affected source that is major-emitting and subject to such standard;
(ii) Reconstruct an affected source that is major-emitting and subject to such standard; or
(iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.
(4) After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in section 63.9(b).
(5) [Reserved]
(6) After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source.
(c) [Reserved]
(d) *Application for approval of construction or reconstruction*. The provisions of this paragraph implement section 112(i)(1) of the Act.
(1) *General application requirements*.
(i) An owner or operator who is subject to the requirements of paragraph (b)(3) of this section must submit to the Administrator an application for approval of the construction or reconstruction. The application must be submitted as soon as practicable before actual construction or reconstruction begins. The application for approval of construction or reconstruction may be used to fulfill the initial notification requirements of section 63.9(b)(5). The owner or operator may submit the application for approval well in advance of the date actual construction or reconstruction begins in order to ensure a timely review by the Administrator and that the planned date to begin will not be delayed.
(ii) A separate application shall be submitted for each construction or reconstruction. Each application for approval of construction or reconstruction shall include at a minimum:
(A) The applicant's name and address;
(B) A notification of intention to construct a new major affected source or make any physical or operational change to a major affected source that may meet or has been determined to meet the criteria for a reconstruction, as defined in section 63.2 or in the relevant standard;
(C) The address (i.e., physical location) or proposed address of the source;
(D) An identification of the relevant standard that is the basis of the application;
(E) The expected date of the beginning of actual construction or reconstruction;
(F) The expected completion date of the construction or reconstruction;
(G) [Reserved]
(H) The type and quantity of hazardous air pollutants emitted by the source, reported in units and averaging times and in accordance with the test methods specified in the relevant standard, or if actual emissions data are not yet available, an estimate of the type and quantity of hazardous air pollutants expected to be emitted by the source reported in units and averaging times specified in the relevant standard. The owner or operator may

submit percent reduction information if a relevant standard is established in terms of percent reduction. However, operating parameters, such as flow rate, shall be included in the submission to the extent that they demonstrate performance and compliance; and
(I) [Reserved]
(J) Other information as specified in paragraphs (d)(2) and (d)(3) of this section.
(iii) An owner or operator who submits estimates or preliminary information in place of the actual emissions data and analysis required in paragraphs (d)(1)(ii)(H) and (d)(2) of this section shall submit the actual, measured emissions data and other correct information as soon as available but no later than with the notification of compliance status required in section 63.9(h) [see section 63.9(h)(5)].
(2) *Application for approval of construction.* Each application for approval of construction must include, in addition to the information required in paragraph (d)(1)(ii) of this section, technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including an identification of each type of emission point for each type of hazardous air pollutant that is emitted (or could reasonably be anticipated to be emitted) and a description of the planned air pollution control system (equipment or method) for each emission point. The description of the equipment to be used for the control of emissions must include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions must include an estimated control efficiency (percent) for that method. Such technical information must include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations.

(3) *Application for approval of reconstruction*. Each application for approval of reconstruction shall include, in addition to the information required in paragraph (d)(1)(ii) of this section:
(i) A brief description of the affected source and the components that are to be replaced;
(ii) A description of present and proposed emission control systems (i.e., equipment or methods). The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations;
(iii) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source;
(iv) The estimated life of the affected source after the replacements; and
(v) A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.
(vi) If in the application for approval of reconstruction the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or other requirements, the owner or operator need not submit the information required in paragraphs (d)(3)(iii) through (d)(3)(v) of this section.
(4) *Additional information*. The Administrator may request additional relevant information after the submittal of an application for approval of construction or reconstruction.

(e) *Approval of construction or reconstruction*.

(1) (i) If the Administrator determines that, if properly constructed, or reconstructed, and operated, a new or existing source for which an application under paragraph (d) of this section was submitted will not cause emissions in violation of the relevant standard(s) and any other federally enforceable requirements, the Administrator will approve the construction or reconstruction.
(ii) In addition, in the case of reconstruction, the Administrator's determination under this paragraph will be based on:
(A) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new source;
(B) The estimated life of the source after the replacements compared to the life of a comparable entirely new source;
(C) The extent to which the components being replaced cause or contribute to the emissions from the source; and
(D) Any economic or technical limitations on compliance with relevant standards that are inherent in the proposed replacements.
(2) (i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of construction or reconstruction within 60 calendar days after receipt of sufficient information to evaluate an application submitted under paragraph (d) of this section. The 60-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted.
(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.
(3) Before denying any application for approval of construction or reconstruction, the Administrator will notify the applicant of the Administrator's intention to issue the denial together with:
(i) Notice of the information and findings on which the intended denial is based; and
(ii) Notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator to enable further action on the application.
(4) A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 calendar days of presentation of additional information or arguments (if the application is complete), or within 60 calendar days after the final date specified for presentation if no presentation is made.
(5) Neither the submission of an application for approval nor the Administrator's approval of construction or reconstruction shall:
(i) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or
(ii) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(f) *Approval of construction or reconstruction based on prior State preconstruction review*.

(1) Preconstruction review procedures that a State utilizes for other purposes may also be utilized for purposes of this section if the procedures are substantially equivalent to those specified in this section. The Administrator will approve an application for construction or reconstruction specified in paragraphs (b)(3) and (d) of this section if the owner or operator of a new affected source or reconstructed affected source, who is subject to such requirement meets the following conditions:
(i) The owner or operator of the new affected source or reconstructed affected source has undergone a preconstruction review and approval process in the State in which the source is (or would be) located and has received a federally enforceable construction permit that contains a finding that the source will meet the relevant promulgated emission standard, if the source is properly built and operated.
(ii) Provide a statement from the State or other evidence (such as State regulations) that it considered the factors specified in paragraph (e)(1) of this section.
(2) The owner or operator must submit to the Administrator the request for approval of construction or reconstruction under this paragraph (f)(2) no later than the application deadline specified in paragraph (d)(1) of this section (see also section 63.9(b)(2)). The owner or operator must include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in paragraph (e) of this section. The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction under this paragraph (f)(2).

40 CFR 63.6 Compliance with standards and maintenance requirements.

(a) *Applicability*.
(1) The requirements in this section apply to the owner or operator of affected sources for which any relevant standard has been established pursuant to section 112 of the Act and the applicability of such requirements is set out in accordance with section 63.1(a)(4) unless:
(i) The Administrator (or a State with an approved permit program) has granted an extension of compliance consistent with paragraph (i) of this section; or
(ii) The President has granted an exemption from compliance with any relevant standard in accordance with section 112(i)(4) of the Act.
(2) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source, such source shall be subject to the relevant emission standard or other requirement.
(b) *Compliance dates for new and reconstructed affected sources.*
(1) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source for which construction or reconstruction commences after proposal of a relevant standard that has an initial startup before the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard not later than the standard's effective date.
(2) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source that has an initial startup after the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard upon startup of the source.

(3) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established under this part pursuant to sections 112(d), 112(f), or 112(h) of the Act but before the effective date (that is, promulgation) of such standard shall comply with the relevant emission standard not later than the date 3 years after the effective date if:

(i) The promulgated standard (that is, the relevant standard) is more stringent than the proposed standard; for purposes of this paragraph, a finding that controls or compliance methods are "more stringent" must include control technologies or performance criteria and compliance or compliance assurance methods that are different but are substantially equivalent to those required by the promulgated rule, as determined by the Administrator (or his or her authorized representative); and

(ii) The owner or operator complies with the standard as proposed during the 3-year period immediately after the effective date.

(4) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established pursuant to section 112(d) of the Act but before the proposal date of a relevant standard established pursuant to section 112(f) shall not be required to comply with the section 112(f) emission standard until the date 10 years after the date construction or reconstruction is commenced, except that, if the section 112(f) standard is promulgated more than 10 years after construction or reconstruction is commenced, the owner or operator must comply with the standard as provided in paragraphs (b)(1) and (2) of this section.

(5) The owner or operator of a new source that is subject to the compliance requirements of paragraph (b)(3) or (4) of this section must notify the Administrator in accordance with section 63.9(d).

(6) [Reserved]

(7) When an area source becomes a major source by the addition of equipment or operations that meet the definition of new affected source in the relevant standard, the portion of the existing facility that is a new affected source must comply with all requirements of that standard applicable to new sources. The source owner or operator must comply with the relevant standard upon startup.

(c) *Compliance dates for existing sources*.

(1) After the effective date of a relevant standard established under this part pursuant to section 112(d) or 112(h) of the Act, the owner or operator of an existing source shall comply with such standard by the compliance date established by the Administrator in the applicable subpart(s) of this part. Except as otherwise provided for in section 112 of the Act, in no case will the compliance date established for an existing source in an applicable subpart of this part exceed 3 years after the effective date of such standard.

(2) If an existing source is subject to a standard established under this part pursuant to section 112(f) of the Act, the owner or operator must comply with the standard by the date 90 days after the standard's effective date, or by the date specified in an extension granted to the source by the Administrator under paragraph (i)(4)(ii)of this section, whichever is later.

(3) [Reserved]

(4) [Reserved]

(5) Except as provided in paragraph (b)(7) of this section, the owner or operator of an area source that increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source shall be subject to relevant standards for existing sources. Such sources must comply by the date

specified in the standards for existing area sources that become major sources. If no such compliance date is specified in the standards, the source shall have a period of time to comply with the relevant emission standard that is equivalent to the compliance period specified in the relevant standard for existing sources in existence at the time the standard becomes effective.

(d) [Reserved]

(e) *Operation and maintenance requirements*.

(1) (i) At all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section), review of operation and maintenance records, and inspection of the source.

(ii) Malfunctions must be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2) [Reserved]

(3) *Startup, Shutdown, and Malfunction Plan*.

(i) The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard. This plan must be developed by the owner or operator by the source's compliance date for that relevant standard. The purpose of the startup, shutdown, and malfunction plan is to:

(A) Ensure that, at all times, the owner or operator operates and maintains each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;

(B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and

(C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(ii) During periods of startup, shutdown, and malfunction, the owner or operator of an affected source must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (e)(3)(i) of this section.

(iii) When actions taken by the owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of record keeping that confirms conformance with the startup, shutdown, and malfunction plan for that event. In addition, the owner or operator must keep records of these events as specified in section 63.10(b), including records of the occurrence and duration of each startup, shutdown, or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in section 63.10(d)(5).

(iv) If an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the owner or operator must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with section 63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator).

(v) The owner or operator must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in paragraph (e)(3)(viii)of this section, the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of this part, the owner or operator must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Administrator. The Administrator may at any time request in writing that the owner or operator submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of the owner or operator. Upon receipt of such a request, the owner or operator must promptly submit a copy of the requested plan (or a portion thereof) to the Administrator. The Administrator must request that the owner or operator submit a particular startup, shutdown, or malfunction plan (or a portion thereof) whenever a member of the public submits a specific and reasonable request to examine or to receive a copy of that plan or portion of a plan. The owner or operator may elect to submit the required copy of any startup, shutdown, and malfunction plan to the Administrator in an electronic format. If the owner or operator claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission.

(vi) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection when requested by the Administrator.

(vii) Based on the results of a determination made under paragraph (e)(1)(i)of this section, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

(A) Does not address a startup, shutdown, or malfunction event that has occurred;

(B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;

(C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or

(D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in section 63.2.

(viii) The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by section 63.10(d)(5). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

(ix) The title V permit for an affected source must require that the owner or operator adopt a startup, shutdown, and malfunction plan which conforms to the provisions of this part, and that the owner or operator operate and maintain the source in accordance with the procedures specified in the current startup, shutdown, and malfunction plan. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under part 70 or part 71 of this chapter. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act.

(f) *Compliance with nonopacity emission standards:*

(1) *Applicability*. The non-opacity emission standards set forth in this part shall apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the non-opacity emission standards set forth in this part, then that emission point must still be required to comply with the non-opacity emission standards and other applicable requirements.

(2) *Methods for determining compliance*.
(i) The Administrator will determine compliance with nonopacity emission standards in this part based on the results of performance tests conducted according to the procedures in section 63.7, unless otherwise specified in an applicable subpart of this part.
(ii) The Administrator will determine compliance with nonopacity emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in section 63.6(e) and applicable subparts of this part.
(iii) If an affected source conducts performance testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if:
(A) The performance test was conducted within a reasonable amount of time before an initial performance test is required to be conducted under the relevant standard;
(B) The performance test was conducted under representative operating conditions for the source;
(C) The performance test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in section 63.7(e) of this subpart; and
(D) The performance test was appropriately quality-assured, as specified in section 63.7(c).
(iv) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by review of records, inspection of the source, and other procedures specified in applicable subparts of this part.
(v) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, as specified in paragraph (e) of this section and applicable subparts of this part.
(3) *Finding of compliance*. The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard, as specified in paragraphs (f)(1) and (2) of this section, upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable), and information available to the Administrator pursuant to paragraph (e)(1)(i) of this section.
(g) *Use of an alternative nonopacity emission standard*.
(1) If, in the Administrator's judgment, an owner or operator of an affected source has established that an alternative means of emission limitation will achieve a reduction in emissions of a hazardous air pollutant from an affected source at least equivalent to the reduction in emissions of that pollutant from that source achieved under any design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act, the Administrator will publish in the FEDERAL REGISTER a notice permitting the use of the alternative emission standard for purposes of compliance with the promulgated standard. Any FEDERAL REGISTER notice under this paragraph shall be published only after the public is notified and given the opportunity to comment. Such notice will restrict the permission to the stationary source(s) or category(ies) of sources from which the alternative emission standard

will achieve equivalent emission reductions. The Administrator will condition permission in such notice on requirements to assure the proper operation and maintenance of equipment and practices required for compliance with the alternative emission standard and other requirements, including appropriate quality assurance and quality control requirements, that are deemed necessary.

(2) An owner or operator requesting permission under this paragraph shall, unless otherwise specified in an applicable subpart, submit a proposed test plan or the results of testing and monitoring in accordance with section 63.7 and section 63.8, a description of the procedures followed in testing or monitoring, and a description of pertinent conditions during testing or monitoring. Any testing or monitoring conducted to request permission to use an alternative nonopacity emission standard shall be appropriately quality assured and quality controlled, as specified in section 63.7 and section 63.8.

(3) The Administrator may establish general procedures in an applicable subpart that accomplish the requirements of paragraphs (g)(1) and (g)(2) of this section.

(h) *Compliance with opacity and visible emission standards:*

(1) *Applicability*. The opacity and visible emission standards set forth in this part must apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the opacity and visible emission standards set forth in this part, then that emission point shall still be required to comply with the opacity and visible emission standards and other applicable requirements.

(2) *Methods for determining compliance*.

(i) The Administrator will determine compliance with opacity and visible emission standards in this part based on the results of the test method specified in an applicable subpart. Whenever a continuous opacity monitoring system (COMS) is required to be installed to determine compliance with numerical opacity emission standards in this part, compliance with opacity emission standards in this part shall be determined by using the results from the COMS. Whenever an opacity emission test method is not specified, compliance with opacity emission standards in this part shall be determined by conducting observations in accordance with Test Method 9 in appendix A of part 60 of this chapter or the method specified in paragraph (h)(7)(ii) of this section. Whenever a visible emission test method is not specified, compliance with visible emission standards in this part shall be determined by conducting observations in accordance with Test Method 22 in appendix A of part 60 of this chapter.

(ii) [Reserved]

(iii) If an affected source undergoes opacity or visible emission testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if:

(A) The opacity or visible emission test was conducted within a reasonable amount of time before a performance test is required to be conducted under the relevant standard;

(B) The opacity or visible emission test was conducted under representative operating conditions for the source;

(C) The opacity or visible emission test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in section 63.7(e); and

(D) The opacity or visible emission test was appropriately quality-assured, as specified in section 63.7(c) of this section.

(3) [Reserved]

(4) *Notification of opacity or visible emission observations*. The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting opacity or visible emission observations in accordance with section 63.9(f), if such observations are required for the source by a relevant standard.

(5) *Conduct of opacity or visible emission observations*. When a relevant standard under this part includes an opacity or visible emission standard, the owner or operator of an affected source shall comply with the following:

(i) For the purpose of demonstrating initial compliance, opacity or visible emission observations shall be conducted concurrently with the initial performance test required in section 63.7 unless one of the following conditions applies:

(A) If no performance test under section 63.7 is required, opacity or visible emission observations shall be conducted within 60 days after achieving the maximum production rate at which a new or reconstructed source will be operated, but not later than 120 days after initial startup of the source, or within 120 days after the effective date of the relevant standard in the case of new sources that start up before the standard's effective date. If no performance test under section 63.7 is required, opacity or visible emission observations shall be conducted within 120 days after the compliance date for an existing or modified source; or

(B) If visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under section 63.7, or within the time period specified in paragraph (h)(5)(i)(A) of this section, the source's owner or operator shall reschedule the opacity or visible emission observations as soon after the initial performance test, or time period, as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. The rescheduled opacity or visible emission observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under section 63.7. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity or visible emission observations from being made concurrently with the initial performance test in accordance with procedures contained in Test Method 9 or Test Method 22 in Appendix A of part 60 of this chapter.

(ii) For the purpose of demonstrating initial compliance, the minimum total time of opacity observations shall be 3 hours (30 6-minute averages) for the performance test or other required set of observations (e.g., for fugitive-type emission sources subject only to an opacity emission standard).

(iii) The owner or operator of an affected source to which an opacity or visible emission standard in this part applies shall conduct opacity or visible emission observations in accordance with the provisions of this section, record the results of the evaluation of emissions, and report to the Administrator the opacity or visible emission results in accordance with the provisions of section 63.10(d).

(iv) [Reserved]

(v) Opacity readings of portions of plumes that contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity emission standards.

(6) *Availability of records*. The owner or operator of an affected source shall make available, upon request by the Administrator, such records that the Administrator deems necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification.

(7) *Use of a continuous opacity monitoring system*.

(i) The owner or operator of an affected source required to use a continuous opacity monitoring system (COMS) shall record the monitoring data produced during a performance test required under section 63.7 and

shall furnish the Administrator a written report of the monitoring results in accordance with the provisions of section 63.10(e)(4).

(ii) Whenever an opacity emission test method has not been specified in an applicable subpart, or an owner or operator of an affected source is required to conduct Test Method 9 observations (see Appendix A of part 60 of this chapter), the owner or operator may submit, for compliance purposes, COMS data results produced during any performance test required under section 63.7 in lieu of Method 9 data. If the owner or operator elects to submit COMS data for compliance with the opacity emission standard, he or she shall notify the Administrator of that decision, in writing, simultaneously with the notification under section 63.7(b) of the date the performance test is scheduled to begin. Once the owner or operator of an affected source has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent performance tests required under section 63.7, unless the owner or operator notifies the Administrator in writing to the contrary not later than with the notification under section 63.7(b) of the date the subsequent performance test is scheduled to begin.

(iii) For the purposes of determining compliance with the opacity emission standard during a performance test required under section 63.7 using COMS data, the COMS data shall be reduced to 6-minute averages over the duration of the mass emission performance test.

(iv) The owner or operator of an affected source using a COMS for compliance purposes is responsible for demonstrating that he/she has complied with the performance evaluation requirements of section 63.8(e), that the COMS has been properly maintained, operated, and data quality-assured, as specified in section 63.8(c) section 63.8(d), and that the resulting data have not been altered in any way.

(v) Except as provided in paragraph (h)(7)(ii) of this section, the results of continuous monitoring by a COMS that indicate that the opacity at the time visual observations were made was not in excess of the emission standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the affected source proves that, at the time of the alleged violation, the instrument used was properly maintained, as specified in section 63.8(c), and met Performance Specification 1 in Appendix B of part 60 of this chapter, and that the resulting data have not been altered in any way.

(8) *Finding of compliance*. The Administrator will make a finding concerning an affected source's compliance with an opacity or visible emission standard upon obtaining all the compliance information required by the relevant standard (including the written reports of the results of the performance tests required by section 63.7, the results of Test Method 9 or another required opacity or visible emission test method, the observer certification required by paragraph (h)(6) of this section, and the continuous opacity monitoring system results, whichever is/are applicable) and any information available to the Administrator needed to determine whether proper operation and maintenance practices are being used.

(9) *Adjustment to an opacity emission standard*.

(i) If the Administrator finds under paragraph (h)(8) of this section that an affected source is in compliance with all relevant standards for which initial performance tests were conducted under section 63.7, but during the time such performance tests were conducted fails to meet any relevant opacity emission standard, the owner or operator of such source may petition the Administrator to make appropriate adjustment to the opacity emission standard for the affected source. Until the Administrator notifies the owner or operator of the appropriate adjustment, the relevant opacity emission standard remains applicable.

(ii) The Administrator may grant such a petition upon a demonstration by the owner or operator that:

(A) The affected source and its associated air pollution control equipment were operated and maintained in a manner to minimize the opacity of emissions during the performance tests;

(B) The performance tests were performed under the conditions established by the Administrator; and

(C) The affected source and its associated air pollution control equipment were incapable of being adjusted or operated to meet the relevant opacity emission standard.

(iii) The Administrator will establish an adjusted opacity emission standard for the affected source meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity emission standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity emission standard in the FEDERAL REGISTER.

(iv) After the Administrator promulgates an adjusted opacity emission standard for an affected source, the owner or operator of such source shall be subject to the new opacity emission standard, and the new opacity emission standard shall apply to such source during any subsequent performance tests.

(i) *Extension of compliance with emission standards.*

(1) Until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph, the owner or operator of an affected source subject to the requirements of this section shall comply with all applicable requirements of this part.

(2) *Extension of compliance for early reductions and other reductions:*

(i) *Early reductions*. Pursuant to section 112(i)(5) of the Act, if the owner or operator of an existing source demonstrates that the source has achieved a reduction in emissions of hazardous air pollutants in accordance with the provisions of subpart D of this part, the Administrator (or the State with an approved permit program) will grant the owner or operator an extension of compliance with specific requirements of this part, as specified in subpart D.

(ii) *Other reductions*. Pursuant to section 112(i)(6) of the Act, if the owner or operator of an existing source has installed best available control technology (BACT) [as defined in section 169(3) of the Act] or technology required to meet a lowest achievable emission rate (LAER) (as defined in section 171 of the Act) prior to the promulgation of an emission standard in this part applicable to such source and the same pollutant (or stream of pollutants) controlled pursuant to the BACT or LAER installation, the Administrator will grant the owner or operator an extension of compliance with such emission standard that will apply until the date 5 years after the date on which such installation was achieved, as determined by the Administrator.

(3) *Request for extension of compliance*. Paragraphs (i)(4) through (i)(7) of this section concern requests for an extension of compliance with a relevant standard under this part [except requests for an extension of compliance under paragraph (i)(2)(i) of this section will be handled through procedures specified in subpart D of this part].

(4) (i) (A) The owner or operator of an existing source who is unable to comply with a relevant standard established under this part pursuant to section 112(d) of the Act may request that the Administrator (or a State, when the State has an approved part 70 permit program and the source is required to obtain a part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) grant an extension allowing the source up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. An additional extension of up to 3 years may be added for mining waste operations, if the 1-year extension of compliance is insufficient to dry and cover mining waste in order to reduce emissions of any hazardous air pollutant. The owner or operator of an affected source who has requested an extension of compliance under this paragraph and who is otherwise required to obtain a title V permit shall apply for such permit or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph will be incorporated into the affected source's title V permit according to the provisions of part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) Any request under this paragraph for an extension of compliance with a relevant standard must be submitted in writing to the appropriate authority no later than 120 days prior to the affected source's compliance date (as specified in paragraphs (b) and (c) of this section), except as provided for in paragraph (i)(4)(i)(C) of this section. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the dateof denial. Emission standards established under this part may specify alternative dates for the submittal of requests for an extension of compliance if alternatives are appropriate for the source categories affected by those standards.

(C) An owner or operator may submit a compliance extension request after the date specified in paragraph (i)(4)(i)(B)of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in paragraph (i)(6)(i) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(ii) The owner or operator of an existing source unable to comply with a relevant standard established under this part pursuant to section 112(f) of the Act may request that the Administrator grant an extension allowing the source up to 2 years after the standard's effective date to comply with the standard. The Administrator may grant such an extension if he/she finds that such additional period is necessary for the installation of controls and that steps will be taken during the period of the extension to assure that the health of persons will be protected from imminent endangerment. Any request for an extension of compliance with a relevant standard under this paragraph must be submitted in writing to the Administrator not later than 90 calendar days after the effective date of the relevant standard.

(5) The owner or operator of an existing source that has installed BACT or technology required to meet LAER [as specified in paragraph (i)(2)(ii) of this section] prior to the promulgation of a relevant emission standard in this part may request that the Administrator grant an extension allowing the source 5 years from the date on which such installation was achieved, as determined by the Administrator, to comply with the standard. Any request for an extension of compliance with a relevant standard under this paragraph shall be submitted in writing to the Administrator not later than 120 days after the promulgation date of the standard. The Administrator may grant such an extension if he or she finds that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(6) (i) The request for a compliance extension under paragraph (i)(4) of this section shall include the following information:

(A) A description of the controls to be installed to comply with the standard;

(B) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(1) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated; and

(2) The date by which final compliance is to be achieved.

(3) The date by which on-site construction, installation of emission control equipment, or a process change is to be completed; and

(4) The date by which final compliance is to be achieved;

(C) [Reserved]

(D) [Reserved]

(ii) The request for a compliance extension under paragraph (i)(5) of this section shall include all information needed to demonstrate to the Administrator's satisfaction that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(7) Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(8) *Approval of request for extension of compliance*. Paragraphs (i)(9) through (i)(14) of this section concern approval of an extension of compliance requested under paragraphs (i)(4) through (i)(6) of this section.

(9) Based on the information provided in any request made under paragraphs (i)(4) through (i)(6) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with an emission standard, as specified in paragraphs (i)(4) and (i)(5) of this section.

(10) The extension will be in writing and will:

(i) Identify each affected source covered by the extension;

(ii) Specify the termination date of the extension;

(iii) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(iv) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests); and

(v) (A) Under paragraph (i)(4), specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period; or

(B) Under paragraph (i)(5), specify any additional conditions that the Administrator deems necessary to assure the proper operation and maintenance of the installed controls during the extension period.

(11) The owner or operator of an existing source that has been granted an extension of compliance under paragraph (i)(10) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached. The contents of the progress reports and the dates by which they shall be submitted will be specified in the written extension of compliance granted under paragraph (i)(10) of this section.

(12) (i) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(i) or (i)(5) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with:

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(iv) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(13) (i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(ii) of this section. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 15 calendar days after receipt of the original application and within 15 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 15 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator will notify the owner or operator in writing of the Administrator's intention to issue the denial, together with:

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator before further action on the request.

(iv) A final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(14) The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (i)(10)(iii) or (iv) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(i) Notice of the reason for termination; and

(ii) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(iii) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar

days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(15) [Reserved]

(16) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the Act.

(j) *Exemption from compliance with emission standards*. The President may exempt any stationary source from compliance with any relevant standard established pursuant to section 112 of the Act for a period of not more than 2 years if the President determines that the technology to implement such standard is not available and that it is in the national security interests of the United States to do so. An exemption under this paragraph may be extended for 1 or more additional periods, each period not to exceed 2 years.

40 CFR 63.7 Performance testing requirements.

(a) *Applicability and performance test dates*.

(1) The applicability of this section is set out in section 63.1(a)(4).

(2) If required to do performance testing by a relevant standard, and unless a waiver of performance testing is obtained under this section or the conditions of paragraph (c)(3)(ii)(B) of this section apply, the owner or operator of the affected source must perform such tests within 180 days of the compliance date for such source.

(i)-(viii) [Reserved]

(ix) When an emission standard promulgated under this part is more stringent than the standard proposed [see section 63.6(b)(3)], the owner or operator of a new or reconstructed source subject to that standard for which construction or reconstruction is commenced between the proposal and promulgation dates of the standard shall comply with performance testing requirements within 180 days after the standard's effective date, or within 180 days after startup of the source, whichever is later. If the promulgated standard is more stringent than the proposed standard, the owner or operator may choose to demonstrate compliance with either the proposed or the promulgated standard. If the owner or operator chooses to comply with the proposed standard initially, the owner or operator shall conduct a second performance test within 3 years and 180 days after the effective date of the standard, or after startup of the source, whichever is later, to demonstrate compliance with the promulgated standard.

(3) The Administrator may require an owner or operator to conduct performance tests at the affected source at any other time when the action is authorized by section 114 of the Act.

(b) *Notification of performance test*.

(1) The owner or operator of an affected source must notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is initially scheduled to begin to allow the Administrator, upon request, to review an approve the site-specific test plan required under paragraph (c) of this section and to have an observer present during the test.

(2) In the event the owner or operator is unable to conduct the performance test on the date specified in the notification requirement specified in paragraph (b)(1) of this section due to unforeseeable circumstances beyond his or her control, the owner or operator must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. This notification of delay in conducting the performance test shall not relieve the owner or operator of legal responsibility for compliance with any other applicable provisions of this part or with any other applicable Federal, State, or local requirement, nor will it prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(c) *Quality assurance program*.

(1) The results of the quality assurance program required in this paragraph will be considered by the Administrator when he/she determines the validity of a performance test.

(2) (i) *Submission of site-specific test plan*. Before conducting a required performance test, the owner or operator of an affected source shall develop and, if requested by the Administrator, shall submit a site-specific test plan to the Administrator for approval. The test plan shall include a test program summary, the test schedule, data quality objectives, and both an internal and external quality assurance (QA) program. Data quality objectives are the pretest expectations of precision, accuracy, and completeness of data.

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of test data precision; an example of internal QA is the sampling and analysis of replicate samples.

(iii) The external QA program shall include, at a minimum, application of plans for a test method performance audit (PA) during the performance test. The PA's consist of blind audit samples provided by the Administrator and analyzed during the performance test in order to provide a measure of test data bias. The external QA program may also include systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

(iv) The owner or operator of an affected source shall submit the site-specific test plan to the Administrator upon the Administrator's request at least 60 calendar days before the performance test is scheduled to take place, that is, simultaneously with the notification of intention to conduct a performance test required under paragraph (b) of this section, or on a mutually agreed upon date.

(v) The Administrator may request additional relevant information after the submittal of a site-specific test plan.

(3) *Approval of site-specific test plan*.

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the site-specific test plan (if review of the site-specific test plan is requested) within 30 calendar days after receipt of the original plan and within 30 calendar days after receipt of any supplementary information that is submitted under paragraph (c)(3)(i)(B) of this section. Before disapproving any site-specific test plan, the Administrator will notify the applicant of the Administrator's intention to disapprove the plan together with:

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present, within 30 calendar days after he/she is notified of the intended disapproval, additional information to the Administrator before final action on the plan.

(ii) In the event that the Administrator fails to approve or disapprove the site-specific test plan within the time period specified in paragraph (c)(3)(i) of this section, the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the test method(s) specified in the relevant standard or with only minor changes to those tests methods (see paragraph (e)(2)(i)of this section), the owner or operator must conduct the performance test within the time specified in this section using the specified method(s);

(B) If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method when the Administrator approves the site-specific test plan (if review of the site-specific test plan is requested) or after the alternative method is approved (see paragraph (f) of this section). However, the owner or operator is

authorized to conduct the performance test using an alternative method in the absence of notification of approval 45 days after submission of the site-specific test plan or request to use an alternative method. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.

(iii) Neither the submission of a site-specific test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator's failure to approve or disapprove a plan in a timely manner shall:
(A) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or
(B) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.
(4) (i) *Performance test method audit program.* The owner or operator must analyze performance audit (PA) samples during each performance test. The owner or operator must request performance audit materials 30 days prior to the test date. Audit materials including cylinder audit gases may be obtained by contacting the appropriate EPA Regional Office or the responsible enforcement authority.

(ii) The Administrator will have sole discretion to require any subsequent remedial actions of the owner or operator based on the PA results.
(iii) If the Administrator fails to provide required PA materials to an owner or operator of an affected source in time to analyze the PA samples during a performance test, the requirement to conduct a PA under this paragraph shall be waived for such source for that performance test. Waiver under this paragraph of the requirement to conduct a PA for a particular performance test does not constitute a waiver of the requirement to conduct a PA for future required performance tests.
(d) *Performance testing facilities*. If required to do performance testing, the owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source, shall provide performance testing facilities as follows:
(1) Sampling ports adequate for test methods applicable to such source. This includes:
(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and
(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures;
(2) Safe sampling platform(s);
(3) Safe access to sampling platform(s);
(4) Utilities for sampling and testing equipment; and
(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.
(e) *Conduct of performance tests*.
(1) Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected source. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the level of the relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant

standard unless otherwise specified in the relevant standard or a determination of noncompliance is made under section 63.6(e). Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(2) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this section, in each relevant standard, and, if required, in applicable appendices of parts 51, 60, 61 and 63 of this chapter unless the Administrator:

(i) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology (see definition in section 63.90(a)). Such changes may be approved in conjunction with approval of the site-specific test plan (see paragraph (c) of this section); or

(ii) Approves the use of an intermediate or major change or alternative to a test method (see definitions in section 63.90(a)), the results of which the Administrator has determined to be adequate for indicating whether a specific affected source is in compliance; or

(iii) Approves shorter sampling times or smaller sample volumes when necessitated by process variables or other factors; or

(iv) Waives the requirement for performance tests because the owner or operator of an affected source has demonstrated by other means to the Administrator's satisfaction that the affected source is in compliance with the relevant standard.

(3) Unless otherwise specified in a relevant standard or test method, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the relevant standard. For the purpose of determining compliance with a relevant standard, the arithmetic mean of the results of the three runs shall apply. Upon receiving approval from the Administrator, results of a test run may be replaced with results of an additional test run in the event that:

(i) A sample is accidentally lost after the testing team leaves the site; or

(ii) Conditions occur in which one of the three runs must be discontinued because of forced shutdown; or

(iii) Extreme meteorological conditions occur; or

(iv) Other circumstances occur that are beyond the owner or operator's control.

(4) Nothing in paragraphs (e)(1) through (e)(3) of this section shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(f) *Use of an alternative test method:*

(1) *General.* Until authorized to use an intermediate or major change or alternative to a test method, the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) The owner or operator of an affected source required to do performance testing by a relevant standard may use an alternative test method from that specified in the standard provided that the owner or operator:

(i) Notifies the Administrator of his or her intention to use an alternative test method at least 60 days before the performance test is scheduled to begin;

(ii) Uses Method 301 in appendix A of this part to validate the alternative test method. This may include the use of specific procedures of Method 301 if use of such procedures are sufficient to validate the alternative test method; and

(iii) Submits the results of the Method 301 validation process along with the notification of intention and the justification for not using the specified test method. The owner or operator may submit the information required in this paragraph well in advance of the deadline specified in paragraph (f)(2)(i) of this section to ensure a timely review by the Administrator in order to meet the performance test date specified in this section or the relevant standard.

(3) The Administrator will determine whether the owner or operator's validation of the proposed alternative test method is adequate and issue an approval or disapproval of the alternative test method. If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method. However, the owner or operator is authorized to conduct the performance test using an alternative method in the absence of notification of approval/disapproval 45 days after submission of the request to use an alternative method and the request satisfies the requirements in paragraph (f)(2)of this section. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.

(4) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative test method for the purposes of demonstrating compliance with a relevant standard, the Administrator may require the use of a test method specified in a relevant standard.

(5) If the owner or operator uses an alternative test method for an affected source during a required performance test, the owner or operator of such source shall continue to use the alternative test method for subsequent performance tests at that affected source until he or she receives approval from the Administrator to use another test method as allowed under section 63.7(f).

(6) Neither the validation and approval process nor the failure to validate an alternative test method shall abrogate the owner or operator's responsibility to comply with the requirements of this part.

(g) *Data analysis, record keeping, and reporting*.

(1) Unless otherwise specified in a relevant standard or test method, or as otherwise approved by the Administrator in writing, results of a performance test shall include the analysis of samples, determination of emissions, and raw data. A performance test is "completed" when field sample collection is terminated. The owner or operator of an affected source shall report the results of the performance test to the Administrator before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator [see section 63.9(i)]. The results of the performance test shall be submitted as part of the notification of compliance status required under section 63.9(h). Before a title Vpermit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the Administrator. After a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the appropriate permitting authority.

(2) [Reserved]

(3) For a minimum of 5 years after a performance test is conducted, the owner or operator shall retain and make available, upon request, for inspection by the Administrator the records or results of such performance test and other data needed to determine emissions from an affected source.

(h) *Waiver of performance tests*.

(1) Until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) *Request to waive a performance test*.

(i) If a request is made for an extension of compliance under section 63.6(i), the application for a waiver of an initial performance test shall accompany the information required for the request for an extension of compliance. If no extension of compliance is requested or if the owner or operator has requested an extension of compliance and the Administrator is still considering that request, the application for a waiver of an initial performance test shall be submitted at least 60 days before the performance test if the site-specific test plan under paragraph (c) of this section is not submitted.

(ii) If an application for a waiver of a subsequent performance test is made, the application may accompany any required compliance progress report, compliance status report, or excess emissions and continuous monitoring system performance report [such as those required under section 63.6(i), section 63.9(h), and section 63.10(e) or specified in a relevant standard or in the source's title V permit], but it shall be submitted at least 60 days before the performance test if the site-specific test plan required under paragraph (c) of this section is not submitted.

(iii) Any application for a waiver of a performance test shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test.

(4) *Approval of request to waive performance test*. The Administrator will approve or deny a request for a waiver of a performance test made under paragraph (h)(3) of this section when he/she:

(i) Approves or denies an extension of compliance under section 63.6(i)(8); or

(ii) Approves or disapproves a site-specific test plan under section 63.7(c)(3); or

(iii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iv) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

40 CFR 63.8 Monitoring requirements.

(a) *Applicability*.

(1) The applicability of this section is set out in section 63.1(a)(4).

(2) For the purposes of this part, all CMS required under relevant standards shall be subject to the provisions of this section upon promulgation of performance specifications for CMS as specified in the relevant standard or otherwise by the Administrator.

(3) [Reserved]

(4) Additional monitoring requirements for control devices used to comply with provisions in relevant standards of this part are specified in section 63.11.

(b) *Conduct of monitoring*.

(1) Monitoring shall be conducted as set forth in this section and the relevant standard(s) unless the Administrator:

(i) Specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures (see section 63.90(a) for definition); or

(ii) Approves the use of an intermediate or major change or alternative to any monitoring requirements or procedures (see section 63.90(a) for definition).

(iii) Owners or operators with flares subject to section 63.11(b) are not subject to the requirements of this section unless otherwise specified in the relevant standard.

(2) (i) When the emissions from two or more affected sources are combined before being released to the atmosphere, the owner or operator may install an applicable CMS for each emission stream or for the combined emissions streams, provided the monitoring is sufficient to demonstrate compliance with the relevant standard.

(ii) If the relevant standard is a mass emission standard and the emissions from one affected source are released to the atmosphere through more than one point, the owner or operator must install an applicable CMS at each emission point unless the installation of fewer systems is:

(A) Approved by the Administrator; or

(B) Provided for in a relevant standard (e.g., instead of requiring that a CMS be installed at each emission point before the effluents from those points are channeled to a common control device, the standard specifies that only one CMS is required to be installed at the vent of the control device).

(3) When more than one CMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CMS. However, when one CMS is used as a backup to another CMS, the owner or operator shall report the results from the CMS used to meet the monitoring requirements of this part. If both such CMS are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CMS for the relevant compliance period.

(c) *Operation and maintenance of continuous monitoring systems*.

(1) The owner or operator of an affected source shall maintain and operate each CMS as specified in this section, or in a relevant standard, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of an affected source must maintain and operate each CMS as specified in section 63.6(e)(1).

(ii) The owner or operator must keep the necessary parts for routine repairs of the affected CMS equipment readily available.

(iii) The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan for CMS as specified in section 63.6(e)(3).

(2) (i) All CMS must be installed such that representative measures of emissions or process parameters from the affected source are obtained. In addition, CEMS must be located according to procedures contained in the applicable performance specification(s).

(ii) Unless the individual subpart states otherwise, the owner or operator must ensure the read out (that portion of the CMS that provides a visual display or record), or other indication of operation, from any CMS required for compliance with the emission standard is readily accessible on site for operational control or inspection by the operator of the equipment.

(3) All CMS shall be installed, operational, and the data verified as specified in the relevant standard either prior to or in conjunction with conducting performance tests under section 63.7. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(4) Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS, including COMS and CEMS, shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(i) All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(ii) All CEMS for measuring emissions other than opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(5) Unless otherwise approved by the Administrator, minimum procedures for COMS shall include a method for producing a simulated zero opacity condition and an upscale (high-level) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of all the analyzer's internal optical surfaces and all electronic circuitry, including the lamp and photodetector assembly normally used in the measurement of opacity.

(6) The owner or operator of a CMS that is not a CPMS, which is installed in accordance with the provisions of this part and the applicable CMS performance specification(s), must check the zero (low-level) and high-level calibration drifts at least once daily in accordance with the written procedure specified in the performance evaluation plan developed under paragraphs (e)(3)(i) and (ii) of this section. The zero (low-level) and high-level calibration drifts must be adjusted, at a minimum, whenever the 24-hour zero (low-level) drift exceeds two times the limits of the applicable performance specification(s) specified in the relevant standard. The system shall allow the amount of excess zero (low-level) and high-level drift measured at the 24-hour interval checks to be recorded and quantified whenever specified. For COMS, all optical and instrumental surfaces exposed to the effluent gases must be cleaned prior to performing the zero (low-level) and high-level drift adjustments; the optical surfaces and instrumental surfaces must be cleaned when the cumulative automatic zero compensation, if applicable, exceeds 4 percent opacity. The CPMS must be calibrated prior to use for the purposes of complying with this section. The CPMS must be checked daily for indication that the system is responding. If the CPMS system includes an internalsystem check, results must be recorded and checked daily for proper operation.

(7) (i) A CMS is out of control if:

(A) The zero (low-level), mid-level (if applicable), or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard; or

(B) The CMS fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit; or

(C) The COMS CD exceeds two times the limit in the applicable performance specification in the relevant standard.

(ii) When the CMS is out of control, the owner or operator of the affected source shall take the necessary corrective action and shall repeat all necessary tests which indicate that the system is out of control. The owner or operator shall take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour the owner or operator conducts a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits. During the period the CMS is out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirement established under this part.

(8) The owner or operator of a CMS that is out of control as defined in paragraph (c)(7) of this section shall submit all information concerning out-of-control periods, including start and end dates and hours and descriptions of corrective actions taken, in the excess emissions and continuous monitoring system performance report required in section 63.10(e)(3).

(d) *Quality control program*.

(1) The results of the quality control program required in this paragraph will be considered by the Administrator when he/she determines the validity of monitoring data.

(2) The owner or operator of an affected source that is required to use a CMS and is subject to the monitoring requirements of this section and a relevant standard shall develop and implement a CMS quality control program. As part of the quality control program, the owner or operator shall develop and submit to the Administrator for approval upon request a site-specific performance evaluation test plan for the CMS performance evaluation required in paragraph (e)(3)(i) of this section, according to the procedures specified in paragraph (e). In addition, each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the following operations:

(i) Initial and any subsequent calibration of the CMS;

(ii) Determination and adjustment of the calibration drift of the CMS;

(iii) Preventive maintenance of the CMS, including spare parts inventory;

(iv) Data recording, calculations, and reporting;

(v) Accuracy audit procedures, including sampling and analysis methods; and

(vi) Program of corrective action for a malfunctioning CMS.

(3) The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. Where relevant, e.g., program of corrective action for a malfunctioning CMS, these written procedures may be incorporated as part of the affected source's startup, shutdown, and malfunction plan to avoid duplication of planning and record keeping efforts.

(e) *Performance evaluation of continuous monitoring systems:*

(1) *General*. When required by a relevant standard, and at any other time the Administrator may require under section 114 of the Act, the owner or operator of an affected source being monitored shall conduct a performance evaluation of the CMS. Such performance evaluation shall be conducted according to the applicable specifications and procedures described in this section or in the relevant standard.

(2) *Notification of performance evaluation*. The owner or operator shall notify the Administrator in writing of the date of the performance evaluation simultaneously with the notification of the performance test date required under section 63.7(b) or at least 60 days prior to the date the performance evaluation is scheduled to begin if no performance test is required.

(3) (i) *Submission of site-specific performance evaluation test plan*. Before conducting a required CMS performance evaluation, the owner or operator of an affected source shall develop and submit a site-specific performance evaluation test plan to the Administrator for approval upon request. The performance evaluation test plan shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external QA program. Data quality objectives are the pre-evaluation expectations of precision, accuracy, and completeness of data.

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance. The external QA program shall include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

(iii) The owner or operator of an affected source shall submit the site-specific performance evaluation test plan to the Administrator (if requested) at least 60 days before the performance test or performance evaluation is scheduled to begin, or on a mutually agreed upon date, and review and approval of the performance evaluation test plan by the Administrator will occur with the review and approval of the site-specific test plan (if review of the site-specific test plan is requested).

(iv) The Administrator may request additional relevant information after the submittal of a site-specific performance evaluation test plan.

(v) In the event that the Administrator fails to approve or disapprove the site-specific performance evaluation test plan within the time period specified in section 63.7(c)(3), the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the monitoring method(s) specified in the relevant standard, the owner or operator shall conduct the performance evaluation within the time specified in this subpart, using the specified method(s);

(B) If the owner or operator intends to demonstrate compliance by using an alternative to a monitoring method specified in the relevant standard, the owner or operator shall refrain from conducting the performance evaluation until the Administrator approves the use of the alternative method. If the Administrator does not approve the use of the alternative method within 30 days before the performance evaluation is scheduled to begin, the performance evaluation deadlines specified in paragraph (e)(4) of this section may be extended such that the owner or operator shall conduct the performance evaluation within 60 calendar days after the Administrator approves the use of the alternative method. Notwithstanding the requirements in the preceding two sentences, the owner or operator may proceed to conduct the performance evaluation as required in this section (without the Administrator's prior approval of the site-specific performance evaluation test plan) if he/she subsequently chooses to use the specified monitoring method(s) instead of an alternative.

(vi) Neither the submission of a site-specific performance evaluation test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator' failure to approve or disapprove a plan in a timely manner shall:

(A) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(B) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(4) *Conduct of performance evaluation and performance evaluation dates*. The owner or operator of an affected source shall conduct a performance evaluation of a required CMS during any performance test required under section 63.7 in accordance with the applicable performance specification as specified in the relevant standard. Notwithstanding the requirement in the previous sentence, if the owner or operator of an affected source elects to submit COMS data for compliance with a relevant opacity emission standard as provided under section 63.6(h)(7), he/she shall conduct a performance evaluation of the COMS as specified in the relevant standard, before the performance test required under section 63.7 is conducted in time to submit the results of the performance evaluation as specified in paragraph (e)(5)(ii) of this section. If a performance test is not required, or the requirement for a performance test has been waived under section 63.7(h), the owner or operator of an affected source shall conduct the performance evaluation not later than 180 days after the appropriate compliance date for the affected source, as specified in section 63.7(a), or as otherwise specified in the relevant standard.

(5) *Reporting performance evaluation results*.

(i) The owner or operator shall furnish the Administrator a copy of a written report of the results of the performance evaluation simultaneously with the results of the performance test required under section 63.7 or within 60 days of completion of the performance evaluation if no test is required, unless otherwise specified in a relevant standard. The Administrator may request that the owner or operator submit the raw data from a performance evaluation in the report of the performance evaluation results.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under section 63.7 and described in section 63.6(d)(6) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation under this paragraph. The copies shall be provided at least 15 calendar days before the performance test required under section 63.7 is conducted.

(f) *Use of an alternative monitoring method:*

(1) *General.* Until permission to use an alternative monitoring procedure (minor, intermediate, or major changes; see definition in section 63.90(a)) has been granted by the Administrator under this paragraph (f)(1), the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this part including, but not limited to, the following:

(i) Alternative monitoring requirements when installation of a CMS specified by a relevant standard would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases;

(ii) Alternative monitoring requirements when the affected source is infrequently operated;

(iii) Alternative monitoring requirements to accommodate CEMS that require additional measurements to correct for stack moisture conditions;

(iv) Alternative locations for installing CMS when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;

(v) Alternate methods for converting pollutant concentration measurements to units of the relevant standard;

(vi) Alternate procedures for performing daily checks of zero (low-level) and high-level drift that do not involve use of high-level gases or test cells;

(vii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified by any relevant standard;

(viii) Alternative CMS that do not meet the design or performance requirements in this part, but adequately demonstrate a definite and consistent relationship between their measurements and the measurements of opacity by a system complying with the requirements as specified in the relevant standard. The Administrator may require that such demonstration be performed for each affected source; or

(ix) Alternative monitoring requirements when the effluent from a single affected source or the combined effluent from two or more affected sources is released to the atmosphere through more than one point.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section or in the relevant standard. If the results of the specified and alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4) (i) *Request to use alternative monitoring procedure.* An owner or operator who wishes to use an alternative monitoring procedure must submit an application to the Administrator as described in paragraph (f)(4)(ii) of this section. The application may be submitted at any time provided that the monitoring procedure is not the performance test method used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring procedure will serve as the performance test method that is to be used to demonstrate compliance with a relevant standard, the application must be submitted at least 60 days before the performance evaluation is scheduled to begin and must meet the requirements for an alternative test method under section 63.7(f).

(ii) The application must contain a description of the proposed alternative monitoring system which addresses the four elements contained in the definition of monitoring in section 63.2 and a performance evaluation test plan, if required, as specified in paragraph (e)(3) of this section. In addition, the application must include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) The owner or operator may submit the information required in this paragraph well in advance of the submittal dates specified in paragraph (f)(4)(i) above to ensure a timely review by the Administrator in order to meet the compliance demonstration date specified in this section or the relevant standard.

(iv) Application for minor changes to monitoring procedures, as specified in paragraph (b)(1) of this section, may be made in the site-specific performance evaluation plan.

(5) *Approval of request to use alternative monitoring procedure.*

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. If a request for a minor change is made in conjunction with site-specific performance evaluation plan, then approval of the plan will constitute approval of the minor change. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with:

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) The Administrator may establish general procedures and criteria in a relevant standard to accomplish the requirements of paragraph (f)(5)(i) of this section.

(iii) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (f)(5)(i) of this section, the owner or operator of such source shall continue to use the alternative monitoring method until he or she receives approval from the Administrator to use another monitoring method as allowed by section 63.8(f).

(6) *Alternative to the relative accuracy test.* An alternative to the relative accuracy test for CEMS specified in a relevant standard may be requested as follows:

(i) *Criteria for approval of alternative procedures*. An alternative to the test method for determining relative accuracy is available for affected sources with emission rates demonstrated to be less than 50 percent of the relevant standard. The owner or operator of an affected source may petition the Administrator under paragraph (f)(6)(ii) of this section to substitute the relative accuracy test in section 7 of Performance Specification 2 with the procedures in section 10 if the results of a performance test conducted according to the requirements in section 63.7, or other tests performed following the criteria in section 63.7, demonstrate that the emission rate of the pollutant of interest in the units of the relevant standard is less than 50 percent of the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the owner or operator may petition the Administrator to substitute the relative accuracy test with the procedures in section 10 of Performance Specification 2if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the CEMS is used continuously to determine compliance with the relevant standard.

(ii) *Petition to use alternative to relative accuracy test*. The petition to use an alternative to the relative accuracy test shall include a detailed description of the procedures to be applied, the location and the procedure for conducting the alternative, the concentration or response levels of the alternative relative accuracy materials, and the other equipment checks included in the alternative procedure(s). The Administrator will review the petition for completeness and applicability. The Administrator's determination to approve an alternative will depend on the intended use of the CEMS data and may require specifications more stringent than in Performance Specification 2.

(iii) *Rescission of approval to use alternative to relative accuracy test*. The Administrator will review the permission to use an alternative to the CEMS relative accuracy test and may rescind such permission if the CEMS data from a successful completion of the alternative relative accuracy procedure indicate that the affected source's emissions are approaching the level of the relevant standard. The criterion for reviewing the permission is that the collection of CEMS data shows that emissions have exceeded 70 percent of the relevant standard for any averaging period, as specified in the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the criterion for reviewing the permission is that the collection of CEMS data shows that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for any averaging period, as specified in the relevant standard. The owner or operator of the affected source shall maintain records and determine the level of emissions relative to the criterion for permission to use an alternative for relative accuracy testing. If this criterion is exceeded, the owner or operator shall notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increased emissions. The Administrator will review the notification and may rescind

permission to use an alternative and require the owner or operator to conduct a relative accuracy test of the CEMS as specified in section 7 of Performance Specification 2.

(g) *Reduction of monitoring data*.

(1) The owner or operator of each CMS must reduce the monitoring data as specified in paragraphs (g)(1) through (5)of this section.

(2) The owner or operator of each COMS shall reduce all data to 6-minute averages calculated from 36 or more data points equally spaced over each 6-minute period. Data from CEMS for measurement other than opacity, unless otherwise specified in the relevant standard, shall be reduced to 1-hour averages computed from four or more data points equally spaced over each 1-hour period, except during periods when calibration, quality assurance, or maintenance activities pursuant to provisions of this part are being performed. During these periods, a valid hourly average shall consist of at least two data points with each representing a 15-minute period. Alternatively, an arithmetic or integrated 1-hour average of CEMS data may be used. Time periods for averaging are defined in section 63.2.

(3) The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O_2 or ng/J of pollutant).

(4) All emission data shall be converted into units of the relevant standard for reporting purposes using the conversion procedures specified in that standard. After conversion into units of the relevant standard, the data may be rounded to the same number of significant digits as used in that standard to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

(5) Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments must not be included in any data average computed under this part. For the owner or operator complying with the requirements of section 63.10(b)(2)(vii)(A) or (B), data averages must include any data recorded during periods of monitor breakdown or malfunction.

40 CFR 63.9 Notification requirements.

(a) *Applicability and general information*.

(1) The applicability of this section is set out in section 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a notice that contains all the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

(4) (i) Before a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in section 63.13).

(ii) After a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the delegated State authority (which may be the same as the

permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each notification submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any notifications at its discretion.

(b) *Initial notifications.*

(1) (i) The requirements of this paragraph apply to the owner or operator of an affected source when such source becomes subject to a relevant standard.

(ii) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source that is subject to the emission standard or other requirement, such source shall be subject to the notification requirements of this section.

(iii) Affected sources that are required under this paragraph to submit an initial notification may use the application for approval of construction or reconstruction under section 63.5(d) of this subpart, if relevant, to fulfill the initial notification requirements of this paragraph.

(2) The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard), shall provide the following information:

(i) The name and address of the owner or operator;

(ii) The address (i.e., physical location) of the affected source;

(iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;

(iv) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and

(v) A statement of whether the affected source is a major source or an area source.

(3) [Reserved]

(4) The owner or operator of a new or reconstructed major affected source for which an application for approval of construction or reconstruction is required under section 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such that the source becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in section 63.5(d)(1)(i); and

(ii) [Reserved]

(iii) [Reserved]

(iv) [Reserved]

(v) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(5) The owner or operator of a new or reconstructed affected source for which an application for approval of construction or reconstruction is not required under section 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new affected source, reconstruct an affected source, or reconstruct a source such that the source becomes an affected source, and

(ii) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(iii) Unless the owner or operator has requested and received prior permission from the Administrator to submit less than the information in section 63.5(d), the notification must include the information required on the application for approval of construction or reconstruction as specified in section 63.5(d)(1)(i).

(c) *Request for extension of compliance*. If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with section 63.6(i)(5) of this subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in section 63.6(i)(4) through section 63.6(i)(6).

(d) *Notification that source is subject to special compliance requirements*. An owner or operator of a new source that is subject to special compliance requirements as specified in section 63.6(b)(3) and section 63.6(b)(4) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in paragraph (b) of this section for new sources that are not subject to the special provisions.

(e) *Notification of performance test*. The owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin to allow the Administrator to review and approve the site-specific test plan required under section 63.7(c), if requested by the Administrator, and to have an observer present during the test.

(f) *Notification of opacity and visible emission observations*. The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting the opacity or visible emission observations specified in section 63.6(h)(5), if such observations are required for the source by a relevant standard. The notification shall be submitted with the notification of the performance test date, as specified in paragraph (e) of this section, or if no performance test is required or visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under section 63.7, the owner or operator shall deliver or postmark the notification not less than 30 days before the opacity or visible emission observations are scheduled to take place.

(g) *Additional notification requirements for sources with continuous monitoring systems*. The owner or operator of an affected source required to use a CMS by a relevant standard shall furnish the Administrator written notification as follows:

(1) A notification of the date the CMS performance evaluation under section 63.8(e) is scheduled to begin, submitted simultaneously with the notification of the performance test date required under section 63.7(b). If no performance test is required, or if the requirement to conduct a performance test has been waived for an affected source under section 63.7(h), the owner or operator shall notify the Administrator in writing of the date of the performance evaluation at least 60 calendar days before the evaluation is scheduled to begin;

(2) A notification that COMS data results will be used to determine compliance with the applicable opacity emission standard during a performance test required by section 63.7 in lieu of Method 9 or other opacity emissions test method data, as allowed by section 63.6(h)(7)(ii), if compliance with an opacity emission standard is required for the source by a relevant standard. The notification shall be submitted at least 60 calendar days before the performance test is scheduled to begin; and

(3) A notification that the criterion necessary to continue use of an alternative to relative accuracy testing, as provided by section 63.8(f)(6), has been exceeded. The notification shall be delivered or postmarked not later than 10 days after the occurrence of such exceedance, and it shall include a description of the nature and cause of the increased emissions.

(h) *Notification of compliance status*.

(1) The requirements of paragraphs (h)(2) through (h)(4) of this section apply when an affected source becomes subject to a relevant standard.

(2) (i) Before a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit to the Administrator a notification of compliance status, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the relevant standard. The notification shall list:

(A) The methods that were used to determine compliance;

(B) The results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted;

(C) The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods;

(D) The type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard;

(E) If the relevant standard applies to both major and area sources, an analysis demonstrating whether the affected source is a major source (using the emissions data generated for this notification);

(F) A description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method); and

(G) A statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements.

(ii) The notification must be sent before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard (unless a different reporting period is specified in the standard, in which case the letter must be sent before the close of business on the day the report of the relevant testing or monitoring results is required to be delivered or postmarked). For example, the notification shall be sent before close of business on the 60th (or other required) day following completion of the initial performance test and again before the close of business on the 60th (or other required) day following the completion of any subsequent required performance test. If no performance test is required but opacity or visible emission observations are required to demonstrate compliance with an opacity or visible emission standard under this part, the notification of compliance status shall be sent before close of business on the 30th day following the completion of opacity or visible emission observations. Notifications may be combined as long as the due date requirement for each notification is met.

(3) After a title V permit has been issued to the owner or operator of an affected source, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this part. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in the relevant standard.

(4) [Reserved]

(5) If an owner or operator of an affected source submits estimates or preliminary information in the application for approval of construction or reconstruction required in section 63.5(d) in place of the actual emissions data or control efficiencies required in paragraphs (d)(1)(ii)(H) and (d)(2) of section 63.5, the owner

or operator shall submit the actual emissions data and other correct information as soon as available but no later than with the initial notification of compliance status required in this section.

(6) Advice on a notification of compliance status may be obtained from the Administrator.

(i) *Adjustment to time periods or postmark deadlines for submittal and review of required communications*.

(1) (i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (i)(2) and (i)(3) of this section, the owner or operator of an affected source remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (i)(2) and (i)(3) of this sectioneach time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

(j) *Change in information already provided*. Any change in the information already provided under this section shall be provided to the Administrator in writing within 15 calendar days after the change.

40 CFR 63.10 Record keeping and reporting requirements.

(a) *Applicability and general information*.

(1) The applicability of this section is set out in section 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a report that contains all the information required in a report listed in this section, an owner or operator may send the Administrator a copy of the report sent to the State to satisfy the requirements of this section for that report.

(4) (i) Before a State has been delegated the authority to implement and enforce record keeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in section 63.13).

(ii) After a State has been delegated the authority to implement and enforce record keeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the delegated State authority (which may be the same as the

permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each report submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any reports at its discretion.

(5) If an owner or operator of an affected source in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such source under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. For each relevant standard established pursuant to section 112 of the Act, the allowance in the previous sentence applies in each State beginning 1 year after the affected source's compliance date for that standard. Procedures governing the implementation of this provision are specified in section 63.9(i).

(6) If an owner or operator supervises one or more stationary sources affected by more than one standard established pursuant to section 112 of the Act, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required for each source shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the latest compliance date for any relevant standard established pursuant to section 112 of the Act for any such affected source(s). Procedures governing the implementation of this provision are specified in section 63.9(i).

(7) If an owner or operator supervises one or more stationary sources affected by standards established pursuant to section 112 of the Act (as amended November 15, 1990) and standards set under part 60part 61 or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required by each relevant (i.e., applicable) standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the relevant section 112 standard, or 1 year after the stationary source is required to be in compliance with the applicable part 60 or part 61 standard, whichever is latest. Procedures governing the implementation of this provision are specified in section 63.9(i).

(b) *General record keeping requirements*.

(1) The owner or operator of an affected source subject to the provisions of this part shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(2) The owner or operator of an affected source subject to the provisions of this part shall maintain relevant records for such source of:

(i) The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment);

(ii) The occurrence and duration of each malfunction of the required air pollution control and monitoring equipment;

(iii) All required maintenance performed on the air pollution control and monitoring equipment;

(iv) Actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see section 63.6(e)(3));

(v) All information necessary to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan (see section 63.6(e)(3)) when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of record keeping, in order to minimize the record keeping burden for conforming events);

(vi) Each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);

(vii) All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);

(A) This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii)of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(B) This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii)of this section, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(C) The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (b)(2)(vii), if the administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(viii) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations;

(ix) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations;

(x) All CMS calibration checks;

(xi) All adjustments and maintenance performed on CMS;

(xii) Any information demonstrating whether a source is meeting the requirements for a waiver of record keeping or reporting requirements under this part, if the source has been granted a waiver under paragraph (f) of this section;

(xiii) All emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test, if the source has been granted such permission under section 63.8(f)(6); and

(xiv) All documentation supporting initial notifications and notifications of compliance status under section 63.9.

(3) *Record keeping requirement for applicability determinations.* If an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f), and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under this part) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the Administrator to make afinding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of this part for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with EPA guidance materials published to assist sources in making applicability determinations under section 112, if any. The requirements to determine applicability of a standard under section 63.1(b)(3) and to record the results of that determination under paragraph (b)(3) of this section shall not by themselves create an obligation for the owner or operator to obtain a title V permit.

(c) *Additional record keeping requirements for sources with continuous monitoring systems*. In addition to complying with the requirements specified in paragraphs (b)(1) and (b)(2) of this section, the owner or operator of an affected source required to install a CMS by a relevant standard shall maintain records for such source of:

(1) All required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);

(2) [Reserved]

(3) [Reserved]

(4) [Reserved]

(5) The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;

(6) The date and time identifying each period during which the CMS was out of control, as defined in section 63.8(c)(7);

(7) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during startups, shutdowns, and malfunctions of the affected source;

(8) The specific identification (i.e., the date and time of commencement and completion) of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

(9) [Reserved]

(10) The nature and cause of any malfunction (if known);

(11) The corrective action taken or preventive measures adopted;

(12) The nature of the repairs or adjustments to the CMS that was inoperative or out of control;

(13) The total process operating time during the reporting period; and

(14) All procedures that are part of a quality control program developed and implemented for CMS under section 63.8(d).

(15) In order to satisfy the requirements of paragraphs (c)(10) through (c)(12) of this section and to avoid duplicative record keeping efforts, the owner or operator may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the record keeping requirements of the startup, shutdown, and malfunction plan specified in section 63.6(e), provided that such plan and records adequately address the requirements of paragraphs (c)(10) through (c)(12).

(d) *General reporting requirements*.

(1) Notwithstanding the requirements in this paragraph or paragraph (e) of this section, and except as provided in section 63.16, the owner or operator of an affected source subject to reporting requirements under this part shall submit reports to the Administrator in accordance with the reporting requirements in the relevant standard(s).

(2) *Reporting results of performance tests*. Before a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of any performance test under section 63.7 to the Administrator. After a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of a required performance test to the appropriate permitting authority. The owner or operator of an affected source shall report the results of the performance test to the Administrator (or the State with an approved permit program) before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator. The results of the performance test shall be submitted as part of the notification of compliance status required under section 63.9(h).

(3) *Reporting results of opacity or visible emission observations*. The owner or operator of an affected source required to conduct opacity or visible emission observations by a relevant standard shall report the opacity or visible emission results (produced using Test Method 9 or Test Method 22, or an alternative to these test methods) along with the results of the performance test required under section 63.7. If no performance test is required, or if visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the performance test required under section 63.7, the owner or operator shall report the opacity or visible emission results before the close of business on the 30th day following the completion of the opacity or visible emission observations.

(4) *Progress reports*. The owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under section 63.6(i) shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

(5) (i) *Periodic startup, shutdown, and malfunction reports.* If actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (see section 63.6(e)(3)), the owner or operator shall state such information in a startup, shutdown, and malfunction report. Such a report shall identify any instance where any action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the affected source's startup, shutdown, and malfunction plan, but the source does not exceed any applicable emission limitation in the relevant emission standard. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. Reports shall only be required if a startup,

shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually (or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit). The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e)of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in paragraph (e)(3) of this section.

(ii) *Immediate startup, shutdown, and malfunction reports.* Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under paragraph (d)(5)(i) of this section, any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this paragraph (d)(5)(ii) shall consist of a telephone call (or facsimile (FAX) transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred. Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph (d)(5)(ii) are specified in section 63.9(i).

(e) *Additional reporting requirements for sources with continuous monitoring systems:*

(1) *General*. When more than one CEMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CEMS.

(2) *Reporting results of continuous monitoring system performance evaluations*.

(i) The owner or operator of an affected source required to install a CMS by a relevant standard shall furnish the Administrator a copy of a written report of the results of the CMS performance evaluation, as required under section 63.8(e), simultaneously with the results of the performance test required under section 63.7, unless otherwise specified in the relevant standard.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under section 63.7 and described in section 63.6(d)(6) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation conducted under section 63.8(e). The copies shall be furnished at least 15 calendar days before the performance test required under section 63.7 is conducted.

(3) *Excess emissions and continuous monitoring system performance report and summary report*.

(i) Excess emissions and parameter monitoring exceedances are defined in relevant standards. The owner or operator of an affected source required to install a CMS by a relevant standard shall submit an excess emissions and continuous monitoring system performance report and/or a summary report to the Administrator semiannually, except when:

(A) More frequent reporting is specifically required by a relevant standard;

(B) The Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source; or

(C) [Reserved]

(D) The affected source is complying with the Performance Track Provisions of section 63.16, which allows less frequent reporting.

(ii) *Request to reduce frequency of excess emissions and continuous monitoring system performance reports*. Notwithstanding the frequency of reporting requirements specified in paragraph (e)(3)(i) of this section, an owner or operator who is required by a relevant standard to submit excess emissions and continuous monitoring system performance (and summary) reports on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(A) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected source's excess emissions and continuous monitoring system performance reports continually demonstrate that the source is in compliance with the relevant standard;

(B) The owner or operator continues to comply with all record keeping and monitoring requirements specified in this subpart and the relevant standard; and

(C) The Administrator does not object to a reduced frequency of reporting for the affected source, as provided in paragraph (e)(3)(iii) of this section.

(iii) The frequency of reporting of excess emissions and continuous monitoring system performance (and summary) reports required to comply with a relevant standard may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the 5-year record keeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(iv) As soon as CMS data indicate that the source is not in compliance with any emission limitation or operating parameter specified in the relevant standard, the frequency of reporting shall revert to the frequency specified in the relevant standard, and the owner or operator shall submit an excess emissions and continuous monitoring system performance (and summary) report for the noncomplying emission points at the next appropriate reporting period following the noncomplying event. After demonstrating ongoing compliance with the relevant standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard, as provided for in paragraphs (e)(3)(ii)and (e)(3)(iii) of this section.

(v) *Content and submittal dates for excess emissions and monitoring system performance reports*. All excess emissions and monitoring system performance reports and all summary reports, if required, shall be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate. Written reports of excess emissions or exceedances of process or control system parameters shall include all the information required in paragraphs (c)(5) through (c)(13) of this section, in section 63.8(c)(7) and section 63.8(c)(8), and in the relevant standard, and they shall contain the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no excess emissions or exceedances of a parameter have occurred, or a CMS has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

(vi) *Summary report*. As required under paragraphs (e)(3)(vii) and (e)(3)(viii) of this section, one summary report shall be submitted for the hazardous air pollutants monitored at each affected source (unless the relevant standard specifies that more than one summary report is required, e.g., one summary report for each hazardous air pollutant monitored). The summary report shall be entitled "Summary Report: Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance" and shall contain the following information:

(A) The company name and address of the affected source;

(B) An identification of each hazardous air pollutant monitored at the affected source;

(C) The beginning and ending dates of the reporting period;

(D) A brief description of the process units;

(E) The emission and operating parameter limitations specified in the relevant standard(s);

(F) The monitoring equipment manufacturer(s) and model number(s);

(G) The date of the latest CMS certification or audit;

(H) The total operating time of the affected source during the reporting period;

(I) An emission data summary (or similar summary if the owner or operator monitors control system parameters), including the total duration of excess emissions during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes;

(J) A CMS performance summary (or similar summary if the owner or operator monitors control system parameters), including the total CMS downtime during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of CMS downtime expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total CMS downtime during the reporting period into periods that are due to monitoring equipment malfunctions, nonmonitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes;

(K) A description of any changes in CMS, processes, or controls since the last reporting period;

(L) The name, title, and signature of the responsible official who is certifying the accuracy of the report; and

(M) The date of the report.

(vii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period, and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report shall be submitted, and the full excess emissions and continuous monitoring system performance report need not be submitted unless required by the Administrator.

(viii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, both the summary report and the excess emissions and continuous monitoring system performance report shall be submitted.

(4) *Reporting continuous opacity monitoring system data produced during a performance test*. The owner or operator of an affected source required to use a COMS shall record the monitoring data produced during a performance test required under section 63.7 and shall furnish the Administrator a written report of the monitoring results. The report of COMS data shall be submitted simultaneously with the report of the performance test results required in paragraph (d)(2) of this section.

(f) *Waiver of record keeping or reporting requirements*.

(1) Until a waiver of a record keeping or reporting requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Record keeping or reporting requirements may be waived upon written application to the Administrator if, in the Administrator's judgment, the affected source is achieving the relevant standard(s), or the source is operating under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) If an application for a waiver of record keeping or reporting is made, the application shall accompany the request for an extension of compliance under section 63.6(i), any required compliance progress report or compliance status report required under this part [such as under section 63.6(i) and section 63.9(h)] or in the source's title V permit, or an excess emissions and continuous monitoring system performance report required under paragraph (e) of this section, whichever is applicable. The application shall include whatever information the owner or operator considers useful to convince the Administrator that a waiver of record keeping or reporting is warranted.

(4) The Administrator will approve or deny a request for a waiver of record keeping or reporting requirements under this paragraph when he/she:

(i) Approves or denies an extension of compliance; or

(ii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iii) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) A waiver of any record keeping or reporting requirement granted under this paragraph may be conditioned on other record keeping or reporting requirements deemed necessary by the Administrator.

(6) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

40 CFR 63.11 Control device requirements.

(a) *Applicability*. The applicability of this section is set out in section 63.1(a)(4).

(b) *Flares*.

(1) Owners or operators using flares to comply with the provisions of this part shall monitor these control devices to assure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators using flares shall monitor these control devices.

(2) Flares shall be steam-assisted, air-assisted, or non-assisted.

(3) Flares shall be operated at all times when emissions may be vented to them.

(4) Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Test Method 22 in Appendix A of part 60 of this chapter shall be used to determine the compliance of flares with the visible emission provisions of this part. The observation period is 2 hours and shall be used according to Method 22.

(5) Flares shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(6) An owner/operator has the choice of adhering to the heat content specifications in paragraph (b)(6)(ii) of this section, and the maximum tip velocity specifications in paragraph (b)(7) or (b)(8) of this section, or adhering to the requirements in paragraph (b)(6)(i) of this section.

(i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity V_{max}, as determined by the following equation:

$V_{max}=(X_{H2}-K_1)* K_2$

Where:

V_{max}=Maximum permitted velocity, m/sec.

K_1=Constant, 6.0 volume-percent hydrogen.

K_2=Constant, 3.9(m/sec)/volume-percent hydrogen.

X_{H2}=The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in section 63.14).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(7)(i) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 M/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

Where:

H_T=Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25EC and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20EC.
K=Constant=

$$1.740 \times 10^{-7} \text{ (1 / ppmv)(g-mole / scm)(MJ / kcal)}$$

where the standard temperature for (g-mole/scm) is 20EC.
C_i=Concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946-77 or 90 (Reapproved 1994) (incorporated by reference as specified in section 63.14).
H_i=Net heat of combustion of sample component i, kcal/g-mole at 25EC and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in section 63.14) if published values are not available or cannot be calculated.
n=Number of sample components.

(7) (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Methods 2, 2A, 2C, or 2D in Appendix A to 40 CFR part 60, of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, less than the velocity V_{max}, as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, V_{max}, for flares complying with this paragraph shall be determined by the following equation:
$\text{Log}_{10}(V_{max})=(H_T+28.8)/31.7$
Where:
V_{max}=Maximum permitted velocity, m/sec.
28.8=Constant.
31.7=Constant.
H_T=The net heating value as determined in paragraph (b)(6) of this section.
(8) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max}. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation:
$V_{max}=8.71 + 0.708(H_T)$
Where:
V_{max}=Maximum permitted velocity, m/sec.
8.71=Constant.

0.708=Constant.
H_T=The net heating value as determined in paragraph (b)(6)(ii) of this section.

40 CFR 63.12 State authority and delegations.

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from:
(1) Adopting and enforcing any standard, limitation, prohibition, or other regulation applicable to an affected source subject to the requirements of this part, provided that such standard, limitation, prohibition, or regulation is not less stringent than any requirement applicable to such source established under this part;
(2) Requiring the owner or operator of an affected source to obtain permits, licenses, or approvals prior to initiating construction, reconstruction, modification, or operation of such source; or
(3) Requiring emission reductions in excess of those specified in subpart D of this part as a condition for granting the extension of compliance authorized by section 112(i)(5) of the Act.
(b) (1) section 112(l) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards and other requirements pursuant to section 112 for stationary sources located in that State. Because of the unique nature of radioactive material, delegation of authority to implement and enforce standards that control radionuclides may require separate approval.
(2) Subpart E of this part establishes procedures consistent with section 112(l) for the approval of State rules or programs to implement and enforce applicable Federal rules promulgated under the authority of section 112. Subpart E also establishes procedures for the review and withdrawal of section 112 implementation and enforcement authorities granted through a section 112(l) approval.
(c) All information required to be submitted to the EPA under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act, provided that each specific delegation may exempt sources from a certain Federal or State reporting requirement. The Administrator may permit all or some of the information to be submitted to the appropriate State agency only, instead of to the EPA and the State agency.

40 CFR 63.13 Addresses of State air pollution control agencies and EPA Regional Offices.

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted to the appropriate Regional Office of the U.S. Environmental Protection Agency indicated in the following list of EPA Regional Offices.
EPA Region I (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont), Director, Air, Pesticides and Toxics Division, J.F.K. Federal Building, Boston, MA 02203-2211.
EPA Region II (New Jersey, New York, Puerto Rico, Virgin Islands), Director, Air and Waste Management Division, 26 Federal Plaza, New York, NY 10278.
EPA Region III (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia), Director, Air Protection Division, 1650 Arch Street, Philadelphia, PA 19103.
EPA Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee). Director, Air, Pesticides and Toxics Management Division, Atlanta Federal Center, 61 Forsyth Street, Atlanta, GA 30303-3104.
EPA Region V (Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin), Director, Air and Radiation Division, 77 West Jackson Blvd., Chicago, IL 60604-3507.

EPA Region VI (Arkansas, Louisiana, New Mexico, Oklahoma, Texas), Director, Air, Pesticides and Toxics, 1445 Ross Avenue, Dallas, TX 75202-2733.
EPA Region VII (Iowa, Kansas, Missouri, Nebraska), Director, Air, RCRA, and Toxics Division, U.S. Environmental Protection Agency, 901 N. 5th Street, Kansas City, KS 66101.
EPA Region VIII (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming), Director, Air and Toxics Division, 999 18th Street, 1 Denver Place, Suite 500, Denver, CO 80202-2405.
EPA Region IX (Arizona, California, Hawaii, Nevada, American Samoa, Guam), Director, Air and Toxics Division, 75 Hawthorne Street, San Francisco, CA 94105.
EPA Region X (Alaska, Idaho, Oregon, Washington), Director, Office of Air Quality, 1200 Sixth Avenue (OAQ-107), Seattle, WA 98101.

(b) All information required to be submitted to the Administrator under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act. The owner or operator of an affected source may contact the appropriate EPA Regional Office for the mailing addresses for those States whose delegation requests have been approved.
(c) If any State requires a submittal that contains all the information required in an application, notification, request, report, statement, or other communication required in this part, an owner or operator may send the appropriate Regional Office of the EPA a copy of that submittal to satisfy the requirements of this part for that communication.

40 CFR 63.14 Incorporations by reference.

(a) The materials listed in this section are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the FEDERAL REGISTER. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the Office of the Federal Register, 800 North Capital Street, NW, suite 700, Washington, DC, at the Air and Radiation Docket and Information Center, U.S. EPA, 1200 Pennsylvania Ave., NW., Washington, DC, and at the EPA Library (MD-35), U.S. EPA, Research Triangle Park, North Carolina.

(b) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

(1) ASTM D523-89, Standard Test Method for Specular Gloss, IBR approved for section 63.782.
(2) ASTM D1193-77, 91, Standard Specification for Reagent Water, IBR approved for Appendix A: Method 306, Sections 7.1.1 and 7.4.2.
(3) ASTM D1331-89, Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface Active Agents, IBR approved for Appendix A: Method 306B, Sections 6.2, 11.1, and 12.2.2.
(4) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for section 63.788, Appendix A.
(5) ASTM D1946-77, 90, 94, Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for section 63.11(b)(6).

(6) ASTM D2369-93, 95, Standard Test Method for Volatile Content of Coatings, IBR approved for section 63.788, Appendix A.
(7) ASTM D2382-76, 88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for section 63.11(b)(6).
(8) ASTM D2879-83, 96, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for section 63.111 and section 63.2406.

(9) ASTM D3257-93, Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography, IBR approved for section 63.786(b).
(10) ASTM 3695-88, Standard Test Method for Volatile Alcohols in Water by Direct Aqueous-Injection Gas Chromatography, IBR approved for section 63.365(e)(1) of Subpart O.
(11) ASTM D3792-91, Standard Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for section 63.788, Appendix A.
(12) ASTM D3912-80, Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for section 63.782.
(13) ASTM D4017-90, 96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for section 63.788, Appendix A.
(14) ASTM D4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, IBR approved for section 63.782.
(15) ASTM D4256-89, 94, Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for section 63.782.
(16) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for section 63.11(b)(6).
(17) ASTM E180-93, Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals, IBR approved for section 63.786(b).
(18) ASTM E260-91, 96, General Practice for Packed Column Gas Chromatography, IBR approved for sections 63.750(b)(2) and 63.786(b)(5).
(19) [Reserved]

(20) [Reserved]

(21) ASTM D2099-00, Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Maeser Water Penetration Tester, IBR approved for section 63.5350.

(22) [Reserved]
(23) [Reserved]
(24) ASTM D2697-86 (Reapproved 1998), "Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings," IBR approved for sections 63.3161(f)(1), 63.3521(b)(1), 63.3941(b)(1), 63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(25) ASTM D6093-97 (Reapproved 2003), "Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer," IBR approved for sections 63.3161(f)(1), 63.3521(b)(1), 63.3941(b)(1), 63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(26) ASTM D1475-98 (Reapproved 2003), "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products," IBR approved for sections 63.3151(b), 63.3941(b)(4), 63.3941(c), 63.3951(c), 63.4141(b)(3), 63.4141(c), and 63.4551(c).

(27) ASTM D 6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, IBR approved for section 63.9307(c)(2).

(28) [Reserved]

(29) ASTM D6420-99, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, IBR approved for sections 63.5799 and 63.5850.

(30) ASTM E 515-95 (Reapproved 2000), Standard Test Method for Leaks Using Bubble Emission Techniques, IBR approved for section 63.425(i)(2).

(31) ASTM D5291-02, Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants, IBR approved for section 63.3981, appendix A.

(32) ASTM D5965-02, "Standard Test Methods for Specific Gravity of Coating Powders," IBR approved for sections 63.3151(b) and 63.3951(c).

(33) ASTM D6053-00, Standard Test Method for Determination of Volatile Organic Compound (VOC) Content of Electrical Insulating Varnishes, IBR approved for section 63.3981, appendix A.

(34) E145-94 (Reapproved 2001), Standard Specification for Gravity-Convection and Forced-Ventilation Ovens, IBR approved for section 63.4581, Appendix A.

(35) [Reserved]

(36) ASTM D5066-91 (Reapproved 2001), "Standard Test Method for Determination of the Transfer Efficiency Under Production Conditions for Spray Application of Automotive Paints-Weight Basis," IBR approved for section 63.3161(g).

(37) ASTM D5087-02, "Standard Test Method for Determining Amount of Volatile Organic Compound (VOC) Released from Solventborne Automotive Coatings and Available for Removal in a VOC Control Device (Abatement)," IBR approved for sections 63.3165(e) and 63.3176, appendix A.

(38) ASTM D6266-00a, "Test Method for Determining the Amount of Volatile Organic Compound (VOC) Released from Waterborne Automotive Coatings and Available for Removal in a VOC Control Device (Abatement)," IBR approved for section 63.3165(e).

(c) The materials listed below are available for purchase from the American Petroleum Institute (API), 1220 L Street, NW., Washington, DC 20005.

(1) API Publication 2517, Evaporative Loss from External Floating-Roof Tanks, Third Edition, February 1989, IBR approved for section 63.111 and section 63.2406.

(2) API Publication 2518, Evaporative Loss from Fixed-roof Tanks, Second Edition, October 1991, IBR approved for section 63.150(g)(3)(i)(C) of subpart G of this part.

(d) *State and Local Requirements.* The materials listed below are available at the Air and Radiation Docket and Information Center, U.S. EPA, 1200 Pennsylvania Ave., NW., Washington, DC.
[section 63.14(d) added at 61 FR 25399, May 21, 1996; introductory text amended at 66 FR 47325, Aug. 2, 2000]
(1) *California Regulatory Requirements Applicable to the Air Toxics Program*, January 5, 1999, IBR approved for section 63.99(a)(5)(ii) of subpart E of this part.
[section 63.14(d)(1) added at 61 FR 25399, May 21, 1996; amended at 62 FR 65024, Dec. 10, 1997; 63 FR 26465,
(2) New Jersey's *Toxic Catastrophe Prevention Act Program*, (July 20, 1998), Incorporation By Reference approved for section 63.99(a)(30)(i) of subpart E of this part.

(3) (i) Letter of June 7, 1999 to the U.S. Environmental Protection Agency Region 3 from the Delaware Department of Natural Resources and Environmental Control requesting formal full delegation to take over primary responsibility for implementation and enforcement of the Chemical Accident Prevention Program under Section 112(r) of the Clean Air Act Amendments of 1990.
(ii) Delaware Department of Natural Resources and Environmental Control, Division of Air and Waste Management, Accidental Release Prevention Regulation, sections 1 through 5 and sections 7 through 14, effective January 11, 1999, IBR approved for section 63.99(a)(8)(i) of subpart E of this part.

(iii) State of Delaware Regulations Governing the Control of Air Pollution (October 2000), IBR approved for section 63.99(a)(8)(ii)-(v) of subpart E of this part.
(4) Massachusetts Regulations Applicable to Hazardous Air Pollutants (July 2002). Incorporation By Reference approved for section 63.99(a)(21)(ii) of subpart E of this part.

(5) New Hampshire Regulations Applicable to Hazardous Air Pollutants, March, 2003. Incorporation by Reference approved for section 63.99(a)(29)(iii) of subpart E of this part.
(e) The materials listed below are available for purchase from the National Institute of Standards and Technology, Springfield, VA 22161, (800) 553-6847.
(1) Handbook 44, Specificiations, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998, IBR approved for section 63.1303(e)(3).
(2) [Reserved]

(f) The following material is available from the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), P. O. Box 133318, Research Triangle Park, NC 27709-3318 or at http://www.ncasi.org: NCASI Method DI/MEOH-94.02, Methanol in Process Liquids GC/FID (Gas Chromatography/Flame Ionization Detection), August 1998, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for section 63.457(c)(3)(ii) of subpart S of this part.

(g) The materials listed below are available for purchase from AOAC International, Customer Services, Suite 400, 2200 Wilson Boulevard, Arlington, Virginia, 22201-3301, Telephone (703) 522-3032, Fax (703) 522-5468.

(1) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method, Sixteenth edition, 1995, IBR approved for section 63.626(d)(3)(vi).

(2) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for section 63.626(d)(3)(vi).

(3) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for section 63.626(d)(3)(vi).

(4) AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample Solution, Sixteenth edition, 1995, IBR approved for section 63.626(d)(3)(vi).

(5) AOAC Official Method 929.01 Sampling of Solid Fertilizers, Sixteenth edition, 1995, IBR approved for section 63.626(d)(3)(vi).

(6) AOAC Official Method 929.02 Preparation of Fertilizer Sample, Sixteenth edition, 1995, IBR approved for section 63.626(d)(3)(vi).

(7) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method, Sixteenth edition, 1995, IBR approved for section 63.626(d)(3)(vi).

(h) The materials listed below are available for purchase from The Association of Florida Phosphate Chemists, P.O. Box 1645, Bartow, Florida, 33830, Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists, Seventh Edition 1991, IBR.

(1) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample, IBR approved for section 63.606(c)(3)(ii) and section 63.626(c)(3)(ii).

(2) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus: P_2O_5 or $Ca_3(PO_4)_2$, Method A-Volumetric Method, IBR approved for section 63.606(c)(3)(ii) and section 63.626(c)(3)(ii).

(3) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method B-Gravimetric Quimociac Method, IBR approved for section 63.606(c)(3)(ii) and section 63.626(c)(3)(ii).

(4) Section IX, Methods of Analysis For Phosphate Rock, No. 3 Phosphorus-P_2O_5 or $Ca_3(PO_4)_2$, Method C-Spectrophotometric Method, IBR approved for section 63.606(c)(3)(ii) and section 63.626(c)(3)(ii).

(5) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method A- Volumetric Method, IBR approved for section 63.606(c)(3)(ii), section 63.626(c)(3)(ii), and section 63.626(d)(3)(v).

(6) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method B- Gravimetric Quimociac Method, IBR approved for section 63.606(c)(3)(ii), section 63.626(c)(3)(ii), and section 63.626(d)(3)(v).

(7) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P_2O_5, Method C- Spectrophotometric Method, IBR approved for section 63.606(c)(3)(ii), section 63.626(c)(3)(ii), and section 63.626(d)(3)(v).

(i) The following materials are available for purchase from at least one of the following addresses: ASME International, Orders/Inquiries, P.O. Box 2900, Fairfield, NJ 07007-2900; or Global Engineering Documents, Sales Department, 15 Inverness Way East, Englewood, CO 80112.

(1) ASME standard number QHO-1-1994, "Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators," IBR approved for section 63.1206(c)(6)(iii).

(2) ASME standard number QHO-1a-1996 Addenda to QHO-1-1994, "Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators," IBR approved for section 63.1206(c)(6)(iii).

(3) ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]," IBR approved for sections 63.865(b), 63.3166(a)(3), 63.3360(e)(1)(iii), 63.3545(a)(3), 63.3555(a)(3), 63.4166(a)(3), 63.4362(a)(3), 63.4766(a)(3), 63.4965(a)(3), 63.5160(d)(1)(iii), 63.9307(c)(2), and 63.9323(a)(3).

(j) The following material is available for purchase from: British Standards Institute, 389 Chiswick High Road, London W4 4AL, United Kingdom.
(1) BS EN 1593:1999, Non-destructive Testing: Leak Testing: Bubble Emission Techniques, IBR approved for section 63.425(i)(2).
(2) [Reserved]

(k) The following material may be obtained from U.S. EPA, Office of Solid Waste (5305W), 1200 Pennsylvania Avenue, NW., Washington, DC 20460:
(1) Method 9071B, "n-Hexane Extractable Material (HEM) for Sludge, Sediment, and Solid Samples," (Revision 2, April 1998) as published in EPA Publication SW-846: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods." The incorporation by reference of Method 9071B is approved for Section 63.7824(e) of Subpart FFFFF of this part.

40 CFR 63.15 Availability of information and confidentiality.

(a) *Availability of information*.
(1) With the exception of information protected through part 2 of this chapter, all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), notification of compliance status, excess emissions and continuous monitoring systems performance report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.
(2) The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.
(b) *Confidentiality*.
(1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.
(2) The contents of a title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a title V permit may be entitled to protection from disclosure.

40 CFR 63.16 Performance Track Provisions.

(a) Notwithstanding any other requirements in this part, an affected source at any major source or any area source at a Performance Track member facility, which is subject to regular periodic reporting under any subpart of this part, may submit such periodic reports at an interval that is twice the length of the regular period specified in the applicable subparts; provided, that for sources subject to permits under 40 CFR part 70 or 71 no interval so calculated for any report of the results of any required monitoring may be less frequent than once in every six months.

(b) Notwithstanding any other requirements in this part, the modifications of reporting requirements in paragraph (c)of this section apply to any major source at a Performance Track member facility which is subject to requirements under any of the subparts of this part and which has:

(1) Reduced its total HAP emissions to less than 25 tons per year;

(2) Reduced its emissions of each individual HAP to less than 10 tons per year; and

(3) Reduced emissions of all HAPs covered by each MACT standard to at least the level required for full compliance with the applicable emission standard.

(c) For affected sources at any area source at a Performance Track member facility and which meet the requirements of paragraph (b)(3) of this section, or for affected sources at any major source that meet the requirements of paragraph (b) of this section:

(1) If the emission standard to which the affected source is subject is based on add-on control technology, and the affected source complies by using add-on control technology, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is meeting the emission standard by continuing to use that control technology. The affected source must continue to meet all relevant monitoring and record keeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(2) If the emission standard to which the affected source is subject is based on add-on control technology, and the affected source complies by using pollution prevention, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is continuing to use pollution prevention to reduce HAP emissions to levels at or below those required by the applicable emission standard. The affected source must maintain records of all calculations that demonstrate the level of HAP emissions required by the emission standard as well as the level of HAP emissions achieved by the affected source. The affected source must continue to meet all relevant monitoring and record keeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(3) If the emission standard to which the affected source is subject is based on pollution prevention, and the affected source complies by using pollution prevention and reduces emissions by an additional 50 percent or greater than required by the applicable emission standard, then all required reporting elements in the periodic report may be met through an annual certification that the affected source is continuing to use pollution prevention to reduce HAP emissions by an additional 50 percent or greater than required by the applicable emission standard. The affected source must maintain records of all calculations that demonstrate the level of HAP emissions required by the emission standard as well as the level of HAP emissions achieved by the affected source. The affected source must continue to meet all relevant monitoring and record keeping requirements. The compliance certification must meet the requirements delineated in Clean Air Act section 114(a)(3).

(4) Notwithstanding the provisions of paragraphs (c)(1) through (3), of this section, for sources subject to permits under 40 CFR part 70 or 71, the results of any required monitoring and record keeping must be reported not less frequently than once in every six months.

IV. Requirements of 40 CFR Part 61, Subpart FF

Benzene waste operations

a. [40 CFR 61.342(a)]
The permittee of a facility at which the total annual benzene quantity from facility waste is less than 10 megagrams per year (Mg/yr) shall be exempt from the requirements of 40 CFR 61.342(b) and (c). The total annual benzene quantity from facility waste is the sum of the annual benzene quantity for each waste stream at the facility that has a flow-weighted annual average water content greater than 10 percent or that is mixed with water, or other wastes, at any time and the mixture has an annual average water content greater than 10 percent. The benzene quantity in a waste stream is to be counted only once without multiple counting if other waste streams are mixed with or generated from the original waste stream. Other specific requirements for calculating the total annual benzene waste quantity are listed in 40 CFR 61.342(a)(1) through (a)(4).

b. [40 CFR 61.355(a)]
The permittee shall determine the total annual benzene quantity from facility waste by the following procedure:

i. [40 CFR 61.355(a)(1)]
For each waste stream subject to 40 CFR Part 61, Subpart FF having a flow-weighted annual average water content greater than 10 percent water, on a volume basis as total water, or is mixed with water or other wastes at any time and the resulting mixture has an annual average water content greater than 10 percent as specified in 40 CFR 61.342(a), the permittee shall:

(1) determine the annual waste quantity for each waste stream using the procedures specified in 40 CFR 61.355(b) and A.4.c.

(2) determine the flow-weighted annual average benzene concentration for each waste stream using the procedures specified in 40 CFR 61.355(c) and A.4.d.

(3) calculate the annual benzene quantity for each waste stream by multiplying the annual waste quantity of the waste stream times the flow-weighted annual average benzene concentration.

ii. [40 CFR 61.355(a)(2)]
Total annual benzene quantity from facility waste is calculated by adding together the annual benzene quantity for each waste stream generated during the year and the annual benzene quantity for each process unit turnaround waste annualized according to 40 CFR 61.355(b)(4).

iii. [40 CFR 61.355(a)(3)]
If the total annual benzene quantity from facility waste is equal to or greater than 10 mg/yr, then the permittee shall comply with the requirements of 40 CFR 61.342 (c), (d), or (e).

iv. [40 CFR 61.355(a)(4)]

If the total annual benzene quantity from facility waste is less than 10 Mg/yr but is equal to or greater than 1 Mg/yr, then the permittee shall:

(1) comply with the record keeping requirements of 40 CFR 61.356, A.6.e, A.4.f and the reporting requirements of 40 CFR 61.357 and A.4.f; and

(2) repeat the determination of total annual benzene quantity from facility waste at least once per year and whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr or more.

v. [40 CFR 61.355(a)(5)]

If the total annual benzene quantity from facility waste is less than 1 Mg/yr, then the permittee shall:

(1) comply with the record keeping requirements of 40 CFR 61.356, A.4.e, and A.4.f and the reporting requirements of 40 CFR 61.357 and A.4.g; and

(2) repeat the determination of total annual benzene quantity from facility waste whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr or more.

c. [40 CFR 61.355(b)]

For purposes of the calculation required by 40 CFR 61.355(a), the permittee shall determine the annual waste quantity at the point of waste generation, unless otherwise provided in 40 CFR 61.355 (b) (1), (2), (3), and (4), by one of the methods given in 40 CFR 61.355(b) (5) through (7) and A.4.c.i through A.4.c.iii.

i. select the highest annual quantity of waste managed from historical records representing the most recent 5 years of operation or, if the facility has been in service for less than 5 years but at least 1 year, from historical records representing the total operating life of the facility;

ii. use the maximum design capacity of the waste management unit; or

iii. use measurements that are representative of maximum waste generation rates.

d. [40 CFR 61.355(c)]

For the purposes of the calculation required by 40 CFR 61.355(a), the permittee shall determine the flow-weighted annual average benzene concentration in a manner that meets the requirements given in 40 CFR 61.355(c)(1) and A.4.d.i using either of the methods given in 40 CFR 61.355(c)(2), (c)(3), A.4.d.ii and A.4.d.iii.

i. [40 CFR 61.355(c)(1)]

The determination of flow-weighted annual average benzene concentration shall meet all of the following criteria:

(1) The determination shall be made at the point of waste generation except for the specific cases given in 40 CFR 61.355(c)(1)(i)(A) through (D).

(2) Volatilization of the benzene by exposure to air shall not be used in the determination to reduce the benzene concentration.

(3) Mixing or diluting the waste stream with other wastes or other materials shall not be used in the determination-to reduce the benzene concentration.

(4) The determination shall be made prior to any treatment of the waste that removes benzene, except as specified in 40 CFR 61.355(c)(1)(i)(A) through (D).

(5) For wastes with multiple phases, the determination shall provide the weighted-average benzene concentration based on the benzene concentration in each phase of the waste and the relative proportion of the phases.

ii. [40 CFR 61.355(c)(2)]
Knowledge of the waste. The permittee shall provide sufficient information to document the flow-weighted annual average benzene concentration of each waste stream. Examples of information that could constitute knowledge include material balances, records of chemicals purchases, or previous test results provided the results are still relevant to the current waste stream conditions. If test data are used, then the permittee shall provide documentation describing the testing protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the flow-weighted annual average benzene concentration for the waste stream. When the permittee and the Administrator do not agree on determinations of the flow-weighted annual average benzene concentration based on knowledge of the waste, the procedures under 40 CFR 61.355(c)(3) and A.6.d.iii shall be used to resolve the disagreement.

iii. [40 CFR 61.355(c)(3)]
Measurements of the benzene concentration in the waste stream in accordance with the following procedures:

(1) Collect a minimum of three representative samples from each waste stream. Where feasible, samples shall be taken from an enclosed pipe prior to the waste being exposed to the atmosphere.

(2) For waste in enclosed pipes, the following procedures shall be used:

(a) Samples shall be collected prior to the waste being exposed to the atmosphere in order to minimize the loss of benzene prior to sampling.

(b) A static mixer shall be installed in the process line or in a by-pass line unless the permittee demonstrates that installation of a static mixer in the line is not necessary to accurately determine the benzene concentration of the waste stream.

(c) The sampling tap shall be located within two pipe diameters of the static mixer outlet.

(d) Prior to the initiation of sampling, sample lines and cooling coil shall be purged with at least four volumes of waste.

(e) After purging, the sample flow shall be directed to a sample container and the tip of the sampling tube shall be kept below the surface of the waste during sampling to minimize contact with the atmosphere.

(f) Samples shall be collected at a flow rate such that the cooling coil is able to maintain a waste temperature less than 10 °C.

(g) After filling, the sample container shall be capped immediately (within 5 seconds) to leave a minimum headspace in the container.

(h) The sample containers shall immediately be cooled and maintained at a temperature below 10 °C for transfer to the laboratory.

(3) When sampling from an enclosed pipe is not feasible, a minimum of three representative samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of benzene prior to sampling.

(4) Each waste sample shall be analyzed using one of the following test methods for determining the benzene concentration in a waste stream:

(a) Method 8020, Aromatic Volatile Organics, in ``Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846;

(b) Method 8021, Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series in ``Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846;

(c) Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics in ``Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846;

(d) Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics: Capillary Column Technique in ``Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846;

(e) Method 602, Purgeable Aromatics, as described in 40 CFR Part 136, Appendix A, Test Procedures for Analysis of Organic Pollutants, for wastewaters for which this is an approved EPA methods; or

(f) Method 624, Purgeables, as described in 40 CFR Part 136, Appendix A, Test Procedures for Analysis of Organic Pollutants, for wastewaters for which this is an approved EPA method.

(5) The flow-weighted annual average benzene concentration shall be calculated by averaging the results of the sample analyses using the equation in 40 CFR 61.355(c)(3)(v):
Where:
C=Flow-weighted annual average benzene concentration for waste stream, ppmw.
Qt=Total annual waste quantity for waste stream, kg/yr.
n=Number of waste samples (at least 3).
Qi=Annual waste quantity for waste stream represented by Ci, kg/yr.
Ci=Measured concentration of benzene in waste sample i, ppmw.

e. [40 CFR 61.356(a)]
The permittee shall comply with the record keeping requirements of 40 CFR 61.356, A.4.e, and A.4.f. Each record shall be maintained in a readily accessible location at the facility site for a period not less than two years from the date the information is recorded unless otherwise specified.

f. [40 CFR 61.356(b)]
The permittee shall maintain records that identify each waste stream at the facility subject to 40 CFR Part 61, Subpart FF, and indicate whether or not the waste stream is controlled for benzene emissions in accordance with 40 CFR Part 61, Subpart FF. In addition the permittee shall maintain the following records:

i. [40 CFR 61.356(b)(1)]
For each waste stream not controlled for benzene emissions in accordance with 40 CFR Part 61, Subpart FF, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information for the waste stream: waste stream identification, water content, whether or not the waste stream is a process wastewater stream, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

ii. [40 CFR 61.356(b)(2)]
For each waste stream exempt from 40 CFR 61.342(c)(1) in accordance with 40 CFR 61.342(c)(3), the records shall include:

(1) all measurements, calculations, and other documentation used to determine that the continuous flow of process wastewater is less than 0.02 liters per minute or the annual waste quantity of process wastewater is less than 10 Mg/yr in accordance with 40 CFR 61.342(c)(3)(i), or

(2) all measurements, calculations, and other documentation used to determine that the sum of the total annual benzene quantity in all exempt waste streams does not exceed 2.0 Mg/yr in accordance with 40 CFR 61.342(c)(3)(ii).

g. If the total annual benzene quantity from facility waste is less than 1 Mg/yr, then the permittee shall submit to the Administrator, with a copy to the Portsmouth local air agency, a report that updates the information listed in 40 CFR 61.357(a)(1) through (a)(3) whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr or more.

V. Risk Management Plan

40 CFR Part 68 is an applicable requirement for this facility. The permittee shall submit a Risk Management Plan pursuant to 40 CFR Part 68, to the appropriate designated agency and comply with all appropriate subparts no later than June 20, 1999.

VI. Incorporation of 40 CFR Part 63, Subpart EEE as an Attachment to the Permit

The permittee is subject to the applicable emission limitation(s) and/or control measures, operational restrictions, monitoring and/or record keeping requirements, reporting requirements, testing requirements and the general and/or other requirements specified in 40 CFR Part 63, Subpart EEE in accordance with 40 CFR Part 63, Subpart EEE (including the Table(s) and Appendix(ices) referenced in Subpart EEE which are included in the text of Attachments 5 and 6 hereto, and are hereby incorporated into this permit as if fully written.

Ordinarily, these requirements would be incorporated into Part III of this permit; however, incorporating Subpart EEE into Part III of this permit was not practical due to technical incompatibilities and the limitations of the STARS program. In addition, numerous difficulties were encountered in attempting to copy and paste the Subpart's tables and/or equations into STARS format.

VII. Incorporation of 40 CFR Part 63, Subparts F, G, and H as Attachments to the Permit

The permittee is subject to the applicable emission limitation(s) and/or control measures, operational restrictions, monitoring and/or record keeping requirements, reporting requirements, testing requirements and the general and/or other requirements specified in 40 CFR Part 63, Subparts F, G, and H in accordance with 40 CFR Part 63, Subparts F, G, and H (including the Table(s) and Appendix(ices) referenced in Subparts F, G, and H which are included in the text of Attachments 1, 2, and 3 hereto, and are hereby incorporated into this permit as if fully written.

Ordinarily, these requirements would be incorporated into Part III of this permit; however, incorporating Subparts F, G, and H into Part III of this permit was not practical due to technical incompatibilities and the limitations of the STARS program. In addition, numerous difficulties were encountered in attempting to copy and paste the Subpart's tables and/or equations into STARS format.

VIII. Incorporation of 40 CFR Part 63, Subpart DDDDD as an Attachment to the Permit

The permittee is subject to the applicable emission limitation(s) and/or control measures, operational restrictions, monitoring and/or record keeping requirements, reporting requirements, testing requirements and the general and/or other requirements specified in 40 CFR Part 63, Subpart DDDDD in accordance with 40 CFR Part 63, Subpart DDDDD (including the Table(s) and Appendix(ices) referenced in Subpart DDDDD which are included in the text of Attachment 4 hereto, and are hereby incorporated into this permit as if fully written.

Ordinarily, these requirements would be incorporated into Part III of this permit; however, incorporating Subpart DDDDD into Part III of this permit was not practical due to technical incompatibilities and the limitations of the STARS program. In addition, numerous difficulties were encountered in attempting to copy and paste the Subpart's tables and/or equations into STARS format.

IX. The following insignificant emissions units are located at this facility:

B011 - oil & gas process heater (301-BR);
G001 - gasoline storage & refueling (D-165) (PTI 07-00185);
J001 - east barge loading (PTI 07-00451);
J002 - CHP loading racks (PTI 07-00150);
J003 - west barge loading ;
J005 - Aniline/DPA railcar loading rack ;
J007 - Aniline/DPA truck loading rack ;
P005 - CHP refining plant(PTI 07-00150);
P010 - BPA wastewater treatment plant (PTI 07-00264);
P011 - Phenol salt recovery system (PTI 07-00332);
T010 - Phenol solutions storage tank (D-119)(PTI 07-00264);
T027 - Acetone storage tank (2103-FA);
T028 - Acetone storage tank (2103-FB);
T035 - AMS storage tank (2107-FA)(PTI 07-00451);

T041 - hydrochloric acid storage tank (TK-2002) (PTI 07-00015);
T049 - AMS storage tank (2107-F) (PTI 07-00451);
T050 - refined DPA storage tank (F-96)(PTI 07-00387);
T053 - CHP storage tank (2106-F) (PTI 07-00150);
T054 - CHP storage tank (2106-FA) (PTI 07-00150);
T058 - phenol solution storage tank (D-120) (PTI 07-00185) ;
T060 - scrubbing liquid storage (508-F) (PTI 07-00232);
T061 - methanol storage tank (D-156) (PTI 07-00281, 07-00264); and
T062 - BPA storm water surge tank (D-133) (PTI 07-00232).

Each insignificant emissions unit at this facility must comply with all applicable State and federal regulations, and well as any emission limitations and/or control requirements contained within the identified permit to install for the emissions unit. Insignificant emissions units listed above that are not subject to specific permit to install requirements are subject to one or more of the applicable requirements contained in the federally-approved versions of OAC Chapters 3745-17, 3745-18, and/or 3745-21.

B. State Only Enforceable Section

I. The following insignificant emissions units located at this facility are exempt from permit requirements because they are not subject to any applicable requirement (as defined in OAC rule 3745-77-01(H)) or because they meet the "de minimis" criteria established in OAC rule 3745-15-05:

T009 - oxidate wastewater storage tank (D-118);
T031 - riverwater storage tank (T-701);
T032 - riverwater storage tank (T-702);
Z001 - Safety Kleen Unit 1180 - BPA;
Z002 - Carpenter Shop - BPA;
Z003 - Carpenter Shop - Aniline;
Z004 - Diesel Fire Water Pump - General Plant;
Z005 - Diesel Fire Water Pump - General Plant;
Z006 - Safety Kleen - 1180 unit - Aniline;
Z007 - Safety Kleen - 60 unit - Aniline;
Z008 - Safety Kleen - 60 unit - Aniline;
Z009 - Safety Kleen - 180 unit - Phenol;
Z010 - Safety Kleen - 230 unit - Phenol;
Z011 - Portable gas-fired welder - Phenol;
Z012 - Portable gas-fired welder - Phenol;
Z013 - Small gas generator - Phenol;
Z014 - Carpenter Shop - Phenol;
Z015 - ICD Laboratory Equipment;
Z016 - Emergency Generator - Phenol;
Z017 - Emergency Generator - BPA;
Z018 - Emergency Generator - Aniline;
Z019 - (2009-F);
Z020 - (2214-F);
Z021 - corrosion inhibitor tank (2213-F);
Z022 - corrosion inhibitor tank (2212-F);
Z023 - deposit inhibitor tank (2211-F);
Z024 - general maintenance painting;
Z025 - gas-fired generator - general plant;
Z026 - gas-fired pump - general plant;
Z027 - gas-fired pump - general plant;
Z028 - gas-fired power washer - general plant; and
Z029 - Plant roadways and parking areas.

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2001-UA (B004)

Activity Description: Natural Gas,Oil or By-product Fuel Fired Boiler

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
192 mmBtu per hour boiler (2001-UA) fired with: light hydrocarbon by-product fuel; heavy hydrocarbon by-product fuel; natural gas; #2 fuel oil; and/or #6 fuel oil	OAC rule 3745-31-05(A)(3) (PTI 07-00543)	Volatile organic compound emissions shall not exceed 1.0 pound per hour and 4.2 tons per year. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-10(B)(1), 3745-17-10(C)(1), 3745-31-05(C), and 3745-18-79(B)(2).
	OAC rule 3745-31-05(C)	Particulate emissions less than 10 microns (PM_{10}) shall not exceed 40.94 tons per year.* Sulfur dioxide (SO_2) emissions shall not exceed 59.85 tons per year.* Nitrogen oxides (NO_x) emissions shall not exceed 570.70 tons per year.*

	Carbon monoxide (CO) emissions shall not exceed 195.72 tons per year.* Volatile organic compound emissions shall not exceed 45.17 tons per year.* Lead emissions shall not exceed 0.50 ton per year.* * as a rolling, 12-month summation from boilers B004, B005, B006 and B010, combined. See section A.II below.
OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input when burning only natural gas and/or #2 fuel oil.
OAC rule 3745-17-10(C)(1)	Particulate emissions shall not exceed 0.11 pound per mmBtu of actual heat input when burning #6 fuel oil and/or by-product fuel or when burning #6 fuel oil and/or by-product fuel in combination with natural gas and/or #2 fuel oil. This limit was calculated from curve P-1 of Figure I. See section A.I.2.a below.
OAC rule 3745-18-79(B)(2)	Sulfur dioxide emissions shall not exceed 0.6 pound per mmBtu of actual heat input.
40 CFR Part 63, Subpart EEE	

40 CFR Part 63, Subpart A	See section A.I.2.c below and Part II, section A.VI and Attachments 5 and 6. See section A.I.2.d below and Part II, section A.III and Attachments 5 and 6.

2. Additional Terms and Conditions

2.a In accordance with OAC rule 3745-17-10(B), this particulate emission limitation is based on the combined total heat input for boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE (emissions units B004, B005, B006, and B010) which are physically or operationally united. The heat input for boiler 2001-UD (emissions unit B009) is not included in the combined total heat input per OAC rule 3745-17-10(B)(1) since this boiler fires only gaseous fuels and/or #2 fuel oil.

2.b The heavy hydrocarbon and light hydrocarbon by-product fuels are hazardous waste; therefore, boiler 2001-UA (emissions unit B004) is subject to the requirements of 40 CFR Part 266.

2.c Upon the effective date of December 12, 2005, the permittee shall comply with the applicable requirements of the revised 40 CFR Part 63, Subpart EEE, Standards for Hazardous Air Pollutants for Hazardous Waste Combustors, which includes requirements for boilers that burn hazardous waste, per the applicable compliance schedule.

2.d Refer to Part II - Specific Facility Terms and Conditions of this permit, section A.III, for the requirements of 40 CFR Part 63, Subpart A; - National Emission Standards for Hazardous Air Pollutants - General Provisions.

II. Operational Restrictions

1. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause CO emissions to exceed 195.72 tons per rolling, 12-month period based on the following equation:

A * 84.00 lb/MMscf + B * 5.00 lb/kgal + C * 5.00 lb/kgal + D * 5.00 lb/kgal + E * 5.00 lb/kgal # 195.72 tons of CO per rolling, 12-month period

where:

A = natural gas usage for the 12-month period (in MMscf);
B = heavy hydrocarbon usage for the 12-month period (in kgal);
C = light hydrocarbon usage for the 12-month period (in kgal);

D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
E = number 6 Fuel Oil usage for the 12-month period (in kgal).

2. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause NOx emissions to exceed 570.70 tons per rolling, 12-month period based on the following equation:

   A * 280.00 lb/MMscf + B * 47.00 lb/kgal + C * 24.00 lb/kgal + D * 24.00 lb/kgal + E * 47.00 lb/kgal # 570.70 tons of NOx per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);
   B = heavy hydrocarbon usage for the 12-month period (in kgal);
   C = light hydrocarbon usage for the 12-month period (in kgal);
   D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
   E = number 6 Fuel Oil usage for the 12-month period (in kgal).

3. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause VOC emissions to exceed 45.17 tons per rolling, 12-month period based on the following equation:

   A * 5.50 lb/MMscf + B * 0.28 lb/kgal + C * 0.20 lb/kgal + D * 0.20 lb/kgal + E * 0.28 lb/kgal # 47.17 tons of VOC per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);
   B = heavy hydrocarbon usage for the 12-month period (in kgal);
   C = light hydrocarbon usage for the 12-month period (in kgal);
   D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
   E = number 6 Fuel Oil usage for the 12-month period (in kgal).

4. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause SO_2 emissions to exceed 59.85 tons per rolling, 12-month period based on the following equation:

   A * 0.60 lb/MMscf + B * (157*S) lb/kgal + C * (157*S) lb/kgal + D * (157*S) lb/kgal + E * (157*S) lb/kgal # 59.85 tons of SO_2 per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);
   B = heavy hydrocarbon usage for the 12-month period (in kgal);
   C = light hydrocarbon usage for the 12-month period (in kgal);
   D = number 2 Fuel Oil usage for the 12-month period (in kgal);

E = number 6 Fuel Oil usage for the 12-month period (in kgal); and
S = percent sulfur in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010.

5. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause PM_{10} emissions to exceed 40.94 tons per rolling, 12-month period based on the following equation:

A * 7.60 lb/MMscf + B * (79.98*H) lb/kgal + C * (37*H) lb/kgal + D * 3.3 lb/kgal + E * (9.19S+4.72) lb/kgal # 40.94 tons of PM_{10} per rolling, 12-month period

where:

A = natural gas usage for the 12-month period (in MMscf);
B = heavy hydrocarbon usage for the 12-month period (in kgal);
C = light hydrocarbon usage for the 12-month period (in kgal);
D = number 2 Fuel Oil usage for the 12-month period (in kgal);
E = number 6 Fuel Oil usage for the 12-month period (in kgal);
H = percent ash in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010; and
S = percent sulfur in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010.

III. Monitoring and/or Record keeping

1. The permittee shall collect and analyze samples of the light hydrocarbon waste fuels burned in boiler 2001-UA (emissions unit B004) on at least a monthly basis. Each light hydrocarbon waste fuel batch is defined by the results of the most recent sample. No light hydrocarbon waste fuel will be burned between the time the sample is taken and the time the sample results are received.

The permittee shall collect and analyze samples of the heavy hydrocarbon waste fuels burned in boiler 2001-UA (emissions unit B004) for each batch collected in the heavy hydrocarbon waste fuel storage tanks. Each heavy hydrocarbon waste fuel batch is defined by the results of its batch sample. A new heavy hydrocarbon waste fuel batch will not be burned until the time the sample results of that batch are received.

Each sample shall be analyzed in accordance with the procedures specified in the following test methods:

a. ASTM D240 or Ohio EPA approved equivalent to determine heating value (Btu/lb);
b. ASTM D482 or Ohio EPA approved equivalent to determine ash content (weight %); and
c. ASTM D4294, SW-846-9075 or Ohio EPA approved equivalent to determine sulfur content (weight %).

Alternative test methods may be used with prior approval from the Ohio EPA.
The permittee may use fuel analysis reports from the supplier to determine the heating value, ash content, and sulfur content of natural gas, #2 fuel oil, and #6 fuel oil.

Each natural gas fuel batch is defined by the most recent analysis received from the supplier. These analyses must be obtained at least every quarter. Each #2 fuel oil batch and #6 fuel oil batch is defined by the analysis for the most recent shipment of oil received.

2. Within 45 days of the end of each month, the permittee shall maintain at least monthly records of the following for each fuel batch-firing scenario burned in boiler 2001-UA (emissions unit B004):

   a. the quantity of each fuel burned (pounds of hydrocarbon fuels, standard cubic feet of natural gas, pounds of fuel oil);
   b. the heat content of each fuel (Btu per pound, Btu per standard cubic feet, Btu per pound);
   c. the ash content of each fuel (weight %);
   d. the sulfur content of each fuel (weight % or gr/100 dscf);
   e. the start time and date of each fuel batch firing scenario; and
   f. the end time and date of each fuel batch firing scenario.

   A fuel batch-firing scenario is defined as a combination of fuels burned with specific characteristics determined by the sampling results of Section A.III.1 above. Therefore, a new fuel batch-firing scenario will begin when a new fuel batch analysis is received, as defined in Section A.III.1, and/or when there is a change in the fuel or combination of fuels burned in boiler 2001-UA (emissions unit B004).

3. Within 45 days of the end of each month, the permittee shall calculate and maintain monthly records of the average pounds of particulate emissions per MMBtu for each fuel batch-firing scenario.

   The calculation shall be performed as described below.

   a. Calculate the particulate emission contribution from each fuel burned, in pounds of particulate per fuel batch-firing scenario.
   b. Calculate the total amount of particulate emitted per fuel batch-firing scenario by summing the contribution of each fuel burned.
   c. Calculate the heat input for each fuel burned, in MMBtu per fuel batch-firing scenario.
   d. Calculate the total heat input per fuel batch-firing scenario that was provided by the combined fuels by summing the contribution for each fuel burned.
   e. Calculate the average emissions, in pounds of particulate per MMBtu per fuel batch-firing scenario of the combined fuels.

4. Within 45 days of the end of each month, the permittee shall calculate and maintain monthly records of the average pounds of sulfur dioxide emissions per MMBtu for each fuel batch-firing scenario.

   The calculation shall be performed as described below.

   a. Calculate the sulfur dioxide emission contribution from each fuel burned, in pounds of sulfur dioxide per fuel batch-firing scenario.
   b. Calculate the total amount of sulfur dioxide emitted per fuel batch-firing scenario by summing the contribution of each fuel burned.
   c. Calculate the heat input for each fuel burned, in MMBtu per fuel batch-firing scenario.
   d. Calculate the total heat input per fuel batch-firing scenario that was provided by the combined fuels by summing the contribution for each fuel burned.
   e. Calculate the average emissions, in pounds of sulfur dioxide per MMBtu per fuel batch-firing scenario of the combined fuels.

5. Within 45 days of the end of each month, the permittee shall collect and record the following information each month for emissions units B004, B005, B006, and B010 combined:

   a. The emissions of CO, NOx, PM_{10}, SO_2, VOC and lead for each month in tons;

   b. The updated rolling, 12-month summation of CO, NOx, PM_{10}, SO_2, VOC, and lead emissions in tons. This shall include information for the current month and the preceding eleven calendar months.

6. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-00543, issued on 9/27/05: A.III.1 through A.III.5. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each fuel batch scenario during which the average sulfur dioxide emission rate exceeded 0.6 pound per mmBtu, and the actual sulfur dioxide emission rate for each such period.

2. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each fuel batch scenario during which the average particulate emission rate exceeded 0.020 pound per mmBtu when burning natural gas and/or #2 fuel oil or 0.11 pound per mmBtu when burning #6 fuel oil and/or by-product fuel or when burning #6 fuel oil and/or by-product fuel in combination with natural gas and/or #2 fuel oil, and the actual particulate emission rate for each such period.

3. The permittee shall submit quarterly reports that identify the updated rolling, 12-month summation of CO, NOx, PM_{10}, SO_2, VOC and lead emissions for each calendar month for emissions units B004, B005, B006, and B010 combined.

   The reports shall be submitted to the Portsmouth Local Air Agency within 45 days after the end of each calendar quarter of each year and shall include the updated rolling, 12-month summations for the previous three calendar months.

4. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c of this permit.

5. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-00543, issued on 9/27/05: A.IV.1 through A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 1.0 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emissions limit shall be demonstrated by multiplying the VOC emission factor for the worst case fuel times the maximum quantity of fuel fired per hour. Natural gas was determined to be the worst case fuel. The emission factor for each fuel is listed below:

i. 5.5 pounds of VOC per million standard cubic feet of natural gas burned (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.4, Table 1.4-2, dated July, 1998)
ii. 0.20 pound of VOC per thousand gallons of #2 fuel oil burned (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998)
iii. 0.28 pound of VOC per thousand gallons of #6 fuel oil burned (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998)
iv. 0.0000284 pound of VOC per pound of light hydrocarbon fuel burned, a #2 fuel oil equivalent fuel (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998)
v. 0.0000355 pound of VOC per pounds of heavy hydrocarbon fuel burned, a #6 oil equivalent fuel (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998)

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25, or 25A.

1.b Emission Limitation:

Volatile organic compound emissions shall not exceed 4.2 tons per year.

Applicable Compliance Method:

The ton per year emission limitation was developed by multiplying the pound per hour limit by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly emission limit, compliance will also be shown with the annual limitation.

1.c Emission Limitation:

Visible particulate emissions from the Boiler 2001-UA stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

1.d Emission Limitation:

Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input when burning only natural gas and/or #2 fuel oil.

Particulate emissions shall not exceed 0.11 pound per mmBtu of actual heat input when burning #6 fuel oil and/or by-product fuel or when burning #6 fuel oil and/or by-product fuel in combination with natural gas and/or #2 fuel oil.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 201 and 202 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.e Emission Limitation:

Sulfur dioxide emissions shall not exceed 0.6 pound per mmBtu of actual heat input.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 6 and the procedures and methods required in OAC rule 3745-18-04(E)(1).

1.f Emission Limitation

The combined emissions from emissions units B004, B005, B006, and B010 shall not exceed 195.72 tons per year CO, 570.70 tons per year NOx, 40.94 tons per year PM_{10}, 59.85 tons per year SO_2, 45.17 tons per year VOC, and 0.50 ton per year lead, on a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping in Section A.III.5.

2. The permittee shall conduct, or have conducted, emission testing for any one of the identical boilers 2001-UA or 2001-UB (emissions units B004 or B005) in accordance with the following requirements:

   a. The emission testing shall be conducted within 24 months prior to permit expiration.

   b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulates and sulfur dioxide.

   c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulates, Methods 1 through 4 and 201 and 202 of 40 CFR Part 60, Appendix A and for sulfur dioxide, Method 6 or 6c of 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

   d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

   Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

   Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

   A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00543, issued on 9/27/05: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2001-UB (B005)

Activity Description: Natural Gas,Oil or By-product Fuel Fired Boiler

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
197 mmBtu per hour boiler (2001-UB) fired with: light hydrocarbon by-product fuel; heavy hydrocarbon by-product fuel; natural gas; #2 fuel oil; and/or #6 fuel oil	OAC rule 3745-31-05(A)(3) (PTI 07-00543)	Volatile organic compound emissions shall not exceed 1.0 pound per hour and 4.2 tons per year. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-10(B)(1), 3745-17-10(C)(1), 3745-31-05(C), and 3745-18-79(B)(2).
	OAC rule 3745-31-05(C)	Particulate emissions less than 10 microns (PM_{10}) shall not exceed 40.94 tons per year.* Sulfur dioxide (SO_2) emissions shall not exceed 59.85 tons per year.* Nitrogen oxides (NO_x) emissions shall not exceed 570.70 tons per year.*

	Carbon monoxide (CO) emissions shall not exceed 195.72 tons per year.* Volatile organic compound emissions shall not exceed 45.17 tons per year.* Lead emissions shall not exceed 0.50 ton per year.* * as a rolling, 12-month summation from Boilers B004, B005, B006 and B010 combined.
OAC rule 3745-17-07(A)	See section A.II below.
OAC rule 3745-17-10(B)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
OAC rule 3745-17-10(C)(1)	Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input when burning only natural gas and/or #2 fuel oil. Particulate emissions shall not exceed 0.11 pound per mmBtu of actual heat input when burning #6 fuel oil and/or by-product fuel or when burning #6 fuel oil and/or by-product fuel in combination with natural gas and/or #2 fuel oil. This limit was calculated from curve P-1 of Figure I.
OAC rule 3745-18-79(B)(2)	See section A.I.2.a below.
40 CFR Part 63, Subpart EEE	Sulfur dioxide emissions shall not exceed 0.6 pound per mmBtu of actual heat input.

40 CFR Part 63, Subpart A	See section A.I.2.c below and Part II, section A.VI and Attachments 5 and 6. See section A.I.2.d below and Part II, section A.III and Attachments 5 and 6.

2. Additional Terms and Conditions

2.a In accordance with OAC rule 3745-17-10(B), this particulate emission limitation is based on the combined total heat input for boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE (emissions units B004, B005, B006, and B010) which are physically or operationally united. The heat input for boiler 2001-UD (emissions unit B009) is not included in the combined total heat input per OAC rule 3745-17-10(B)(1) since this boiler fires only gaseous fuels and/or #2 fuel oil.

2.b The heavy hydrocarbon and light hydrocarbon by-product fuels are hazardous waste; therefore, boiler 2001-UB (emissions unit B005) is subject to the requirements of 40 CFR Part 266.

2.c Upon the effective date of December 12, 2005, the permittee shall comply with the applicable requirements of the revised 40 CFR Part 63, Subpart EEE, Standards for Hazardous Air Pollutants for Hazardous Waste Combustors, which includes requirements for boilers that burn hazardous waste, per the applicable compliance schedule.

2.d Refer to Part II - Specific Facility Terms and Conditions of this permit, section A.III, for the requirements of 40 CFR Part 63, Subpart A; - National Emission Standards for Hazardous Air Pollutants - General Provisions.

II. Operational Restrictions

1. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause CO emissions to exceed 195.72 tons per rolling, 12-month period based on the following equation:

A * 84.00 lb/MMscf + B * 5.00 lb/kgal + C * 5.00 lb/kgal + D * 5.00 lb/kgal + E * 5.00 lb/kgal # 195.72 tons of CO per rolling, 12-month period

where:

A = natural gas usage for the 12-month period (in MMscf);
B = heavy hydrocarbon usage for the 12-month period (in kgal);
C = light hydrocarbon usage for the 12-month period (in kgal);

D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
E = number 6 Fuel Oil usage for the 12-month period (in kgal).

2. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause NOx emissions to exceed 570.70 tons per rolling, 12-month period based on the following equation:

   A * 280.00 lb/MMscf + B * 47.00 lb/kgal + C * 24.00 lb/kgal + D * 24.00 lb/kgal + E * 47.00 lb/kgal # 570.70 tons of NOx per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);
   B = heavy hydrocarbon usage for the 12-month period (in kgal);
   C = light hydrocarbon usage for the 12-month period (in kgal);
   D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
   E = number 6 Fuel Oil usage for the 12-month period (in kgal).

3. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause VOC emissions to exceed 47.17 tons per rolling, 12-month period based on the following equation:

   A * 5.50 lb/MMscf + B * 0.28 lb/kgal + C * 0.20 lb/kgal + D * 0.20 lb/kgal + E * 0.28 lb/kgal # 45.17 tons of VOC per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);
   B = heavy hydrocarbon usage for the 12-month period (in kgal);
   C = light hydrocarbon usage for the 12-month period (in kgal);
   D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
   E = number 6 Fuel Oil usage for the 12-month period (in kgal).

4. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause SO_2 emissions to exceed 59.85 tons per rolling, 12-month period based on the following equation:

   A * 0.60 lb/MMscf + B * (157*S) lb/kgal + C * (157*S) lb/kgal + D * (157*S) lb/kgal + E * (157*S) lb/kgal # 59.85 tons of SO_2 per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);
   B = heavy hydrocarbon usage for the 12-month period (in kgal);
   C = light hydrocarbon usage for the 12-month period (in kgal);
   D = number 2 Fuel Oil usage for the 12-month period (in kgal);

E = number 6 Fuel Oil usage for the 12-month period (in kgal); and
S = percent sulfur in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010.

5. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause PM_{10} emissions to exceed 40.94 tons per rolling, 12-month period based on the following equation:

A * 7.60 lb/MMscf + B * (79.98*H) lb/kgal + C * (37*H) lb/kgal + D * 3.3 lb/kgal + E * (9.19S+4.72) lb/kgal # 40.94 tons of PM_{10} per rolling, 12-month period

where:

A = natural gas usage for the 12-month period (in MMscf);
B = heavy hydrocarbon usage for the 12-month period (in kgal);
C = light hydrocarbon usage for the 12-month period (in kgal);
D = number 2 Fuel Oil usage for the 12-month period (in kgal);
E = number 6 Fuel Oil usage for the 12-month period (in kgal);
H = percent ash in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010; and
S = percent sulfur in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010.

III. Monitoring and/or Record keeping

1. The permittee shall collect and analyze samples of the light hydrocarbon waste fuels burned in boiler 2001-UB (emissions unit B005) on at least a monthly basis. Each light hydrocarbon waste fuel batch is defined by the results of the most recent sample. No light hydrocarbon waste fuel will be burned between the time the sample is taken and the time the sample results are received.

The permittee shall collect and analyze samples of the heavy hydrocarbon waste fuels burned in boiler 2001-UB (emissions unit B005) for each batch collected in the heavy hydrocarbon waste fuel storage tanks. Each heavy hydrocarbon waste fuel batch is defined by the results of its batch sample. A new heavy hydrocarbon waste fuel batch will not be burned until the time the sample results of that batch are received.

Each sample shall be analyzed in accordance with the procedures specified in the following test methods:

a. ASTM D240 or Ohio EPA approved equivalent to determine heating value (Btu/lb);
b. ASTM D482 or Ohio EPA approved equivalent to determine ash content (weight %); and
c. ASTM D4294, SW-846-9075 or Ohio EPA approved equivalent to determine sulfur content (weight %).

Alternative test methods may be used with prior approval from the Ohio EPA.
The permittee may use fuel analysis reports from the supplier to determine the heating value, ash content, and sulfur content of natural gas, #2 fuel oil, and #6 fuel oil.

Each natural gas fuel batch is defined by the most recent analysis received from the supplier. These analyses must be obtained at least every quarter. Each #2 fuel oil batch and #6 fuel oil batch is defined by the analysis for the most recent shipment of oil received.

2. Within 45 days of the end of each month, the permittee shall maintain at least monthly records of the following for each fuel batch-firing scenario burned in boiler 2001-UB (emissions unit B005):

   a. the quantity of each fuel burned (pounds of hydrocarbon fuels, standard cubic feet of natural gas, pounds of fuel oil);
   b. the heat content of each fuel (Btu per pound, Btu per standard cubic feet, Btu per pound);
   c. the ash content of each fuel (weight %);
   d. the sulfur content of each fuel (weight % or gr/100 dscf);
   e. the start time and date of each fuel batch firing scenario; and
   f. the end time and date of each fuel batch firing scenario.

   A fuel batch-firing scenario is defined as a combination of fuels burned with specific characteristics determined by the sampling results of Section A.III.1 above. Therefore, a new fuel batch-firing scenario will begin when a new fuel batch analysis is received, as defined in Section A.III.1, and/or when there is a change in the fuel or combination of fuels burned in boiler 2001-UB (emissions unit B005).

3. Within 45 days of the end of each month, the permittee shall calculate and maintain monthly records of the average pounds of particulate emissions per MMBtu for each fuel batch-firing scenario.

   The calculation shall be performed as described below.

   a. Calculate the particulate emission contribution from each fuel burned, in pounds of particulate per fuel batch-firing scenario.
   b. Calculate the total amount of particulate emitted per fuel batch-firing scenario by summing the contribution of each fuel burned.
   c. Calculate the heat input for each fuel burned, in MMBtu per fuel batch-firing scenario.
   d. Calculate the total heat input per fuel batch-firing scenario that was provided by the combined fuels by summing the contribution for each fuel burned.
   e. Calculate the average emissions, in pounds of particulate per MMBtu per fuel batch-firing scenario of the combined fuels.

4. Within 45 days of the end of each month, the permittee shall calculate and maintain monthly records of the average pounds of sulfur dioxide emissions per MMBtu for each fuel batch-firing scenario.

   The calculation shall be performed as described below.

   a. Calculate the sulfur dioxide emission contribution from each fuel burned, in pounds of sulfur dioxide per fuel batch-firing scenario.
   b. Calculate the total amount of sulfur dioxide emitted per fuel batch-firing scenario by summing the contribution of each fuel burned.
   c. Calculate the heat input for each fuel burned, in MMBtu per fuel batch-firing scenario.
   d. Calculate the total heat input per fuel batch-firing scenario that was provided by the combined fuels by summing the contribution for each fuel burned.
   e. Calculate the average emissions, in pounds of sulfur dioxide per MMBtu per fuel batch-firing scenario of the combined fuels .

5. Within 45 days of the end of each month, the permittee shall collect and record the following information each month for emissions units B004, B005, B006, and B010 combined:

   a. The emissions of CO, NOx, PM_{10}, SO_2, VOC and lead for each month in tons;

   b. The updated rolling, 12-month summation of CO, NOx, PM_{10}, SO_2, VOC, and lead emissions in tons. This shall include information for the current month and the preceding eleven calendar months.

6. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-00543, issued on 9/27/05: A.III.1 through A.III.5. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each fuel batch scenario during which the average sulfur dioxide emission rate exceeded 0.6 pound per mmBtu, and the actual sulfur dioxide emission rate for each such period.

2. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each fuel batch scenario during which the average particulate emission rate exceeded 0.020 pound per mmBtu when burning natural gas and/or #2 fuel oil or 0.11 pound per mmBtu when burning #6 fuel oil and/or by-product fuel or when burning #6 fuel oil and/or by-product fuel in

combination with natural gas and/or #2 fuel oil, and the actual particulate emission rate for each such period.

3. The permittee shall submit quarterly reports that identify the updated rolling, 12-month summation of CO, NOx, PM_{10}, SO_2, VOC and lead emissions for each calendar month for emissions units B004, B005, B006, and B010 combined.

   The reports shall be submitted to the Portsmouth Local Air Agency within 45 days after the end of each calendar quarter of each year and shall include the updated rolling, 12-month summations for the previous three calendar months.

4. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c of this permit.

5. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-00543, issued on 9/27/05: A.IV.1 through A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 1.0 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emissions limit shall be demonstrated by multiplying the VOC emission factor for the worst case fuel times the maximum quantity of fuel fired per hour. Natural gas was determined to be the worst case fuel. The emission factor for each fuel is listed below:

i. 5.5 pounds of VOC per million standard cubic feet of natural gas burned (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.4, Table 1.4-2, dated July, 1998)
ii. 0.20 pound of VOC per thousand gallons of #2 fuel oil burned (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998)
iii. 0.28 pound of VOC per thousand gallons of #6 fuel oil burned (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998)

iv. 0.0000284 pound of VOC per pound of light hydrocarbon fuel burned, a #2 fuel oil equivalent fuel (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998)

v. 0.0000355 pound of VOC per pounds of heavy hydrocarbon fuel burned, a #6 oil equivalent fuel (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998)

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25, or 25A.

1.b Emission Limitation:

Volatile organic compound emissions shall not exceed 4.2 tons per year.

Applicable Compliance Method:

The ton per year emission limitation was developed by multiplying the pound per hour limit by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly emission limit, compliance will also be shown with the annual limitation.

1.c Emission Limitation:

Visible particulate emissions from the Boiler 2001-UB stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

1.d Emission Limitation:

Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input when burning only natural gas and/or #2 fuel oil.

Particulate emissions shall not exceed 0.11 pound per mmBtu of actual heat input when burning #6 fuel oil or by-product fuel or when burning #6 fuel oil and/or by-product fuel in combination with natural gas and/or #2 fuel oil.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 201 and 202 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.e Emission Limitation:

Sulfur dioxide emissions shall not exceed 0.6 pound per mmBtu of actual heat input.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 6 and the procedures and methods required in OAC rule 3745-18-04(E)(1).

1.f Emission Limitation

The combined emissions from emissions units B004, B005, B006, and B010 shall not exceed 195.72 tons per year CO, 570.70 tons per year NOx, 40.94 tons per year PM_{10}, 59.85 tons per year SO_2, 45.17 tons per year VOC, and 0.50 ton per year lead, on a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping in Section A.III.5.

2. The permittee shall conduct, or have conducted, emission testing for any one of the identical boilers 2001-UA or 2001-UB (emissions units B004 or B005) in accordance with the following requirements:

a. The emission testing shall be conducted within 24 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulates and sulfur dioxide.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulates, Methods 1 through 4 and 201 and 202 of 40 CFR Part 60, Appendix A and for sulfur dioxide, Method 6 or 6c of 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00543 issued on 9/27/05: A.V.1 and A.V.2 . The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2001-UC (B006)

Activity Description: Natural Gas,Oil or By-product Fuel Fired Boiler

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
191 mmBtu per hour boiler (2001-UC) fired with: light hydrocarbon by-product fuel; heavy hydrocarbon by-product fuel; and/or natural gas	OAC rule 3745-31-05(A)(3) (PTI 07-00543)	Volatile organic compound emissions shall not exceed 1.0 pound per hour. Sulfur dioxide emissions shall not exceed 11.07 pounds per hour. Sulfur dioxide emissions shall not exceed 0.6 pound per mmBtu of actual heat input. Carbon monoxide emissions shall not exceed 14.28 pounds per hour. Particulate emissions shall not exceed 11.35 pounds per hour. Particulate matter less than 10 microns (PM_{10}) shall not exceed 9.79 pounds per hour. Lead emissions shall not exceed 0.002 pound per hour.

	The requirements of this rule also include compliance with the requirements of 40 CFR Part 60, Subpart Db and OAC rules 3745-31-05(C), 3745-17-07(A), 3745-17-10(B)(1), and 3745-17-10(C)(1).
OAC rule 3745-31-05(C)	Particulate emissions less than 10 microns (PM_{10}) shall not exceed 40.94 tons per year.* Sulfur dioxide (SO_2) emissions shall not exceed 59.85 tons per year.* Nitrogen oxides (NO_x) emissions shall not exceed 570.70 tons per year.* Carbon monoxide (CO) emissions shall not exceed 195.72 tons per year.* Volatile organic compound emissions shall not exceed 45.17 tons per year.* Lead emissions shall not exceed 0.50 ton per year.* * as a rolling, 12-month summation from Boilers B004, B005, B006 and B010 combined. See section A.II below.
OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed 0.020 pound per mmBtu of

	actual heat input when burning only natural gas.
OAC rule 3745-17-10(C)(1)	Particulate emissions shall not exceed 0.11 pound per mmBtu of actual heat input when burning by-product fuel or when burning by-product fuel in combination with natural gas. This limit was calculated from curve P-1 of Figure I. See section A.I.2.a below.
OAC rule 3745-18-06(D)	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
40 CFR Part 60, Subpart Db	Nitrogen oxides emissions shall not exceed 0.2 lb/mmBtu of actual heat input when burning only natural gas. See sections A.I.2.c through A.I.2.f below.
40 CFR Part 63, Subpart EEE	See section A.I.2.g below and Part II, section A.VI and Attachments 5 and 6.
40 CFR Part 63, Subpart A	See section A.I.2.h below and Part II, section A.III and Attachments 5 and 6.

2. Additional Terms and Conditions

2.a In accordance with OAC rule 3745-17-10(B), this particulate emission limitation is based on the combined total heat input for boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE (emissions units B004, B005, B006, and B010) which are physically or operationally united. The heat input for boiler 2001-UD (emissions unit B009) is not included in the

combined total heat input per OAC rule 3745-17-10(B)(1) since this boiler fires only gaseous fuels and/or #2 fuel oil.

2.b The heavy hydrocarbon and light hydrocarbon by-product fuels are hazardous waste; therefore, boiler 2001-UC (emissions unit B006) is subject to the requirements of 40 CFR Part 266.

2.c. [40 CFR 60.44b(e)]
The nitrogen oxides emission limit is determined according to the following equation when burning natural gas in combination with by-products waste fuels:

Nitrogen Oxides emission limit (lb/MMBtu) = [0.2 lb/MMBtu) * heat input from natural gas (MMBtu)] + [0.4 (lb/MMBtu) * heat input from by-product fuels (MMBtu)] / [heat input from natural gas (MMBtu) + heat input from by-product fuels (MMBtu)]

2.d [40 CFR 60.44b(h)]
The nitrogen oxides standards under 40 CFR Part 60.44b shall apply at all times, including periods of startup, shutdown, or malfunction.

2.e [40 CFR 60.44b(i)]
Compliance with the nitrogen oxides emission limitation established pursuant to 40 CFR Part 60, Subpart Db shall be determined on a rolling, 30-day average basis.

2.f Within 180 days of the effective date of this permit, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous NO_x monitoring system, designed to ensure continuous valid and representative readings of NO_x emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NO_x monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

2.g Upon the effective date of December 12, 2005, the permittee shall comply with the applicable requirements of the revised 40 CFR Part 63, Subpart EEE, Standards for Hazardous Air Pollutants for Hazardous Waste Combustors, which includes requirements for boilers that burn hazardous waste, per the applicable compliance schedule.

2.h Refer to Part II - Specific Facility Terms and Conditions of this permit, section A.III, for the requirements of 40 CFR Part 63, Subpart A; - National Emission Standards for Hazardous Air Pollutants - General Provisions.

II. Operational Restrictions

1. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause CO emissions to exceed 195.72 tons per rolling, 12-month period based on the following equation:

   A * 84.00 lb/MMscf + B * 5.00 lb/kgal + C * 5.00 lb/kgal + D * 5.00 lb/kgal + E * 5.00 lb/kgal # 195.72 tons of CO per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);
   B = heavy hydrocarbon usage for the 12-month period (in kgal);
   C = light hydrocarbon usage for the 12-month period (in kgal);
   D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
   E = number 6 Fuel Oil usage for the 12-month period (in kgal).

2. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause NOx emissions to exceed 570.70 tons per rolling, 12-month period based on the following equation:

   A * 280.00 lb/MMscf + B * 47.00 lb/kgal + C * 24.00 lb/kgal + D * 24.00 lb/kgal + E * 47.00 lb/kgal # 570.70 tons of NOx per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);
   B = heavy hydrocarbon usage for the 12-month period (in kgal);
   C = light hydrocarbon usage for the 12-month period (in kgal);
   D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
   E = number 6 Fuel Oil usage for the 12-month period (in kgal).

3. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause VOC emissions to exceed 47.17 tons per rolling, 12-month period based on the following equation:

   A * 5.50 lb/MMscf + B * 0.28 lb/kgal + C * 0.20 lb/kgal + D * 0.20 lb/kgal + E * 0.28 lb/kgal # 45.17 tons of VOC per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);

B = heavy hydrocarbon usage for the 12-month period (in kgal);
C = light hydrocarbon usage for the 12-month period (in kgal);
D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
E = number 6 Fuel Oil usage for the 12-month period (in kgal).

4. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause SO_2 emissions to exceed 59.85 tons per rolling, 12-month period based on the following equation:

A * 0.60 lb/MMscf + B * (157*S) lb/kgal + C * (157*S) lb/kgal + D * (157*S) lb/kgal + E * (157*S) lb/kgal # 59.85 tons of SO_2 per rolling, 12-month period

where:

A = natural gas usage for the 12-month period (in MMscf);
B = heavy hydrocarbon usage for the 12-month period (in kgal);
C = light hydrocarbon usage for the 12-month period (in kgal);
D = number 2 Fuel Oil usage for the 12-month period (in kgal);
E = number 6 Fuel Oil usage for the 12-month period (in kgal); and
S = percent sulfur in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010.

5. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause PM_{10} emissions to exceed 40.94 tons per rolling, 12-month period based on the following equation:

A * 7.60 lb/MMscf + B * (79.98*H) lb/kgal + C * (37*H) lb/kgal + D * 3.3 lb/kgal + E * (9.19S+4.72) lb/kgal # 40.94 tons of PM_{10} per rolling, 12-month period

where:

A = natural gas usage for the 12-month period (in MMscf);
B = heavy hydrocarbon usage for the 12-month period (in kgal);
C = light hydrocarbon usage for the 12-month period (in kgal);
D = number 2 Fuel Oil usage for the 12-month period (in kgal);
E = number 6 Fuel Oil usage for the 12-month period (in kgal);
H = percent ash in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010; and
S = percent sulfur in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010.

III. Monitoring and/or Record keeping

1. The permittee shall collect and analyze samples of the light hydrocarbon waste fuels burned in boiler 2001-UC (emissions unit B006) on at least a monthly basis. Each light hydrocarbon waste fuel batch is defined by the results of the most recent sample. No light hydrocarbon waste fuel will be burned between the time the sample is taken and the time the sample results are received.

   The permittee shall collect and analyze samples of the heavy hydrocarbon waste fuels burned in boiler 2001-UC (emissions unit B006) for each batch collected in the heavy hydrocarbon waste fuel storage tanks. Each heavy hydrocarbon waste fuel batch is defined by the results of its batch sample. A new heavy hydrocarbon waste fuel batch will not be burned until the time the sample results of that batch are received**.**

   Each sample shall be analyzed in accordance with the procedures specified in the following test methods:

   a. ASTM D240 or Ohio EPA approved equivalent to determine heating value (Btu/lb);
   b. ASTM D482 or Ohio EPA approved equivalent to determine ash content (weight %); and
   c. ASTM D4294, SW-846-9075 or Ohio EPA approved equivalent to determine sulfur content (weight %).

   Alternative test methods may be used with prior approval from the Ohio EPA.
   The permittee may use fuel analysis reports from the supplier to determine the heating value, ash content, and sulfur content of natural gas.

   Each natural gas fuel batch is defined by the most recent analysis received from the supplier. These analyses must be obtained at least every quarter.

2. Within 45 days of the end of each month, the permittee shall maintain at least monthly records of the following for each fuel batch-firing scenario burned in boiler 2001-UC (emissions unit B006):

   a. the quantity of each fuel burned (pounds of hydrocarbon fuels, standard cubic feet of natural gas);
   b. the heat content of each fuel (Btu per pound, Btu per standard cubic feet, Btu per pound);
   c. the ash content of each fuel (weight %);
   d. the sulfur content of each fuel (weight % or gr/100 dscf);
   e. the start time and date of each fuel batch firing scenario; and
   f. the end time and date of each fuel batch firing scenario.

   A fuel batch-firing scenario is defined as a combination of fuels burned with specific characteristics determined by the sampling results of Section A.III.1 above. Therefore, a new

fuel batch-firing scenario will begin when a new fuel batch analysis is received, as defined in Section A.III.1, and/or when there is a change in the fuel or combination of fuels burned in boiler 2001-UC (emissions unit B006).

3. Within 45 days of the end of each month, the permittee shall calculate and maintain monthly records of the average pounds of particulate emissions per MMBtu for each fuel batch-firing scenario.

   The calculation shall be performed as described below.

   a. Calculate the particulate emission contribution from each fuel burned, in pounds of particulate per fuel batch-firing scenario.
   b. Calculate the total amount of particulate emitted per fuel batch-firing scenario by summing the contribution of each fuel burned.
   c. Calculate the heat input for each fuel burned, in MMBtu per fuel batch-firing scenario.
   d. Calculate the total heat input per fuel batch-firing scenario that was provided by the combined fuels by summing the contribution for each fuel burned.
   e. Calculate the average emissions, in pounds of particulate per MMBtu per fuel batch-firing scenario of the combined fuels.

4. Within 45 days of the end of each month, the permittee shall calculate and maintain monthly records of the average pounds of sulfur dioxide emissions per MMBtu for each fuel batch-firing scenario.

   The calculation shall be performed as described below.

   a. Calculate the sulfur dioxide emission contribution from each fuel burned, in pounds of sulfur dioxide per fuel batch-firing scenario.
   b. Calculate the total amount of sulfur dioxide emitted per fuel batch-firing scenario by summing the contribution of each fuel burned.
   c. Calculate the heat input for each fuel burned, in MMBtu per fuel batch-firing scenario.
   d. Calculate the total heat input per fuel batch-firing scenario that was provided by the combined fuels by summing the contribution for each fuel burned.
   e. Calculate the average emissions, in pounds of sulfur dioxide per MMBtu per fuel batch-firing scenario of the combined fuels.

5. Within 45 days of the end of each month, the permittee shall collect and record the following information each month for emissions units B004, B005, B006, and B010 combined:

   a. The emissions of CO, NOx, PM_{10}, SO_2, VOC and lead for each month, in tons;

b. The updated rolling, 12-month summation of CO, NOx, PM_{10}, SO_2, VOC, and lead emissions, in tons. This shall include information for the current month and the preceding eleven calendar months.

6. [40 CFR 60.48b(b) & (d)]
The permittee shall install, operate, and maintain equipment to continuously monitor and record nitrogen oxides emissions from boiler 2001-UC (emissions unit B006) in pounds per mmBtu. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

[40 CFR 60.48b(c)]
The permittee shall operate the continuous emissions monitoring system (CEMS) and record data during all periods of operation except for continuous monitoring systems breakdowns and repairs. Data shall be recorded during calibration checks, zero adjustments, and span adjustments.

[40 CFR 60.48b(e)(2)]
The permittee shall operate the CEMS with a NOx span value of 500 ppm.

7. Each CEMS consists of all the equipment used to acquire data and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

8. The permittee shall maintain a certification letter from the Ohio EPA documenting that the NOx CEMS has been certified in accordance with the requirements of 40 CFR Part 60. The letter of certification shall be made available to the Director upon request.

9. [40 CFR 60.48b(f)]
When NOx emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, the permittee shall obtain emissions data by using standby monitoring systems, U. S. EPA Method 7 or 7a of 40 CFR Part 60, Appendix A, or other approved reference methods to provide data for a minimum of 75% of the operating hours in a day, in at least 22 out of 30 successive days of operation.

10. [40 CFR 60.49b(g)]
The permittee shall maintain records of the following data obtained by the NOx CEMS for each operating day:

a. calendar date;
b. emissions of nitrogen oxides in pounds per mmBtu actual heat input on an hourly average basis;
c. emissions of nitrogen oxides in pounds per mmBtu actual heat input on a rolling, 30-day average basis;

d. identification of all days where the rolling, 30-day average NOx emission rate exceeds the pound per mmBtu emission limitation, the reason for the excess emissions and a description of the corrective actions taken;
e. identification of operating days for which sufficient NOx emissions data has not been obtained, the reason for not obtaining sufficient data, and a description of the corrective actions taken;
f. identification of all periods of time which emissions data has been excluded from the calculation of the average emission rate and the reason for excluding the data;
g. a record of the "F" factor used in the calculation of the rolling, 30-day average NOx emission rate and the method used to determine the "F" factor;
h. identification of the times when NOx concentration exceeded the span of the continuous monitoring system;
i. description of any modifications to the CEMS that could affect the ability of the continuous monitoring system to comply with Performance Specifications 2 or 3 of 40 CFR Part 60, Appendix B;
j. results of daily CEMS drift tests and quarterly accuracy assessments as required by Procedure 1 of 40 CFR Part 60, Appendix F; and
k. results of daily zero/span calibration checks and magnitude of manual calibration adjustments.

11. [40 CFR 60.49b(d)]
The permittee shall record and maintain records of the amounts of natural gas and by-product fuels combusted during each day and calculate the annual capacity factor natural gas for the reporting period. The annual capacity factor is determined on a rolling, 12-month average basis with a new annual capacity factor calculated at the end of each calendar month.

12. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-00543, issued on 9/27/05: A.III.1 through A.III.11. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each fuel batch scenario during which the average sulfur dioxide emission rate exceeded 0.6 pound per mmBtu, and the actual sulfur dioxide emission rate for each such period.

2. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each fuel batch scenario during which the average particulate emission rate exceeded 0.020 pound per mmBtu when burning natural gas or 0.11 pound per mmBtu when burning by-product

fuel or when burning by-product fuel in combination with natural gas, and the actual particulate emission rate for each such period.

3. The permittee shall submit quarterly reports that identify the updated rolling, 12-month summation of CO, NOx, PM_{10}, SO_2, VOC and lead emissions for each calendar month for emissions units B004, B005, B006 and B010, combined.

   The reports shall be submitted to the Portsmouth Local Air Agency within 45 days after the end of each calendar quarter of each year and shall include the updated rolling, 12-month summations for the previous three calendar months.

4. [40 CFR 60.49b(i)]
   The permittee shall submit a semiannual report in accordance with 40 CFR 60.49b(w) containing the information included in section A.III.10 above. The semiannual report shall be postmarked within 30 days of the end of the last calendar month of the 6 month reporting period.

5. The semiannual report shall also document any continuous NOx CEMS downtime while boiler 2001-UC (emissions unit B006) was on line (date, time, duration and reason), along with any corrective action(s) taken. The permittee shall provide the boiler 2001-UC (emissions unit B006) operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of boiler 2001-UC (emissions unit B006) and control equipment malfunctions. The total operating time of boiler 2001-UC (emissions unit B006) and the total operating time of the analyzer while boiler 2001-UC (emissions unit B006) was on line shall also be included in the semiannual report.

6. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c of this permit.

7. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-00543, issued on 9/27/05: A.IV.1 through A.IV.6. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 1.0 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emissions limit shall be demonstrated by multiplying the VOC emission factor for the worst case fuel times the maximum quantity of fuel fired per hour. Natural gas was determined to be the worst case fuel. The emission factor for each fuel is listed below:

i. 5.5 pounds of VOC per million standard cubic feet of natural gas burned (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.4, Table 1.4-2, dated July, 1998);

ii. 0.0000284 pound of VOC per pound of light hydrocarbon fuel burned, a #2 fuel oil equivalent fuel (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998); and

iii. 0.0000355 pound of VOC per pounds of heavy hydrocarbon fuel burned, a #6 oil equivalent fuel (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998).

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25, or 25A.

1.b Emission Limitation:

Sulfur dioxide emissions shall not exceed 11.07 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission test specified in section A.V.2.

1.c Emission Limitation:

Carbon monoxide emissions shall not exceed 14.28 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 10.

1.d Emission Limitation:

Particulate emissions shall not exceed 11.35 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission test specified in section A.V.2.

1.e Emission Limitation:

Particulate emissions less than 10 microns shall not exceed 9.79 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission test specified in section A.V.2.

1.f Emission Limitation:

Lead emissions shall not exceed 0.002 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 12.

1.g Emission Limitation:

Visible particulate emissions from the Boiler 2001-UC stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

1.h Emission Limitation:

Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input when burning only natural gas.

Particulate emissions shall not exceed 0.11 pound per mmBtu of actual heat input when burning by-product fuel or when burning by-product fuel in combination with natural gas.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 201 and 202 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.i Emission Limitation:

Sulfur dioxide emissions shall not exceed 0.6 pound per mmBtu of actual heat input.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 6 or 6c and the procedures and methods required in OAC rule 3745-18-04(E)(1).

1.j Emission Limitation:

Nitrogen oxides emissions shall not exceed 0.2 pound per mmBtu as a rolling, 30-day average when burning only natural gas.

The nitrogen oxides emission limit is determined according to the following equation when burning natural gas in combination with by-products waste fuels:

Nitrogen oxides emission limit (lb/MMBtu) = [0.2 lb/MMBtu) * heat input from natural gas (MMBtu)] + [0.4 (lb/MMBtu) * heat input from by-product fuels (MMBtu)] / [heat input from natural gas (MMBtu) + heat input from by-product fuels (MMBtu)]

Applicable Compliance Method:

Compliance with the nitrogen oxides pound per mmBtu emission limitation shall be determined on a continuous basis through the use of a rolling, 30-day average emission rate calculated from the hourly average data obtained by the continuous nitrogen oxides CEMS. A new rolling, 30-day average emission rate is calculated each steam generating unit operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days.

Initial compliance shall be demonstrated by the performance testing as described in Section A.V.2.

1.k Emission Limitation:

The combined emissions from emissions units B004, B005, B006, and B010 shall not exceed 195.72 tons per year CO, 570.70 tons per year NOx, 40.94 tons per year PM_{10}, 59.85 tons per year SO_2, 45.17 tons per year VOC, and 0.50 ton per year lead, on a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping in Section A.III.5.

2. The permittee shall conduct, or have conducted, emission testing for boiler 2001-UC (emissions unit B006) in accordance with the following requirements:

   a. The emission testing shall be conducted within 24 months prior to permit expiration.

   b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for nitrogen oxides and particulates while burning natural gas in combination with HHC by-product fuel; and for sulfur dioxides while burning HHC and LHC fuel with natural gas.

   c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulates, Methods 201 and 202 of 40 CFR Part 60, Appendix A; for sulfur dioxide, Method 6 or 6c of 40 CFR Part 60, Appendix A; and for nitrogen oxides, Method 7 of 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

   d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

   Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

   Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

   A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00543, issued on 9/27/05: A.V.1 and A.V.2. The testing requirements contained in the

above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2001-UD (B009)

Activity Description: Natural Gas & Oil Fired Boiler

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
190 mmBtu per hour boiler (2001-UD) fired with: natural gas and/or #2 fuel oil	OAC rule 3745-31-05(A)(3) (PTI 07-00240)	Volatile organic compound emissions shall not exceed 1.0 pound per hour and 4.2 tons per year. Sulfur dioxide emissions shall not exceed 1.6 pounds per mmBtu of actual heat input. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-17-10(B)(1).
	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input.

OAC rule 3745-18-06	The emission limitation specified by this rule is equivalent to the emission limitation established by OAC rule 3745-31-05(A)(3).
40 CFR Part 63, Subpart DDDDD	See Part II, section A.VIII and Attachment 4.
40 CFR Part 63, Subpart A	See section A.I.2.a below and Attachment 4 (Table 10).

2. Additional Terms and Conditions

2.a Refer to Part II - Specific Facility Terms and Conditions of this permit, section A.III, for the requirements of 40 CFR Part 63, Subpart A; - National Emission Standards for Hazardous Air Pollutants - General Provisions.

II. Operational Restrictions

1. The permittee shall burn only natural gas and/or #2 fuel oil in this boiler.

III. Monitoring and/or Record keeping

1. For each day during which the permittee burns a fuel other than natural gas and/or #2 fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in boiler 2001-UD (emissions unit B009).

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-00240, issued on 12/4/91 and modified on 09/23/04: A.III.1. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or #2 fuel oil was burned in boiler 2001-UD (emissions unit B009). Each report shall be submitted within 30 days after the deviation occurs.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 07-

00240, issued on 12/4/91 and modified on 09/23/04: A.IV.1 . The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements of the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 1.0 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emissions limit shall be demonstrated by calculating the sum of the following:

i. Emissions from the combustion of natural gas: multiply the maximum boiler rating, in mmBtu per hour, times the VOC emission factor of 5.5 pounds per mmcf burned divided by the heat content of the fuel, in mmBtu per mmcf. The VOC emission factor was obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.4, Table 1.4-2, dated July, 1998.

ii. Emissions from the combustion of #2 distillate fuel oil: multiply the maximum boiler rating, in mmBtu per hour, times the VOC emission factor of 0.20 pound per 1,000 gallons burned divided by the heat content of the fuel, in mmBtu per 1,000 gallons. The VOC emission factor was obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998.

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25, or 25A.

1.b Emission Limitation:

Volatile organic compound emissions shall not exceed 4.2 tons per year.

Applicable Compliance Method:

The ton per year emission limitation was developed by multiplying the pound per hour limit by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly emission limit, compliance will also be shown with the annual limitation.

1.c Emission Limitation:

Sulfur dioxide emissions shall not exceed 1.6 pounds per mmBtu of actual heat input.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 6 or 6c and the procedures and methods required in OAC rule 3745-18-04(E)(1).

1.d Emission Limitation:

Visible particulate emissions from the Boiler 2001-UD stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

1.e Emission Limitation:

Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-240, issued on 12/4/91 and modified on 09/23/04: A.V.1. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating

permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2001-UE (B010)

Activity Description: Natural Gas,Oil or By-product Fuel Fired Boiler

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
190 mmBtu per hour boiler (2001-UE) fired with: light hydrocarbon by-product fuel; natural gas; #2 fuel oil; and/or #6 fuel oil	OAC rule 3745-31-05(A)(3) (PTI 07-00543)	Volatile organic compound emissions shall not exceed 1.0 pound per hour and 4.2 tons per year. Sulfur dioxide emissions shall not exceed 1.6 pounds per mmBtu of actual heat input. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-10(B)(1), 3745-17-10(C)(1), 3745-31-05(C), and 3745-18-06.
	OAC rule 3745-31-05(C)	Particulate emissions less than 10 microns (PM_{10}) shall not exceed 40.94 tons per year.* Sulfur dioxide (SO_2) emissions shall not exceed 59.85 tons per year.*

	Nitrogen oxides (NO_x) emissions shall not exceed 570.70 tons per year.* Carbon monoxide (CO) emissions shall not exceed 195.72 tons per year.* Volatile organic compound emissions shall not exceed 45.17 tons per year.* Lead emissions shall not exceed 0.50 ton per year.* * as a rolling, 12-month summation from Boilers B004, B005, B006 and B010 combined. See section A.II below.
OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input when burning only natural gas and/or #2 fuel oil.
OAC rule 3745-17-10(C)(1)	Particulate emissions shall not exceed 0.11 pound per mmBtu of actual heat input when burning #6 fuel oil and/or by-product fuel or when burning #6 fuel oil and/or by-product fuel in combination with natural gas and/or #2 fuel oil. This limit was calculated from curve P-1 of Figure I. See section A.I.2.a below.

OAC rule 3745-18-06	The emission limitation specified by this rule is equivalent to the emission limitation established by OAC rule 3745-31-05(A)(3).
40 CFR Part 63, Subpart EEE	See section A.I.2.c below and Part II, section A.VI and Attachments 5 and 6.
40 CFR Part 63, Subpart A	See section A.I.2.d below and Part II, section A.III and Attachments 5 and 6.

2. Additional Terms and Conditions

2.a In accordance with OAC rule 3745-17-10(B), this particulate emission limitation is based on the combined total heat input for boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE (emissions units B004, B005, B006, and B010) which are physically or operationally united. The heat input for boiler 2001-UD (emissions unit B009) is not included in the combined total heat input per OAC rule 3745-17-10(B)(1) since this boiler fires only gaseous fuels and/or #2 fuel oil.

2.b The light hydrocarbon by-product fuel is hazardous waste; therefore, boiler 2001-UE (emissions unit B010) is subject to the requirements of 40 CFR Part 266.

2.c Upon the effective date of December 12, 2005, the permittee shall comply with the applicable requirements of the revised 40 CFR Part 63, Subpart EEE, Standards for Hazardous Air Pollutants for Hazardous Waste Combustors, which includes requirements for boilers that burn hazardous waste, per the applicable compliance schedule.

2.d Refer to Part II - Specific Facility Terms and Conditions of this permit, section A.III, for the requirements of 40 CFR Part 63, Subpart A; - National Emission Standards for Hazardous Air Pollutants - General Provisions.

II. Operational Restrictions

1. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause CO emissions to exceed 195.72 tons per rolling, 12-month period based on the following equation:

A * 84.00 lb/MMscf + B * 5.00 lb/kgal + C * 5.00 lb/kgal + D * 5.00 lb/kgal + E * 5.00 lb/kgal # 195.72 tons of CO per rolling, 12-month period

where:

A = natural gas usage for the 12-month period (in MMscf);
B = heavy hydrocarbon usage for the 12-month period (in kgal);
C = light hydrocarbon usage for the 12-month period (in kgal);
D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
E = number 6 Fuel Oil usage for the 12-month period (in kgal).

2. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause NOx emissions to exceed 570.70 tons per rolling, 12-month period based on the following equation:

   A * 280.00 lb/MMscf + B * 47.00 lb/kgal + C * 24.00 lb/kgal + D * 24.00 lb/kgal + E * 47.00 lb/kgal # 570.70 tons of NOx per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);
   B = heavy hydrocarbon usage for the 12-month period (in kgal);
   C = light hydrocarbon usage for the 12-month period (in kgal);
   D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
   E = number 6 Fuel Oil usage for the 12-month period (in kgal).

3. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause VOC emissions to exceed 45.17 tons per rolling, 12-month period based on the following equation:

   A * 5.50 lb/MMscf + B * 0.28 lb/kgal + C * 0.20 lb/kgal + D * 0.20 lb/kgal + E * 0.28 lb/kgal # 45.17 tons of VOC per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);
   B = heavy hydrocarbon usage for the 12-month period (in kgal);
   C = light hydrocarbon usage for the 12-month period (in kgal);
   D = number 2 Fuel Oil usage for the 12-month period (in kgal); and
   E = number 6 Fuel Oil usage for the 12-month period (in kgal).

4. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause SO_2 emissions to exceed 59.85 tons per rolling, 12-month period based on the following equation:

   A * 0.60 lb/MMscf + B * (157*S) lb/kgal + C * (157*S) lb/kgal + D * (157*S) lb/kgal + E * (157*S) lb/kgal # 59.85 tons of SO_2 per rolling, 12-month period

   where:

   A = natural gas usage for the 12-month period (in MMscf);

B = heavy hydrocarbon usage for the 12-month period (in kgal);
C = light hydrocarbon usage for the 12-month period (in kgal);
D = number 2 Fuel Oil usage for the 12-month period (in kgal);
E = number 6 Fuel Oil usage for the 12-month period (in kgal); and
S = percent sulfur in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010.

5. The fuel usage in boilers 2001-UA, 2001-UB, 2001-UC, and 2001-UE shall not cause PM_{10} emissions to exceed 40.94 tons per rolling, 12-month period based on the following equation:

A * 7.60 lb/MMscf + B * (79.98*H) lb/kgal + C * (37*H) lb/kgal + D * 3.3 lb/kgal + E * (9.19S+4.72) lb/kgal # 40.94 tons of PM_{10} per rolling, 12-month period

where:

A = natural gas usage for the 12-month period (in MMscf);
B = heavy hydrocarbon usage for the 12-month period (in kgal);
C = light hydrocarbon usage for the 12-month period (in kgal);
D = number 2 Fuel Oil usage for the 12-month period (in kgal);
E = number 6 Fuel Oil usage for the 12-month period (in kgal);
H = percent ash in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010; and
S = percent sulfur in each fuel as determined in sections A.III.1 for B004, B005, B006, and B010.

III. Monitoring and/or Record keeping

1. The permittee shall collect and analyze samples of the light hydrocarbon waste fuels burned in boiler 2001-UE (emissions unit B010) on at least a monthly basis. Each light hydrocarbon waste fuel batch is defined by the results of the most recent sample. No light hydrocarbon waste fuel will be burned between the time the sample is taken and the time the sample results are received.

Each sample shall be analyzed in accordance with the procedures specified in the following test methods:

a. ASTM D240 or Ohio EPA approved equivalent to determine heating value (Btu/lb);
b. ASTM D482 or Ohio EPA approved equivalent to determine ash content (weight %); and
c. ASTM D4294, SW-846-9075 or Ohio EPA approved equivalent to determine sulfur content (weight %).

Alternative test methods may be used with prior approval from the Ohio EPA.

The permittee may use fuel analysis reports from the supplier to determine the heating value, ash content, and sulfur content of natural gas, #2 fuel oil, and #6 fuel oil.

Each natural gas fuel batch is defined by the most recent analysis received from the supplier. These analyses must be obtained at least every quarter. Each #2 fuel oil batch and #6 fuel oil batch is defined by the analysis for the most recent shipment of oil received.

2. Within 45 days of the end of each month, the permittee shall maintain at least monthly records of the following for each fuel batch-firing scenario burned in boiler 2001-UE (emissions unit B010):

a. the quantity of each fuel burned (pounds of hydrocarbon fuels, standard cubic feet of natural gas, pounds of fuel oil);
b. the heat content of each fuel (Btu per pound, Btu per standard cubic feet, Btu per pound);
c. the ash content of each fuel (weight %);
d. the sulfur content of each fuel (weight % or gr/100 dscf);
e. the start time and date of each fuel batch firing scenario; and
f. the end time and date of each fuel batch firing scenario.

A fuel batch-firing scenario is defined as a combination of fuels burned with specific characteristics determined by the sampling results of section A.III.1 above. Therefore, a new fuel batch-firing scenario will begin when a new fuel batch analysis is received, as defined in section A.III.1, and/or when there is a change in the fuel or combination of fuels burned in boiler 2001-UE (emissions unit B010).

3. Within 45 days of the end of each month, the permittee shall calculate and maintain monthly records of the average pounds of particulate emissions per mmBtu for each fuel batch-firing scenario.

The calculation shall be performed as described below.

a. Calculate the particulate emission contribution from each fuel burned, in pounds of particulate per fuel batch-firing scenario.
b. Calculate the total amount of particulate emitted per fuel batch-firing scenario by summing the contribution of each fuel burned.
c. Calculate the heat input for each fuel burned, in mmBtu per fuel batch-firing scenario.

d. Calculate the total heat input per fuel batch-firing scenario that was provided by the combined fuels by summing the contribution for each fuel burned.
e. Calculate the average emissions, in pounds of particulate per mmBtu per fuel batch-firing scenario of the combined fuels.

4. Within 45 days of the end of each month, the permittee shall calculate and maintain monthly records of the average pounds of sulfur dioxide emissions per mmBtu for each fuel batch-firing scenario.

   The calculation shall be performed as described below.

   a. Calculate the sulfur dioxide emission contribution from each fuel burned, in pounds of sulfur dioxide per fuel batch-firing scenario.
   b. Calculate the total amount of sulfur dioxide emitted per fuel batch-firing scenario by summing the contribution of each fuel burned.
   c. Calculate the heat input for each fuel burned, in mmBtu per fuel batch-firing scenario.
   d. Calculate the total heat input per fuel batch-firing scenario that was provided by the combined fuels by summing the contribution for each fuel burned.
   e. Calculate the average emissions, in pounds of sulfur dioxide per mmBtu per fuel batch-firing scenario of the combined fuels.

5. Within 45 days of the end of each month, the permittee shall collect and record the following information each month for emissions units B004, B005, B006, and B010 combined:

   a. The emissions of CO, NOx, PM_{10}, SO_2, VOC and lead for each month in tons;

   b. The updated rolling, 12-month summation of CO, NOx, PM_{10}, SO_2, VOC, and lead emissions in tons. This shall include information for the current month and the preceding eleven calendar months.

6. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-00543, issued on 9/27/05: A.III.1 through A.III.5. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each fuel batch scenario during which the average sulfur dioxide emission rate exceeded 1.6 pounds per mmBtu, and the actual sulfur dioxide emission rate for each such period.

2. The permittee shall submit quarterly deviation (excursion) reports that include an identification of each fuel batch scenario during which the average particulate emission rate exceeded 0.020 pound per mmBtu when burning natural gas and/or #2 fuel oil or 0.11 pound per mmBtu when burning #6 fuel oil and/or by-product fuel or when burning #6 fuel oil and/or by-product fuel in combination with natural gas and/or #2 fuel oil, and the actual particulate emission rate for each such period.

3. The permittee shall submit quarterly reports that identify the updated rolling, 12-month summation of CO, NOx, PM_{10}, SO_2, VOC and lead emissions for each calendar month for emissions units B004, B005, B006, and B010 combined.

   The reports shall be submitted to the Portsmouth Local Air Agency within 45 days after the end of each calendar quarter of each year and shall include the updated rolling, 12-month summations for the previous three calendar months.

4. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c of this permit.

5. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-00543 issued on 9/27/05: A.IV.1 through A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 1.0 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emissions limit shall be demonstrated by multiplying the VOC emission factor for the worst case fuel times the maximum quantity of fuel fired per hour. Natural gas was determined to be the worst case fuel. The emission factor for each fuel is listed below:

i. 5.5 pounds of VOC per million standard cubic feet of natural gas burned (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.4, Table 1.4-2, dated July, 1998);

ii. 0.20 pound of VOC per thousand gallons of #2 fuel oil burned (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998);

iii. 0.28 pound of VOC per thousand gallons of #6 fuel oil burned (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998); and

iv. 0.0000284 pound of VOC per pound of light hydrocarbon fuel burned, a #2 fuel oil equivalent fuel (obtained from AP-42, Volume I, 5th Edition, Chapter 1, Section 1.3, Table 1.3-3, dated September, 1998).

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25, or 25A.

1.b Emission Limitation:

Volatile organic compound emissions shall not exceed 4.2 tons per year.

Applicable Compliance Method:

The ton per year emission limitation was developed by multiplying the pound per hour limit by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly emission limit, compliance will also be shown with the annual limitation.

1.c Emission Limitation:

Visible particulate emissions from the Boiler 2001-UE stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

1.d Emission Limitation:

Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input when burning only natural gas and/or #2 fuel oil.

Particulate emissions shall not exceed 0.11 pound per mmBtu of actual heat input when burning #6 fuel oil or by-product fuel or when burning #6 fuel oil and/or by-product fuel in combination with natural gas and/or #2 fuel oil.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 201 and 202 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.e Emission Limitation:

Sulfur dioxide emissions shall not exceed 1.6 pounds per mmBtu of actual heat input.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 6 and the procedures and methods required in OAC rule 3745-18-04(E)(1).

1.f Emission Limitation

The combined emissions from emissions units B004, B005, B006, and B010 shall not exceed 195.72 tons per year CO, 570.70 tons per year NOx, 40.94 tons per year PM_{10}, 59.85 tons per year SO_2, 45.17 tons per year VOC, and 0.50 ton per year lead, on a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping in Section A.III.5.

2. The permittee shall conduct, or have conducted, emission testing for boiler 2001-UE (emissions unit B010) in accordance with the following requirements:

a. The emission testing shall be conducted within 24 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulates and sulfur dioxide.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulates, Methods 1 through 4 and 201 and 202 of 40 CFR Part 60, Appendix A and for sulfur dioxide, Method 6 or 6c of 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00543, issued on 9/27/05: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

Emissions Unit: **2001-UE (B010)**

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Polycarbonate and Epoxy Grade BPA Railcar Loading (F001)

Activity Description: Poly/Epoxy BPA Railcar Loading

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
polycarbonate grade bisphenol A railcar loading with baghouse (F-405) and epoxy grade bisphenol A railcar loading with baghouse (F-605)	OAC rule 3745-31-05(A)(3) (PTI 07-00264)	Particulate emissions from each baghouse shall not exceed 0.030 grain per dry standard cubic foot of exhaust gases. Particulate emissions from the two baghouses, combined, shall not exceed 2.65 tons per year. Visible emissions from the baghouse outlet shall not exceed 10% opacity, as a 6-minute average.
	OAC rule 3745-17-07(A)	See section A.I.2.a below.
	OAC rule 3745-17-11(B)	See section A.I.2.a below.

2. Additional Terms and Conditions

2.a The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall perform daily checks, when the Polycarbonate and Epoxy Grade BPA Railcar Loading (emissions unit F001) is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse outlet stacks serving the Polycarbonate and Epoxy Grade BPA Railcar Loading (emissions unit F001). The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to eliminate the visible emissions.

   If the daily checks show emissions that are representative of normal operation for 1 operating quarter, the required frequency of visible emission checks may be reduced to weekly (once every week, when the Polycarbonate and Epoxy Grade BPA Railcar Loading (emissions unit F001) is in operation). If a subsequent check by the permittee or an Ohio EPA inspector indicates emissions that are not representative of normal operation, the frequency of emission checks shall revert back to daily until such time as there is 1 operating quarter of normal visible emissions.

   The observance of visible emissions may or may not indicate a mass emission and/or visible emission violation. If required by the Portsmouth local air agency, compliance with the mass emission limitation and/or visible emission limitation shall be determined by performing mass emission tests and/or visible emission readings, using USEPA-approved methods and procedures.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-264, issued on 3/18/92 and modified on 09/23/04: A.III.1. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping

requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stacks serving the Polycarbonate and Epoxy Grade BPA Railcar Loading (emissions unit F001) and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-264, issued on 3/18/92 and modified on 09/23/04: A.IV.1. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Particulate emissions from each baghouse shall not exceed 0.030 grain per dry standard cubic foot of exhaust gases.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

1.b Emission Limitation:

Visible emissions from each baghouse outlet shall not exceed 10% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9.

1.c Emission Limitation:

Particulate emissions from the two baghouses, combined, shall not exceed 2.65 tons per year.

Applicable Compliance Method:

The tons per year emission limitation was developed by multiplying the particulate emission rate, 0.030 grain per dscf, times the maximum airflow from both baghouses (1,070 cf/m for F-405 and 1,267 cf/m for F-605) times 60 minutes per hour divided by 7,000 grains per pound times the maximum potential operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the 0.030 grain per dscf limitations, compliance will also be shown with the annual limitation.

2. The permittee shall conduct, or have conducted, emission testing for the F-405 and F-605 baghouses in accordance with the following requirements:

a. The emission testing shall be conducted within 12 months of permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulates.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-264, issued on 3/18/92 and modified on 09/23/04: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Polycarbonate and Epoxy Grade BPA Bagging Operations and Warehouse Sweeper (F002)

Activity Description: Poly/Epoxy BPA Bagging Operations and Vacuum Sweeper System

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
polycarbonate and epoxy grade bisphenol A bagging operations with a baghouse (A-1175) and a warehouse sweeper with a cyclone (A-1103)	OAC rule 3745-31-05(A)(3) (PTI 07-00264)	Particulate emissions from the baghouse shall not exceed 0.030 grain per dry standard cubic foot of exhaust gases. Particulate emissions from the baghouse shall not exceed 4.0 tons per year. Visible emissions from the baghouse outlet shall not exceed 10% opacity, as a 6-minute average.
	OAC rule 3745-17-07(A)	See section A.I.2.a below.
	OAC rule 3745-17-11(B)	See section A.I.2.a below.

2. Additional Terms and Conditions

2.a The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall perform daily checks, when the Polycarbonate and Epoxy Grade BPA Bagging Operations and Warehouse Sweeper (emissions unit F002) is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stack serving the Polycarbonate and Epoxy Grade BPA Bagging Operations and Warehouse Sweeper (emissions unit F002). The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to eliminate the visible emissions.

   If the daily checks show emissions that are representative of normal operation for 1 operating quarter, the required frequency of visible emission checks may be reduced to weekly (once every week, when the Polycarbonate and Epoxy Grade BPA Bagging Operations and Warehouse Sweeper (emissions unit F002) is in operation). If a subsequent check by the permittee or an Ohio EPA inspector indicates emissions that are not representative of normal operation, the frequency of emission checks shall revert back to daily until such time as there is 1 operating quarter of normal visible emissions.

   The observance of visible emissions may or may not indicate a mass emission and/or visible emission violation. If required by the Portsmouth local air agency, compliance with the mass emission limitation and/or visible emission limitation shall be determined by performing mass emission tests and/or visible emission readings, using USEPA-approved methods and procedures.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-264, issued on 3/18/92 and modified on

09/23/04: A.III.1. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving the Polycarbonate and Epoxy Grade BPA Bagging Operations and Warehouse Sweeper (emissions unit F002) and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-264, issued on 3/18/92 and modified on 09/23/04: A.IV.1. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Particulate emissions from the baghouse shall not exceed 0.030 grain per dry standard cubic foot of exhaust gases.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

1.b Emission Limitation:

Visible emissions from the baghouse outlet shall not exceed 10% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9.

1.c Emission Limitation:

Particulate emissions from the baghouse shall not exceed 4.0 tons per year.

Applicable Compliance Method:

The tons per year emissions limitation was developed by multiplying the particulate emission rate, 0.030 grain per dscf, times the maximum airflow from the baghouse (3,500 cf/m) times 60 minutes per hour divided by 7,000 grains per pound times the maximum potential operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the 0.030 grain per dscf limitation, compliance will also be shown with the annual limitation.

2. The permittee shall conduct, or have conducted, emission testing for the A-1175 baghouse in accordance with the following requirements:

a. The emission testing shall be conducted within 12 months of permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulates.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of

the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-264, issued on 3/18/92 and modified on 09/23/04: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Polycarbonate Grade BPA Truck Loading (F003)

Activity Description: Poly BPA Truck Loading

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
polycarbonate grade bisphenol A tank truck loading with a baghouse (F-406)	OAC rule 3745-31-05(A)(3) (PTI 07-00326)	Particulate emissions from the baghouse shall not exceed 0.030 grain per dry standard cubic foot of exhaust gases. Visible emissions from the baghouse outlet shall not exceed 10% opacity, as a 6-minute average.
	OAC rule 3745-17-07(A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall perform daily checks, when the Polycarbonate Grade BPA Truck Loading (emissions unit F003) is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving the Polycarbonate Grade BPA Truck Loading (emissions unit F003). The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

If the daily checks show emissions that are representative of normal operation for 1 operating quarter, the required frequency of visible emission checks may be reduced to weekly (once every week, when the Polycarbonate Grade BPA Truck Loading (emissions unit F003) is in operation). If a subsequent check by the permittee or an Ohio EPA inspector indicates emissions that are not representative of normal operation, the frequency of emission checks shall revert back to daily until such time as there is 1 operating quarter of normal visible emissions.

The observance of visible emissions may or may not indicate a mass emission and/or visible emission violation. If required by the Portsmouth local air agency, compliance with the mass emission limitation and/or visible emission limitation shall be determined by performing mass emission tests and/or visible emission readings, using USEPA-approved methods and procedures.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-326, issued on 03/17/93 and modified on 05/15/01: A.III.1. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes

compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving the Polycarbonate Grade BPA Truck Loading (emissions unit F003) and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent or as more stringent than the reporting requirements contained in Permit to Install #07-00326, issued on 3/18/92: A.IV.1. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Visible emissions from the baghouse outlet shall not exceed 10% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9.

1.b Emission Limitation:

Particulate emissions from the baghouse shall not exceed 0.030 grain per dry standard cubic foot of exhaust gases.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

2. The permittee shall conduct, or have conducted, emission testing for the F-406 baghouse in accordance with the following requirements:

a. The emission testing shall be conducted within 12 months of permit expiration.
b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulates.
c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for particulates, Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s**).**

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 07-00326, issued on 03/18/92: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Polycarbonate Grade BPA Powerliner (F004)

Activity Description: BPA Powerliner

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
polycarbonate grade bisphenol A powerliner loading with a baghouse (F-1101)	OAC rule 3745-31-05(A)(3) (PTI 07-00498)	Visible particulate emissions from the baghouse outlet shall not exceed 10% opacity. Particulate emissions from the baghouse shall not exceed 0.030 grain per dry standard cubic foot of exhaust gases and 3.2 tons per year.
	OAC rule 3745-17-07(A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall perform daily checks, when the Polycarbonate Grade BPA Powerliner (emissions unit F004) is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving the Polycarbonate Grade BPA Powerliner (emissions unit F004). The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to eliminate the visible emissions.

   If the daily checks show emissions that are representative of normal operation for 1 operating quarter, the required frequency of visible emission checks may be reduced to weekly (once every week, when the Polycarbonate Grade BPA Powerliner (emissions unit F004) is in operation). If a subsequent check by the permittee or an Ohio EPA inspector indicates emissions that are not representative of normal operation, the frequency of emission checks shall revert back to daily until such time as there is 1 operating quarter of normal visible emissions.

   The observance of visible emissions may or may not indicate a mass emission and/or visible emission violation. If required by the Portsmouth local air agency, compliance with the mass emission limitation and/or visible emission limitation shall be determined by performing mass emission tests and/or visible emission readings, using USEPA-approved methods and procedures.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-498, issued on 11/16/00 and modified on 05/15/01: A.III.1. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving the Polycarbonate Grade BPA Powerliner (emissions unit F004) and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-498, issued on 11/16/00 and modified on 5/15/01: A.IV.1. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Visible particulate emissions from the baghouse outlet shall not exceed 10% opacity, as a 6 - minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9.

1.b Emission Limitation:

Particulate emissions from the baghouse shall not exceed 0.030 grain per dry standard cubic foot of exhaust gases.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

1.c Emission Limitation:

Particulate emissions from the baghouse shall not exceed 3.2 tons per year.
Applicable Compliance Method:

The tons/year emissions limitation was developed by multiplying the particulate emission rate, 0.030 gr/dscf, times the maximum airflow from the baghouse (2,871 cf/m), times 60 minutes/hour divided by 7,000 grains/pound times the maximum potential operating schedule of 8760 hours/year, and dividing by 2000 pounds/ton. Therefore, provided compliance is shown with the gr/dscf limitation, compliance will also be shown with the annual limitation.

2. The permittee shall conduct, or have conducted, emission testing for the F-1101 baghouse in accordance with the following requirements:

a. The emission testing shall be conducted within 12 months of permit expiration.
b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulates.
c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): U. S. EPA Method 5, 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-498, issued on 11/16/00 and modified on 05/15/01: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install**.**

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Phenol/Acetone/AMS Railcar Loading (J004)

Activity Description: Phenol/Acetone/AMS Railcar Loading

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
railcar loading of phenol, acetone, and alphamethylstyrene top load, splash fill	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions shall not exceed 12.94 tons per year. Acetone emissions shall not exceed 303.0 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. For this group 2 transfer rack, the permittee shall comply with the record keeping requirements of 40 CFR 63.130(f) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued 02/08/98: A.III.1. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 12.94 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the equations and procedures obtained from AP-42, Volume 1, 5th Edition, Chapter 5, Section 5.2, dated January, 1995 as summarized below. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

i. phenol: multiply the annual throughput of the loading rack in gallons per year times the constant 0.01246 times the saturation factor of 1.45 times the true vapor pressure of phenol, 0.0626 psia, times the molecular weight of phenol vapors, 94.11 pound per pound-mole, divided by the temperature of the phenol loaded, 590 degrees Rankin divided by 2,000 pounds per ton; and

ii. alphamethylstyrene (AMS): multiply the annual throughput of the loading rack in gallons/year times the constant 0.01246 times the saturation factor of 1.45 times the true vapor pressure of AMS, 0.0138 psia, times the molecular weight of AMS vapors, 118.18 pound/pound-mole, divided by the temperature of the AMS loaded, 515 degrees Rankin divided by 2,000 pounds/ton.

1.b Emission Limitation:

Acetone emissions shall not exceed 303.0 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the equations and procedures obtained from AP-42, Volume 1, 5th Edition, Chapter 5, Section 5.2, dated January, 1995 as summarized below. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

i. acetone: multiply the annual throughput of the loading rack in gallons per year times the constant 0.01246 times the saturation factor of 1.45 times the true vapor pressure of acetone, 2.5512 psia, times the molecular weight of acetone vapors, 58.08 pound per pound-mole, divided by the temperature of the acetone loaded, 515 degrees Rankin divided by 2,000 pounds per ton.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00451, issued 02/08/98: A.V.1. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Phenol/Acetone/AMS Truck Loading (J006)

Activity Description: Phenol/Acetone/AMS Truck Loading

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
truck loading of phenol, acetone, and alphamethylstyrene top load, splash fill	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions shall not exceed 12.94 tons per year. Acetone emissions shall not exceed 303.0 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. For this group 2 transfer rack, the permittee shall comply with the record keeping requirements of 40 CFR 63.130(f) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued 02/08/98: A.III.1. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 12.94 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the equations and procedures obtained from AP-42, Volume 1, 5th Edition, Chapter 5, Section 5.2, dated January, 1995 as summarized below. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

i. phenol: multiply the annual throughput of the loading rack in gallons per year times the constant 0.01246 times the saturation factor of 1.45 times the true vapor pressure of phenol, 0.0626 psia, times the molecular weight of phenol vapors, 94.11 pound per pound-mole, divided by the temperature of the phenol loaded, 590 degrees Rankin divided by 2,000 pounds per ton; and

ii. alphamethylstyrene (AMS): multiply the annual throughput of the loading rack in gallons per year times the constant 0.01246 times the saturation factor of 1.45 times the true vapor pressure of AMS, 0.0138 psia, times the molecular weight of AMS vapors, 118.18 pound

per pound-mole, divided by the temperature of the AMS loaded, 515 degrees Rankin divided by 2,000 pounds per ton.

1.b Emission Limitation:

Acetone emissions shall not exceed 303.0 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the equations and procedures obtained from AP-42, Volume 1, 5th Edition, Chapter 5, Section 5.2, dated January, 1995 as summarized below. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

i. acetone: multiply the annual throughput of the loading rack in gallons per year times the constant 0.01246 times the saturation factor of 1.45 times the true vapor pressure of acetone, 2.5512 psia, times the molecular weight of acetone vapors, 58.08 pound per pound-mole, divided by the temperature of the acetone loaded, 515 degrees Rankin divided by 2,000 pounds per ton.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00451, issued 02/08/98: A.V.1. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Cumene Railcar Unloading (J008)

Activity Description: Cumene Railcar Unloading

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
cumene railcar unloading	OAC rule 3745-31-05(A)(3) (PTI 07-00508)	See Part II, section A.I.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F and H	See Part II, section A.I and Attachments 1 and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Cumene Oxidation Process Unit (P001)

Activity Description: Cumene Oxidation Process Unit

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
cumene oxidation process unit with the following air pollution control devices: condenser (3231-C) thermal oxidizer (2007-L) regenerative thermal oxidizer (RTO)	OAC rule 3745-31-05(A)(3) (PTI 07-00500)	Volatile organic compound emissions from all equipment except for the thermal oxidizer (2007-L), regenerative thermal oxidizer (RTO) and fugitive equipment leaks shall not exceed 44.69 pounds per day and 8.16 tons per year, as a rolling, 12-month summation of the VOC emissions. Total particulate emissions from the thermal oxidizer (2007-L), for all equipment vented to the thermal oxidizer, shall not exceed 0.5 pound per hour and 2.19 tons per year. Total nitrogen oxides emissions from the thermal oxidizer (2007-L), for all equipment vented to the thermal oxidizer, shall not exceed 7.50 pounds per hour and 32.85 tons per year.

Total sulfur dioxide emissions from the thermal oxidizer (2007-L), for all equipment vented to the thermal oxidizer, shall not exceed 0.1 pound per hour and shall be less than 1 ton per year.

Total carbon monoxide emissions from the thermal oxidizer (2007-L), for all equipment vented to the thermal oxidizer, shall not exceed 8.24 pounds per hour and 36.07 tons per year.

Total particulate emissions from the regenerative thermal oxidizer (RTO), for all equipment vented to the regenerative thermal oxidizer, shall not exceed 0.68 pound per hour and 3.0 tons per year.

Total nitrogen oxides emissions from the regenerative thermal oxidizer (RTO), for all equipment vented to the regenerative thermal oxidizer, shall not exceed 1.66 pounds per hour and 7.25 tons per year.

Total carbon monoxide emissions from the regenerative thermal oxidizer (RTO), for all equipment vented to the regenerative thermal oxidizer, shall not exceed 7.56 pounds per hour and 33.11 tons per year.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-10 through OAC rule 3745-31-20, and 40 CFR Part 63, Subparts F, G,

	and H, 40 CFR Part 60, Subparts VV and III, 40 CFR Part 61, Subpart FF, and OAC rule 3745-21-09(DD) and (EE).
OAC rule 3745-31-10 through OAC rule 3745-31-20	Total volatile organic compound emissions (including acetone) from the thermal oxidizer (2007-L), for all equipment vented to the thermal oxidizer serving emissions units P001 and P007, shall not exceed 6.11 pounds per hour and 26.77 tons per year, as a rolling, 12-month summation of the VOC emissions from the thermal oxidizer stack. Total volatile organic compound emissions (including acetone) from the regenerative thermal oxidizer (RTO), for all equipment vented to the regenerative thermal oxidizer, shall not exceed 6.11 pounds per hour and 26.77 tons per year, as a rolling, 12-month summation of the VOC emissions from the regenerative thermal oxidizer stack.
40 CFR Part 63, Subpart A	See section A.I.2.a below.
40 CFR Part 63, Subparts F, G, and H	See Part II, section A.III and Attachment 1 (Table3).
40 CFR Part 60, Subpart III	See Part II, section A.I and section A.I.2.b below and Attachments 1, 2, and 3.
40 CFR Part 60, Subpart VV	See section A.I.2.c below.
OAC rule 3745-21-09(DD)	See Part II, section A.I.
OAC rule 3745-21-09(EE)	See Part II, section A.I.

40 CFR Part 61, Subpart FF	See sections A.I.2.d and A.I.2.e below.
OAC rule 3745-18-06(E)	See Part II, section A.IV and sections A.III.10 and A.IV.6 below.
OAC rule 3745-21-08(B)	See section A.I.2.f below.
OAC rule 3745-23-06(B)	See section A.I.2.h below.
	See section A.I.2.i below.

2. Additional Terms and Conditions

2.a This prevention of significant deterioration (PSD) best available control technology (BACT) determination requires volatile organic compound emissions that are vented to the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) to be reduced by not less than 99%, by weight. The VOC emissions from the following modified equipment shall be vented to the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO): the oxidation reactors (201-DA, 201-DB, 201-DC, 201-DD, 201-DE, 201-DF, 201-DG, 201-DH, 201-DJ, 201-DK, 201-DL, and 201-DM), oxidation product surge drum (208-F), and the spent air regeneration condenser receiver (229-F).

2.b In accordance with 40 CFR 63.113(a)(2) [see Attachment 2], for all Group 1 process vent streams, the emissions of total organic HAPs shall be reduced by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. The emission reduction or concentration shall be calculated on a dry basis, corrected to 3-percent oxygen.

The VOC emissions from the following equipment shall be vented to the thermal oxidizer and/or the regenerative thermal oxidizer (RTO): the oxidation reactors (201-DA, 201-DB, 201-DC, 201-DD, 201-DE, 201-DF, 201-DG, 201-DH, 201-DJ, 201-DK, 201-DL, and 201-DM), oxidation product surge drum (208-F), and the spent air regeneration condenser receiver (229-F).

The VOC emissions from the emergency CHP surge tank shall be vented to the 3231-C condenser.

The VOC emissions from the following equipment are uncontrolled: carbonate slurry tank (222-F), carbonate dilution tanks (206-FA and 206-FB), oxidation reactor feed surge drum (202-F), air compressor oil drums (201-J, 201-JA, 201-JB, 224-J, 224-JA, and the cumene wash column (201-E).

2.c The following Group 1 process vents are subject to the provisions of 40 CFR 60, Subpart III, but are required to comply only with the requirements of 40 CFR Part 63, Subparts F, G and H [see Attachments 1, 2, and 3]:

Air oxidation reactor train and its combined spent air vent stream (201-DA, 201-DB, 201-DC, 201-DD, 201-DE, 201-DF, 201-DG, 201-DH, 201-DJ, 201-DK, 201-DL, and 201-DM)

Oxidation Product Surge Drum (208-F)

2.d [OAC rule 3745-21-09(EE)(1)]
Except where exempted under OAC rule 3745-21-09(EE)(2), the permittee shall vent process vent streams from air oxidation processes, producing a chemical listed in Appendix A of OAC rule 3745-21-09, to a combustion device which:

i. reduces the VOC emissions vented to it with an efficiency of at least 98 percent by weight; or
ii. emits a VOC concentration less than 20 ppm by volume, dry basis.

2.e [OAC rule 3745-21-09(EE)(2)(b)]
Any process vent stream or combination of process vent streams which maintain a total resource effectiveness (TRE) value greater than 1.0 shall be exempt from the requirements of OAC rule 3745-21-09(EE)(1). If an air oxidation process has more than one process vent stream, the TRE shall be based upon a combination of the process vent streams. The TRE shall be calculated in accordance with section OAC rule 3745-21-09(EE)(3).

2.f The thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) are fueled with natural gas and process vent gas only and have no process weight as defined in OAC rule 3745-18-01(B)(13). Therefore, this equipment is exempt from the emissions limitation established in OAC rule 3745-18-06(E).

2.g There are no uncontrolled particulate emissions from the Cumene Oxidation process unit; therefore, OAC rules 3745-17-07(A) and 3745-17-11 are not applicable to the Cumene Oxidation process unit.

2.h The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 07-00500.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule

revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

2.i The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 07-00500.

II. Operational Restrictions

1. In accordance with the permittee's permit application, the permittee is operating by routing the organic vapors from Group 1 process vents from the cumene oxidation process unit (emissions unit P001) to a thermal oxidizer (2007-L) and/or regenerative thermal oxidizer (RTO) in order to comply with the percent reduction requirement or concentration limit specified in 40 CFR 63.113(a)(2) [see Attachment 2]. The minimum firebox temperature of the thermal oxidizer shall be 1,450 degrees Fahrenheit (788 degrees Celsius) as a daily (calendar) average. The minimum firebox temperature of the regenerative thermal oxidizer (RTO) shall be established during the initial emissions testing required in section A.V.2.

2. The permittee shall burn only process vent gases and/or natural gas in the thermal oxidizer (2007-L) and/or regenerative thermal oxidizer (RTO) .

3. Each surge control vessel or bottoms receiver tank which meets one of the conditions listed in 40 CFR 63.170 [see Attachment 3] shall be equipped with a closed vent system that routes the organic vapors from the surge control vessel or bottoms receiver tank back to the process or to a control device that complies with the requirements of 40 CFR 63.172 [see Attachment 3] or shall be equipped with a fixed roof and an internal floating roof or an external floating roof.

   In accordance with the permittee's permit application, the following surge control vessels and bottoms receiver tanks do not exceed the threshold triggers of 40 CFR 63.170 [see Attachment 3]. Therefore, these vessels are not required to meet the conditions listed in 40 CFR 63.170 [see Attachment 3] at the time of permit issuance: 206-FA, 206-FB, 202-F, and 3232-F.

III. Monitoring and/or Record keeping

1. The permittee shall maintain a temperature monitoring device, equipped with a continuous recorder, in the firebox of the thermal oxidizer (2007-L) or regenerative thermal oxidizer (RTO) in accordance with the requirements of 40 CFR 63.114(a) [see Attachment 2]. The permittee

shall maintain records of the thermal oxidizer or regenerative thermal oxidizer (RTO) firebox temperature in accordance with 40 CFR 63.118(a) [see Attachment 2].

2. The permittee shall monitor any bypass line(s) that could divert a Group 1 process vent away from the thermal oxidizer (2007-L) or regenerative thermal oxidizer (RTO) in accordance with 40 CFR 63.114(d) [see Attachment 2]. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to 40 CFR 63.114(d) [see Attachment 2].

   a. Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in 40 CFR 63.118(a)(3) [see Attachment 2]. The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

   b. Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

   The permittee shall maintain records of the flow indicator or monthly visual inspection requirements for bypass lines that could divert a Group 1 process vent away from the thermal oxidizer (2007-L) or regenerative thermal oxidizer (RTO) in accordance with 40 CFR 63.118(a)(3) & (4) [see Attachment 2].

3. Whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent, the permittee shall recalculate the TRE index value, flow, or organic HAP concentration as necessary to determine if the vent is Group 1 or Group 2 in accordance with 40 CFR 63.115(e) [see Attachment 2].

   The permittee shall maintain records of process vent group determinations in accordance with 40 CFR 63.117, 63.118(c), (d), and (e) [see Attachment 2].

4. For each Group 2 storage vessel, the permittee shall comply with the record keeping requirements of 40 CFR 63.123(a) [see Attachment 2].

5. For each Group 1 process wastewater stream, the permittee shall comply with the requirements of 40 CFR 63.132 through 63.149 [see Attachment 2].

6. The permittee shall maintain procedures for the management of maintenance wastewater in accordance with 40 CFR 63.105 [see Attachment 1].

7. [OAC rule 3745-21-09(EE)(3)(a)]
The total resource effectiveness value for an air oxidation process shall be calculated in accordance with the following equations:

   a. For nonchlorinated process vent streams with a net heating value less than or equal to 3.6 and for all chlorinated process vent streams:

      $TRE = [a + bW^{.88} + cW + dWH + eW^{.88} H^{.88} + f W^{.5}]/E$

      where:

      TRE = total resource effectiveness value;

      E = maximum hourly VOC emission rate at the vent stream design flow rate (W), in kilograms of VOC per hour (kg/hr);

      W = vent stream design flow rate at a standard temperature of twenty degrees Celsius, in standard cubic meters per minute (scm/min);

      H = vent stream net heating value, as determined in accordance with OAC rule 3745-21-10(P)(2), in megajoules per standard cubic meter (10^6J/scm); and

      a, b, c, d, e, and f = applicable coefficients from Appendix B of OAC rule 3745-21-09.

   b. For nonchlorinated process vent streams with a net heating value greater than 3.6:

      $TRE = [a + bW^{.88} + cW + dWH + eW^{.88} H^{.88} + f(WH / 3.6)^{.5}]/E$

      where TRE, E, W, H, a, b, c, d, e and f are defined as above.

8. [OAC rule 3745-21-09(EE)(3)(b)]
The parameters used in the total resource effectiveness equations required by OAC rule 3745-21-09(EE)(3) shall be measured at the outlet(s) of the final product recovery device(s) where VOC is reclaimed for beneficial reuse (recycle, sale, or use in another part of the process).

9. For each day during which the permittee burns a fuel other than process vent gases and/or natural gas in the thermal oxidizer (2007-L) or regenerative thermal oxidizer (RTO), the permittee shall maintain a record of the type and quantity of fuel burned.

10. The permittee shall maintain records for benzene waste operations in accordance with the requirements specified in 40 CFR Part 61.356 and section A.IV of Part II - Specific Facility Terms and Conditions.

11. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00500, issued on 10/07/04: A.III.1 through A.III.10. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit periodic reports in accordance with 40 CFR 63.152(c) [see Attachment 2]. The periodic reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The reports shall include all information specified in 40 CFR 63.117 and 63.118 [see Attachment 2] for process vents and all information specified in 40 CFR 63.146 [see Attachment 2] for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

2. The permittee shall submit reports of start-up, shutdown, and malfunction in accordance with 40 CFR 63.152(d)(1) [see Attachment 2] and 40 CFR 63.10(d)(5) [see Part II, section A.III]. The semiannual start-up, shutdown and malfunction reports may be submitted on the same schedule as the periodic reports required under 40 CFR 63.152(c) [see Attachment 2] instead of the schedule specified in 40 CFR 63.10(d)(5) [see Part II, section A.III].

3. Whenever the recalculations (performed whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent) determine one of the criteria below have been met, the permittee shall submit a report as specified in 40 CFR 63.118 (g) through (j) [see Attachment 2] and the permittee shall comply with the appropriate provisions in 40 CFR 63.113 [see Attachment 2] by the dates specified in 40 CFR 63.100 [see Attachment 1].

    a. the recalculated TRE index value is less than or equal to 1.0;
    b. the recalculated TRE index value is less than or equal to 4.0 but greater than 1.0;
    c. the recalculated flow rate is greater than or equal to 0.005 standard cubic meter per minute; or
    d. the recalculated concentration is greater than or equal to 50 parts per million by volume.

4. The permittee shall submit reports of any fuels burned other than process vent gases and/or natural gas in the thermal oxidizer (2007-L) or regenerative thermal oxidizer (RTO) within 30 days of such occurrence to the Portsmouth local air agency, including the date, type, and amount of any such fuel burned.

5. Reports required by 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3] shall be submitted to USEPA Region 5, with a copy to the Portsmouth local air agency, in accordance with 40 CFR 63.103(c) [see Attachment 1].

6. The permittee shall submit reports for benzene waste operations in accordance with the requirements specified in 40 CFR Part 61.357 and section A.IV of Part II - Facility Specific Terms and Conditions.

7. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent or more stringent than the reporting requirements contained in Permit to Install #07-00500, issued on 10/07/04: A.IV.1 through A.IV.6. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

VOC emissions from all equipment except for the thermal oxidizer (**2007-L) and/or regenerative thermal oxidizer (RTO) and** fugitive equipment leaks shall not exceed 44.69 pounds per day.

VOC emissions from all equipment except for the thermal oxidizer (2007-L), **and/or regenerative thermal oxidizer (RTO)** and fugitive equipment leaks shall not exceed 8.16 tons per year, as a rolling, 12-month summation of the VOC emissions.

Applicable Compliance Method:

The VOC emissions (potential to emit) from the equipment listed below shall be summed. Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate by the actual hours of operation per month and the conversion factor of ton/2000 lbs, to arrive at the tons per month emissions. The monthly emissions shall be added to the previous 11 months emissions to determine the rolling 12-months total emissions.

If required, compliance shall be determined in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25, or 25A.

Equipment ID	Equipment Description	Egress Point	Control Device	VOC (lb/day)	VOC (tpy)	Notes
222-F	Carbonate slurry tank	OX02	None	14.92	2.61	2
206-FA	Carbonate dilution tank	OX03	None	4.85	0.89	2
206-FB	Carbonate dilution tank	OX04	None	4.85	0.89	2
202-F	Oxidation reactor feed surge drum	OX05	None	9.27	1.69	2
201-J	Air compressor oil drum	OX08	None	<0.01	<0.01	2
201-JA	Air compressor oil drum	OX09	None	<0.01	<0.01	2
201-JB	Air compressor oil drum	OX10	None	<0.01	<0.01	2
224-J	Air compressor oil drum	OX11	None	<0.01	<0.01	2
224-JA	Air compressor oil drum	OX12	None	<0.01	<0.01	2
201-E	Cumene wash column	OX13	None	0.02	<0.01	2
3232-F	Emergency CHP surge tank	OX14	3231-C Condenser	11.41	2.08	1

1. VOC emissions (lb/day and tpy) from this equipment are controlled. The VOC emissions include the emissions reductions due to the control device. These values represent the potential to emit and are identified in previous application submittals (PTI 07-00500). Individual equipment VOC (lb/day and tpy) values are not independently enforceable in this permit.
2. VOC emissions (lb/day and tpy) from this equipment are uncontrolled. These values represent the potential to emit and are identified in previous application submittals (PTI 07-00500). Individual equipment VOC (lb/day and tpy) values are not independently enforceable in this permit.

1.b Emission Limitation:

Total particulate emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 0.5 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.c Emission Limitation:

Total particulate emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 2.19 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.d Emission Limitation:

Total nitrogen oxides emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 7.5 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7 or 7e.

1.e Emission Limitation:

Total nitrogen oxides emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 32.85 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.f Emission Limitation:

Total sulfur dioxide emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 0.1 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6 or 6c.

1.g Emission Limitation:

Total sulfur dioxide emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall be less than 1 ton per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the ton per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.h Emission Limitation:

Total particulate emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 0.68 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.i Emission Limitation:

Total particulate emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 3.0 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.j Emission Limitation:

Total nitrogen oxides emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 1.66 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7 or 7e.

1.k Emission Limitation:

Total nitrogen oxides emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 7.25 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.l Emission Limitation:

Total carbon monoxide emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 7.56 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

1.m Emission Limitation:

Total carbon monoxide emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 33.11 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.n Emission Limitation:

Total volatile organic compound emissions (including acetone) from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 6.11 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25 or 25A, as appropriate.

1.o Emission Limitation:

Total volatile organic compound emissions (including acetone) from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 26.77 tons per year, as a rolling, 12-month summation of the VOC emissions.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate by the actual hours of operation per month and then dividing by 2000 pounds per ton, to arrive at the tons per month emissions. The monthly emissions shall be added to the previous 11 months emissions to determine the rolling 12-months total emissions.

1.p Emission Limitation:

Total volatile organic compound emissions (including acetone) from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 6.11 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25 or 25A, as appropriate.

1.q Emission Limitation:

Total volatile organic compound emissions (including acetone) from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 26.77 tons per year, as a rolling, 12-month summation of the VOC emissions.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate by the actual hours of operation per month and then dividing by 2000 pounds per ton, to arrive at the tons per month emissions. The monthly emissions shall be added to the previous 11 months emissions to determine the rolling 12-months total emissions.

1.r Emission Limitation:

The emissions of total organic HAP from Group 1 process vents shall be reduced by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. The emission reduction or concentration shall be calculated on a dry basis, corrected to 3% oxygen.

Applicable Compliance Method:

The concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the regenerative thermal oxidizer (RTO) or if required, the thermal oxidizer (2007-L)), shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

1.s Emission Limitation:

Volatile organic compound emissions that are vented to the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) shall be reduced by not less than 99%, by weight.

Applicable Compliance Method:

The concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the regenerative thermal oxidizer (RTO) or if required, the thermal oxidizer (2007-L), shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25 or 25A, as appropriate. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

1.t Emission Limitation:

Total carbon monoxide emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 8.24 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

1.u Emission Limitation:

Total carbon monoxide emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 36.07 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

2. The permittee shall conduct, or have conducted, the emission testing for the regenerative thermal oxidizer (RTO) or thermal oxidizer (2007-L) in accordance with the following requirements:

a. The emission testing shall be conducted within 180 days after initial startup of the regenerative thermal oxidizer (RTO) or 180 days after permit to install issuance for the thermal oxidizer and within 6 months prior to expiration of the Title V permit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable VOC emission rate, the VOC control efficiency, and the HAP concentration (ppm) and/or HAP control efficiency. The control efficiency is the percent reduction in mass emissions between the inlet and outlet of the control device).

c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

i. for the hourly VOC emission limitation, U.S. EPA Methods 1 through 4, and 18, 25, or 25A, 40 CFR Part 60, Appendix A;

ii. for the VOC control efficiency, U.S. EPA Methods 1 through 4, and 18, 25, or 25A, 40 CFR Part 60, Appendix A; and

iii. for HAP concentration (ppm) and/or control efficiency, U. S. EPA Methods 1 through 4, and 18, 40 CFR Part 60, Appendix A.

Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

e. The hourly VOC emission limitation and VOC control efficiency shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or an approved alternative test protocol. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00500, issued on 10/07/04: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: BPA Process Unit (P003)

Activity Description: Bisphenol-A Process Unit

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
bisphenol-A process unit with the following air pollution control devices:	OAC rule 3745-31-05(A)(3) (PTI 07-309)	Volatile organic compound emissions from the scrubber (T-702) shall be negligible.
condenser (E-107) condenser (E-207) scrubber (T-702) baghouse (F-402) baghouse (F-602)	OAC rule 3745-31-05(A)(3) (PTI 07-264)	Volatile organic compound emissions from all equipment except fugitive emissions leaks shall not exceed 7.82 pounds per hour and 34.25 tons per year. Particulate emissions from the combined outlet of the two baghouses (F-402 & F-602) shall not exceed 4.74 pounds per hour and 20.76 tons per year. The hourly emission limitation specified by this rule is less stringent than the hourly emission limitation established pursuant to OAC rule 3745-17-11(B).
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).

	See Part II, section A.I and Attachments 1, 2, and 3.
40 CFR Part 63, Subparts F, G, and H	See sections A.I.2.a through A.I.2.d below.
40 CFR Part 60, Subpart NNN	See Part II, section A.I.
	See Part II, section A.I.
40 CFR Part 60, Subpart VV OAC rule 3745-21-09(DD) OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
OAC rule 3745-17-11(B)	Particulate emissions from the combined outlet of the two baghouses (F-402 & F-602) shall not exceed 3.96 pounds per hour.

2. Additional Terms and Conditions

2.a 40 CFR Part 60, Subpart NNN applies to the following distillation units and associated recovery equipment within the BPA process unit:

i. The following equipment vents to the low vacuum system drum (D-904):

first crystallization flash drum (D-304)
second crystallization flash drum (D-501R)
epoxy BPA stripping column (T-601)

ii. The following equipment vents to the high vacuum system drum (D-903):

first stage crystallizer #1 (D-301)
first stage crystallizer #2 (D-302)
poly BPA phenol removal flash drum (D-401)
polycarbonate BPA stripping column (T-401
epoxy BPA phenol removal flash drum (D-601)
second stage crystallizer #2 (D-503)
second stage crystallizer #1 (D-513)
mother liquid flash drum (D-804)

iii. hydrochloric acid stripper column (T-201) controlled by a condenser (E-207)

iv. hydrochloric acid extractive distillation column (T-701) controlled by a scrubber (T-702)

2.b [40 CFR 60.660(c)(4)]
The equipment subject to 40 CFR Part 60, Subpart NNN with a total resource effectiveness (TRE) index value of greater than 8.0 are exempt from the requirements of 40 CFR Part 60, Subpart NNN except for the requirements specified in 60.662, 60.664(d), 60.664(e), and 60.664(f), 60.665(h), and 60.665(l). In accordance with the permittee's permit application, the following distillation columns and associated recovery equipment have a TRE index value greater than 8.0: low vacuum system; high vacuum system; and hydrochloric acid stripper column (T-201).

2.c [40 CFR 60.660(c)(6)]
The equipment subject to 40 CFR Part 60, Subpart NNN with a vent stream flow rate less than 0.008 standard cubic meters per minute (scm/min) are exempt from the requirements of 40 CFR Part 60 Subpart NNN except for the requirements specified in 60.664(g) and 60.665(i), 60.665(l)(5), and 60.665(o). In accordance with the permittee's permit application, the following distillation columns have a flow rate less than 0.008 standard cubic meters per minute: hydrochloric acid extractive distillation column (T-701).

2.d [40 CFR 60.662]
The equipment subject to 40 CFR Part 60, Subpart NNN with a TRE index equal to or less than 8.0 and a flow rate equal to or greater than 0.008 standard cubic meter per minute (scm/m) shall comply with one of the following:

i. Reduce the emissions of total organic compounds (TOC) by 98% by weight or to a concentration of 20 ppmv TOC, on a dry basis corrected to 3% oxygen;
ii. Combust the emissions in a flare that meets the requirements of 40 CFR 60.18; or
iii. Maintain a TRE index value greater than 1.0 without the use of VOC emission control devices.

II. Operational Restrictions

1. The condenser (E-207) exit temperature (product side) shall not exceed 149 degrees Fahrenheit as a daily average.

2. Each surge control vessel or bottoms receiver tank which meets one of the conditions listed in 40 CFR 63.170 [see Attachment 3] shall be equipped with a closed vent system that routes the organic vapors from the surge control vessel or bottoms receiver tank back to the process or to a control device that complies with the requirements of 40 CFR 63.172 [see Attachment 3] or shall be equipped with a fixed roof and an internal floating roof or an external floating roof.

In accordance with the permittee's permit application, the following surge control vessels and bottoms receiver tanks, do not exceed the threshold triggers of 40 CFR 63.170 [see Attachment 3]. Therefore, these vessels are not required to meet the conditions listed in 40 CFR 63.170 [see Attachment 3] at the time of permit issuance: D-404R, D-603, D-714, S-400B, S-400C, TK-101, D-909, D-104, D-303, D-312R, D-310, D-308, D-311, D-314, D-313, D-502R, D-202R, D-204, D-701A, D-701B, D-706A, D-706B, D-707, D-507, D-803R, D-505, D-508, and D-510.

III. Monitoring and/or Record keeping

1. The permittee shall perform daily checks, when the BPA process unit (emissions unit P003) is in operation and when the weather conditions allow, for any visible particulate emissions from the combined baghouse outlet stack (ST-401) serving the BPA process unit (emissions unit P003). The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to eliminate the visible emissions.

   If the daily checks show emissions that are representative of normal operation for 1 operating quarter, the required frequency of visible emission checks may be reduced to weekly (once every week, when the BPA process unit (emissions unit P003) is in operation). If a subsequent check by the permittee or an Ohio EPA inspector indicates emissions that are not representative of normal operation, the frequency of emission checks shall revert back to daily until such time as there is 1 operating quarter of normal visible emissions.

   The observance of visible emissions may or may not indicate a mass emission and/or visible emission violation. If required by the Portsmouth local air agency, compliance with the mass emission limitation and/or visible emission limitation shall be determined by performing mass emission tests and/or visible emission readings, using USEPA-approved methods and procedures.

2. For each process vent with a TRE > 1.0 but < 4.0 that uses a recovery device, the permittee shall monitor the recovery device operating parameters in accordance with the requirements of 40 CFR 63.114(b) [see Attachment 2].

   The condenser (E-207), the final recovery device for a process vent with a TRE > 1.0 but < 4.0, shall be equipped with a condenser exit temperature monitoring device.

   The permittee shall maintain continuous records of the condenser (E-207) outlet temperature.

The permittee shall record the daily average exit temperature for each operating day.

3. Whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent, the permittee shall recalculate the TRE index value, flow, or organic HAP concentration as necessary to determine if the vent is Group 1 or Group 2 in accordance with 40 CFR 63.115(e) [see Attachment 2].

   The permittee shall maintain records of process vent group determinations in accordance with 40 CFR 63.117, 40 CFR 63.118(c), 40 CFR 63.118(d), and 40 CFR 63.118(e) [see Attachment 2].

4. For each Group 2 storage vessel, the permittee shall comply with the record keeping requirements of 40 CFR 63.123(a) [see Attachment 2].

5. For each Group 2 process wastewater stream, the permittee shall comply with the record keeping requirements of 40 CFR 63.147 [see Attachment 2].

6. The permittee shall maintain procedures for the management of maintenance wastewater in accordance with 40 CFR 63.105(a) [see Attachment 1].

7. [40 CFR 60.664(d)]
   The net heating value of the gas combusted for determining the process vent stream TRE index value to determine compliance under 40 CFR 60.662(c) shall be determined in accordance with the equations and procedures in 40 CFR 60.664(d).

8. [40 CFR 60.664(e)]
   For purposes of complying with 40 CFR 60.662(c), the permittee shall determine the TRE index value by calculating values using both the incinerator equation in 40 CFR 60.664(e)(1) and the flare equation in 40 CFR 60.664(e)(2) and selecting the lower of the two values.

9. [40 CFR 60.664(f)]
   The permittee seeking to comply with 40 CFR 60.660(c)(4) or 40 CFR 60.662(c) shall recalculate the TRE index value for that affected facility whenever process changes are made. Examples of process changes include changes in production capacity, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. The TRE index value shall be recalculated based on test data, or on best engineering estimates of the effects of the change to the recovery system.

   a. Where the recalculated TRE index value is less than or equal to 1.0, the permittee shall notify the Administrator, with a copy to the Portsmouth local air agency, within 1 week of the recalculation and shall conduct a performance test according to the methods and procedures required by 40 CFR 60.664 in order to determine compliance with 40 CFR 60.662(a). Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

b. Where the initial TRE index value is greater than 8.0 and the recalculated TRE index value is less than or equal to 8.0 but greater than 1.0, the permittee shall conduct a performance test in accordance with 40 CFR 60.8 and 40 CFR 60.664 and shall comply with 40 CFR 60.663, 60.664, and 60.665. Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

10. [40 CFR 60.663(d)]
For distillation columns complying with the TRE index value limit specified under 40 CFR 60.662(c) of greater than or equal to 1.0, the permittee shall install, calibrate, maintain, and operate according to manufacturer's specifications the equipment specified in 40 CFR 60.663(d).

11. [40 CFR 60.665(h)]
The permittee shall maintain the following records for each piece of equipment complying with 40 CFR 60.662(c):

a. any changes in production capacity feedstock type, catalyst type, or of any replacement, removal, or addition of recovery equipment or a distillation unit;
b. any recalculation of the TRE performed pursuant to 40 CFR 60.664(f); and
c. the results of any performance test performed pursuant to 40 CFR 60.664(d).

12. [40 CFR 60.664(g)]
The permittee shall use Method 2, 2A, 2C, or 2D, 40 CFR Part 60, Appendix A for determination of the flow rate to demonstrate compliance with 40 CFR 60.660(c)(6).

13. [40 CFR 60.665(i)]
The permittee shall maintain the following records for each piece of equipment complying with 40 CFR 60.660(c)(6):

a. that the vent stream flow rate is less than 0.008 standard cubic meter per minute; and
b. any change in equipment or process operation that increases the vent stream flow rate including a measurement of the new vent stream flow rate.

14. The permittee shall maintain records for benzene waste operations in accordance with the requirements specified in 40 CFR 61.356, 40 CFR 61.356(a), and 61356(b) [see Part II, section A.IV].

15. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-309, issued on 12/9/92 and Permit to Install #07-264, as issued on 3/18/92 and modified on 09/23/04: A.III.1 through A.III.14. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so

that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the combined baghouse outlet stack (ST-401) serving the BPA process unit (emissions unit P003) and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall report all daily average condenser (E-207) exit temperatures that exceed the temperature limitations above.

3. The permittee shall submit periodic reports in accordance with 40 CFR 63.152(c) [see Attachment 2]. The periodic reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The reports shall include all information specified in 40 CFR 63.117 and 63.118 [see Attachment 2] for process vents and all information specified in 40 CFR 63.146 [see Attachment 2] for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

4. Whenever the recalculations (performed when process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent) determine that one of the criteria below has been met, the permittee shall submit a report as specified in 40 CFR 63.118(g) through (j) [see Attachment 2] and the permittee shall comply with the appropriate provisions in 40 CFR 63.113 [see Attachment 2] by the dates specified in 40 CFR Part 63, Subpart F [see Attachment 1].

   a. the recalculated TRE index value is less than or equal to 1.0;
   b. the recalculated TRE index value is less than or equal to 4.0 but greater than 1.0;
   c. the recalculated flow rate is greater than or equal to 0.005 standard cubic meter per minute; or
   d. the recalculated concentration is greater than or equal to 50 parts per million by volume.

5. The permittee shall submit the information required in 40 CFR 60.665(b)(4) when demonstrating compliance with the TRE index value of greater than 1.0 option of 40 CFR 60.662(c).

6. [40 CFR 60.665(l)]
   The permittee shall submit semiannual reports of the following recorded information:

   a. Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in 40 CFR 60.660(c)(6), including a

measurement of the new vent stream flow rate, as recorded under 40 CFR 60.665(i). These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed with the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and ETOC (hourly emission rate of TOC). The performance test is subject to the requirements of 40 CFR 60.8. Unless the facility qualifies for an exemption under the low capacity exemption status in 40 CFR 60.660(c)(5), the facility must begin compliance with the requirements set forth in 40 CFR 60.662.

b. Any recalculation of the TRE index value, as recorded under 40 CFR 60.665(h).

7. The permittee shall submit reports of start-up, shutdown, and malfunction in accordance with 40 CFR 63.10(d)(5) [see Part II, section A.III] and 40 CFR 63.152(d)(1) [see Attachment 2]. The semiannual start-up, shutdown and malfunction reports may be submitted on the same schedule as the periodic reports required under 40 CFR 63.152(c) [see Attachment 2] instead of the schedule specified in 40 CFR 63.10(d)(5) [see Part II, section A.III].

8. The deviation reports shall be submitted in accordance with the requirements specified in Part 1 - General Term and Condition A.1.c of this permit.

9. The permittee shall submit reports for benzene waste operations in accourdance with the requirements specified in 40 CFR 61.357(a)(1) through (a)(3) [see Part II, section A.IV].

10. Reports required by 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3] shall be submitted to USEPA Region 5, with a copy to the Portsmouth local air agency, in accordance with 40 CFR 63.103(d) & (d)(1) [see Attachment 1].

11. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install # 07-309, issued on 12/9/92 and Permit to Install #07-264, as issued on 3/18/92 and modified on 09/23/04: A.IV.1 through A.IV.10. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Volatile organic compound emissions from all equipment except fugitive equipment leaks shall not exceed 7.82 pounds per hour.

Volatile organic compound emissions from all equipment except fugitive equipment leaks shall not exceed 34.25 tons per year.

Volatile organic compound emissions from the hydrochloric acid scrubber (T-702) shall be negligible.

Applicable Compliance Method:

The volatile organic compound emissions (potential to emit) from the following equipment as listed below shall be summed.

If required , compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25 or 25A, as appropriate.

Equipment ID	Equipment Description	Egress Point	Control Device	VOC (lb/hr)	VOC (tpy)	Notes
D-103	Acetone feed surge drum	PB01	E-107 Condenser	<0.01	0.01	5
D-903	High vacuum system drum	PB01	None	0.5	2.18	16
D-904	Low vacuum system drum	PB01	None	0.06	0.25	26
S-400A	Phenol water decanter	PB01	None	<0.01	<0.01	6
S-400B	Water side surge drum	PB01	None	<0.01	<0.01	6
S-400C	Phenol side surge drum	PB01	None	<0.01	<0.01	6
T-402	Poly BPA prill tower	PB01	F-402 Baghouse	0	0	6
T-602	Epoxy BPA prill tower	PB01	F-602 Baghouse	0	0	6
TK-901A/B	Vacuum pump suction seal tanks	PB01	None	<0.01	<0.01	6
TK-101	Recycled phenol tank	PB02	None	0.22	0.96	6
D-104	Tartaric acid drum	PB03	None	<0.01	<0.01	6
T-201	Hydrochloric acid stripper column	PB04	E-207 Condenser	5.39	23.62	57
D-303	D-301 feed mixing drum	PB05	None	0.04	0.16	6
D-312R	Filter feed drum	PB06	None	0.01	0.03	6
S-301/2, D-310	EIMCO rotary drum vacuum filter system and filtered BPA remelt/mixing drum	PB07	None	1.42	6.21	6

D-308	Intermediate washing liquor drum	PB08	None	<0.01	<0.01	6
D-311	Final washing liquor drum	PB09	None	<0.01	<0.01	6
D-314	S-301/302 barometric pot	PB10	None	<0.01	<0.01	6
D-313	Mother liquor drum	PB11	None	0.01	0.06	6
D-402	Vent condenser barometric pot	PB12	None	<0.01	<0.01	6
D-404R	Melted poly BPA surge drum	PB13	None	<0.01	0.01	6
D-502R	D-513 feed mixing drum	PB15	None	<0.01	<0.01	6
D-603	Molten epoxy BPA surge drum	PB16	None	<0.01	<0.01	6
D-702	CaCl solution surge tank	PB17	None	0	0	**6**
D-714	Tar decanter	PB18	None	<0.01	<0.01	6
T-702	Hydrochloric acid vent scrubber	PB19	T-702 Scrubber	**<0.01**	**<0.01**	35
D-507	Wet phenol reflux drum	PB21	None	<0.01	<0.01	6
D-802R	Heavy residue surge drum	PB21	None	0.11	0.47	6
D-803R	Overhead condensate drum	PB21	None	<0.01	<0.01	6
D-912	Phenolic vent system knockout drum	PB21	None	0.01	0.04	6
TK-902	Reaction building drain sump	PB22	None	0.02	0.1	6
TK-904	Purification building drain sump	PB23	None	0.02	0.11	6
TK-2122	Storm water sump	PB24	None	<0.01	0.02	6
D-505	Centrifuge slurry feed drum	PB25	None	<0.01	<0.01	46

1. The following equipment is vented to the high vacuum system drum (D-903): first stage crystallizer #1 (D-301), first stage crystallizer #2 (D-302), polycarbonate BPA phenol removal flash drum (D-401), second stage crystallizer #2 (D-503), second stage crystallizer #1 (D-513), epoxy BPA phenol removal flash drum (D-601), mother liquor flash drum (D-804), and polycarbonate BPA stripping column (T-401).
2. The following equipment is vented to the low vacuum system drum (D-904): first crystallization flash drum (D-304), second crystallization flash drum (D-501R), epoxy BPA stripping column (T-601).
3. The following equipment is vented to the hydrochloric acid vent scrubber (T-702): hydrochloric acid surge drum (D-708), extractive distillation column (T-701), hydrochloric acid storage tank (TK-2002), acidic vent washing column (T-203), T-201 barometric pot B (D-203), acidic phenol drum (D-204), acidic phenolic water surge drums (D-701A/B), crude acidic phenolic water surge drums (D-706A/B), residual water surge drum (D-707), calcium chloride solution flash drum (D-710), spare calcium chloride solution flash drum (D-710A), calcium chloride surge tank (D-717), calcium chloride pump tank (D-718), tar decanter (D-719), and tar storage tank (D-720).
4. The following equipment is vented to the centrifuge slurry feed drum (D-505): second stage mother liquor drum (D-506), BPA to phenol plant surge drum (D-508), 2nd crystallization reslurry drum (D-510), and 2nd crystallization screen bowl centrifuges (F-501A/B).
5. VOC emissions (lb/hr and tpy) from this equipment are controlled. The VOC emissions include the emissions reductions due to the control device. These values represent those identified in previous application submittals (PTI 07-00264, PTI 07-00309). Individual equipment VOC (lb/hr and tpy) values are not independently enforceable in this permit.
6. VOC emissions (lb/hr and tpy) from this equipment are uncontrolled. These values represent the potential to emit and are identified in previous application submittals (PTI 07-00264, PTI 07-00309). Individual equipment VOC (lb/hr and tpy) values are not independently enforceable in this permit.
7. Compliance of the hydrochloric acid stripper column (T-201) shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Subpart NNN to demonstrate that VOC emissions are negligible (negligible flow rate).

1.b Emission Limitation:

Particulate emissions from the combined baghouse outlet (ST-401 stack) of the two baghouses (F-402 & F-602) shall not exceed 20.76 tons per year.

Applicable Compliance Method:

This emission limitation was determined by multiplying the allowable hourly emission limitation (4.74 pounds per hour) by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Since this hourly emission limitation is less stringent than the emission limitation established in Section A.V.1.d, compliance with the ton per year emission limitation shall be assumed provided compliance with the hourly emission limitation in Section A.V.1.d is maintained.

1.c Emission Limitation:

Visible particulate emissions from the combined baghouse outlet (ST-401 stack) of the two baghouses (F-402 & F-602) shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

1.d Emission Limitation:

Particulate emissions from the combined baghouse outlet (ST-401 stack) of the two baghouses (F-402 & F-602) shall not exceed 3.96 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

2. The permittee shall conduct, or have conducted, flow rate testing for the hydrochloric acid scrubber (T-702) in accordance with the following requirements:

a. The emissions testing shall be conducted within 12 months of permit expiration.

b. The emission testing shall be conducted to demonstrate negligible flow rate.

c. The following test method(s) shall be employed to demonstrate compliance with the flow rate requirement, Methods 1 through 4 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install # 07-309, issued on 12/9/92 and Permit to Install #07-264, as issued on 3/18/92 and modified on 09/23/04: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Aniline Process Unit (P004)

Activity Description: Aniline Process Unit

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
aniline and diphenylamine process unit with the following air pollution control devices: scrubber (E-21) scrubber (E-90) scrubber (E-111) process heater (B-10)	OAC rule 3745-31-05(A)(3) (PTI 07-449)	Particulate emissions from the process heater (B-10) shall not exceed 0.30 pound per hour and 1.31 tons per year. Sulfur dioxide emissions from the process heater (B-10) shall not exceed 0.01 pound per hour and 0.06 ton per year. Nitrogen oxides emissions from the process heater (B-10) shall not exceed 2.94 pounds per hour and 12.9 tons per year. Volatile organic compound emissions from the process heater (B-10) shall not exceed 0.59 pound per hour and 2.58 tons per year.

	Volatile organic compound emissions from all equipment except the process heater (B-10) and fugitive equipment leaks shall not exceed 48.29 pounds per day and 8.81 tons per year. Ammonia emissions from all equipment except the process heater (B-10) and fugitive equipment leaks shall not exceed 7.88 pounds per day and 1.44 tons per year.
40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.I.2.a below and Attachments 1, 2, and 3.
40 CFR Part 60, Subpart NNN	See sections A.I.2.b through A.I.2.d below.
40 CFR Part 60, Subpart VV	See Part II, section A.I.
OAC rule 3745-21-09(DD)	See Part II, section A.I.
OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
OAC rule 3745-17-10(B)(1)	Particulate emissions shall not exceed 0.020 pound per mmBtu of actual heat input.
OAC rule 3745-18-06	See section A.I.2.f below.
40 CFR Part 63, Subpart DDDDD	See Part II, section A.VIII and Attachment 4.
40 CFR Part 63, Subpart A	

See section A.I.2.g below,
Attachment 1 (Table 3) and
Attachment 4 (Table 10).

2. Additional Terms and Conditions

2.a In accordance with 40 CFR 63.113(a)(2), (a)(2)(i), & (a)(2)(ii) [see Attachment 2], for all Group 1 process vent streams, the emissions of total organic HAPs shall be reduced by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. The emission reduction or concentration shall be calculated on a dry basis, corrected to 3% oxygen.

2.b The following distillation units and associated recovery equipment are subject to the provisions of 40 CFR 60, Subpart NNN but are required to comply only with 40 CFR Part 63, Subparts F and G [see Attachments 1 and 2] for Group 1 process vents:

E-60 Distillation Column
E-110 Distillation Column

2.c [40 CFR 60.662]
The equipment subject to 40 CFR Part 60, Subpart NNN with a TRE index of less than 8.0 and a flow rate greater than 0.008 standard cubic meters per minute shall comply with one of the following:

i. reduce the emissions of total organic compounds (TOC) by 98%, by weight, or to a concentration of 20 ppmv TOC, on a dry basis corrected to 3% oxygen;
ii. combust the emissions in a flare that meets the requirements of 40 CFR 60.18; or
iii. maintain a TRE index value greater than 1.0 without the use of VOC emission control devices.

2.d In accordance with 40 CFR Part 60.480(d)(3), the aniline process unit, which produces heavy liquid chemicals only from heavy liquid feed or raw materials, is exempt from the LDAR requirements of 60.482.

2.e In accordance with OAC rule 3745-21-09(DD)(17)(a)(ii), the aniline process unit, which produces heavy liquid chemicals only from heavy liquid feed or raw materials, is exempt from the LDAR requirements of OAC rule 3745-21-09(DD)(2) through (DD)(6).

2.f The process heater (B-10) is fueled with natural gas and process vent gas only and has no process weight rate as defined in OAC rule 3745-18-01(B)(13). Therefore, this equipment is exempt from the emission limitation established in OAC rule 3745-18-06(E).

2.g Refer to Part II - Specific Facility Terms and Conditions of this permit, section A.III, for the requirements of 40 CFR Part 63, Subpart A; - National Emission Standards for Hazardous Air Pollutants - General Provisions.

II. Operational Restrictions

1. In accordance with the permittee's permit application, the permittee is operating by routing the organic vapors from Group 1 process vents from the aniline process unit to the process heater (B-10) to comply with the percent reduction requirement or concentration limit specified in 40 CFR 63.113(a)(2), (a)(2)(i), & (a)(2)(ii) [see Attachment 2]. The vent stream shall be introduced into the flame zone of the process heater (B-10). The minimum firebox temperatures, each as a daily average, are listed below:

Operating Mode	Minimum Daily Average Firebox Temperature (degrees Fahrenheit)
Aniline Production & Regeneration	1444
Diphenylamine Production & Regeneration	1254
Co-Production of Aniline and Diphenylamine	1629

2. The pressure drop across the scrubber (E-21) shall be continuously maintained at a required level at all times while the aniline process unit is in operation.

   The scrubber (E-21) water flow rate shall be continuously maintained at a required level at all times while the aniline process unit is in operation.

   The required pressure drop and water flow rate levels will be determined by the permittee and reported to the Portsmouth local air agency within 6 months of recommencing operation of the aniline process unit.

3. The permittee shall burn only process vent gases and/or natural gas in the process heater (B-10).

4. Each surge control vessel or bottoms receiver tank which meets one of the conditions listed in 40 CFR 63.170 [see Attachment 3] shall be equipped with a closed vent system that routes the organic vapors from the surge control vessel or bottoms receiver tank back to the process or to a

control device that complies with the requirements of 40 CFR 63.172 [see Attachment 3] or shall be equipped with a fixed roof and an internal floating roof or an external floating roof.

In accordance with the permittee's permit application, the following surge control vessels and bottoms receiver tanks , do not exceed the threshold triggers of 40 CFR 63.170 [see Attachment 3]. Therefore, these vessels are not required to meet the conditions listed in 40 CFR 63.170 [see Attachment 3] at the time of permit issuance: F-110, F-10, F-42A, F-42B, and F-51.

III. Monitoring and/or Record keeping

1. The permittee shall maintain a statement listing the feed or raw materials and products from the aniline process unit and an analysis demonstrating these chemicals are heavy liquids in accordance with the requirements of 40 CFR 60.486(i)(2) and OAC rule 3745-21-09(DD)(14)(f)(ii).

2. The permittee shall maintain a temperature monitoring device, equipped with a continuous recorder, in the firebox of the process heater (B-10) in accordance with the requirements of 40 CFR 63.114(a) [see Attachment 2].

   The permittee shall maintain records of the process heater (B-10) firebox temperature in accordance with 40 CFR 63.118(a) [see Attachment 2].

3. The permittee shall monitor any bypass line(s) that could divert a Group 1 process vent away from the process heater (B-10) in accordance with 40 CFR 63.114(d) [see Attachment 2]. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to 40 CFR 63.114(d) [see Attachment 2].

   a. Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in 40 CFR 63.118(a)(3) [see Attachment 2]. The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

   b. Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

The permittee shall maintain records of the flow indicator or monthly visual inspection requirements for bypass lines that could divert a Group 1 process vent away from the process heater (B-10) in accordance with 40 CFR 63.118(a)(3) and (a)(4) [see Attachment 2].

4. Whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent, the permittee shall recalculate the TRE index value, flow, or organic HAP concentration as necessary to determine if the vent is Group 1 or Group 2 in accordance with 40 CFR 63.115(e) [see Attachment 2].

   The permittee shall maintain records of process vent group determinations in accordance with 40 CFR 63.117 and 40 CFR 63.118(c) through (e) [see Attachment 2].

5. For each Group 2 storage vessel, the permittee shall comply with the record keeping requirements of 40 CFR 63.123(a) [see Attachment 2].

6. For each Group 2 process wastewater stream, the permittee shall comply with the record keeping requirements of 40 CFR 63.147 [see Attachment 2].

7. The permittee shall monitor the cooling water at the inlet and outlet of the aniline heat exchange system for the presence of aniline in accordance with 40 CFR 63.104(b), (d), and (e) [see Attachment 1]. On a quarterly basis, the permittee shall obtain three samples from the inlet and three samples from the outlet of the heat exchanger. The permittee shall analyze the samples in accordance with the methods and procedures of Method 625 of 40 CFR Part 136, Appendix A. The results of the analysis shall be evaluated as specified in 40 CFR 63.104(b)(6) [see Attachment 1].

   The permittee shall maintain heat exchange system records in accordance with 40 CFR 63.104(f)(1) [see Attachment 1].

8. The permittee shall maintain procedures for the management of maintenance wastewater in accordance with 40 CFR 63.105(a) [see Attachment 1].

9. For the scrubber (E-21), the permittee shall properly install, operate and maintain equipment to monitor and record the pressure drop across the scrubber and the scrubber water flow rate while the aniline process unit is in operation. The monitoring devices and recorder(s) shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions and/or operating manuals.

   The permittee shall collect and record the following information each day:

a. the pressure drop across the scrubber, in inches of water;
b. the scrubber water flow rate, in gallon per minute; and
c. the downtimes for the capture (collection) system, control device, monitoring equipment, and the aniline process unit.

10. For each day during which the permittee burns a fuel other than process vent gases and/or natural gas in the process heater (B-10), the permittee shall maintain a record of the type and quantity of fuel burned.

11. The permittee shall perform pressure testing of the process heater (B-10) convection section once every calendar year.

a. The pressure testing shall be performed in accordance with the following procedure:

i. Install 1" thick slip blinds on the 14" headers**.**
ii. Use a hose from the plant air header, bring test pressure to 50 psi, stop and hold for 5 minutes. Use a test gauge with a range of 300 psi.
iii. Bring test pressure to equal air header pressure (approximately 100 psi). Disconnect hose. Inspect all flange connections for leaks using a soapy water solution.
iv. Connect line from portable high pressure compressor to test point inlet.
v. Raise pressure to 290 psi and hold for 5 minutes.
vi. Drop pressure to 200 psi and inspect all flange connections using a soapy water solution.
vii. De-pressure.
viii. Remove test blinds and connect flanges for process use.

b. A leak is detected when the pressure indicator drops more than 5% while holding pressure in step A.III.11.a.v above.

c. When a leak is detected, it shall be repaired prior to the startup of the process unit.

d. The permittee shall maintain the following records for each pressure test conducted:

i. the date;
ii. the time and pressure at the beginning of each pressure test in section A.III.11.a.v above;
iii. the time and pressure at the end of each pressure test in section A.III.11.a.v above;
iv. whether or not a leak was detected;
v. corrective action to repair the leak; and

vi. information in A.III.11.d.i through A.III.11.d.v for pressure retest after the repair of a leak.

12. The permittee shall maintain records for benzene waste operations in accordance with the requirements specified in 40 CFR 61.356, 40 CFR 61.356(a), and 40 CFR 61.356(b) [see Part II, section A.IV.

13. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-449, issued on 9/10/97 and modified on 12/12/01: A.III.1 through A.III.12. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit periodic reports in accordance with 40 CFR 63.152(c) [see Attachment 2]. The periodic reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The reports shall include all information specified in 40 CFR 63.117 and 40 CFR 63.118 [see Attachment 2] for process vents and all information specified in 40 CFR 63.146 [see Attachment 2] for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

2. The permittee shall submit reports of start-up, shutdown, and malfunction in accordance with 40 CFR 63.10(d)(5) [see Part II, section A.III] and 40 CFR 63.152(d)(1) [see Attachment 2]. The semiannual start-up, shutdown and malfunction reports may be submitted on the same schedule as the periodic reports required under 40 CFR 63.152(c) [see Attachment 2] instead of the schedule specified in 40 CFR 63.10(d)(5) [see Part II, section A.III].

3. For each heat exchange system, the permittee shall comply with the reporting requirements of 40 CFR 63.104(f)(2) [see Attachment 1].

4. For the scrubber (E-21) , the permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:

   a. static pressure drop across the scrubber; and/or
   b. the scrubber water flow rate.

5. The permittee shall submit reports of any fuels burned other than process vent gases and/or natural gas in the process heater (B-10) within thirty (30) days to the Portsmouth local air agency , including the date, type, and amount of any such fuel burned.

6. Whenever the recalculations (performed when process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent) determine that one of the criteria below have been met, the permittee shall submit a report as specified in 40 CFR 63.118(g), (h), (i), and (j) [see Attachment 2] and the permittee shall comply with the appropriate provisions in 40 CFR 63.113 [see Attachment 2] by the dates specified in 40 CFR Part 63, Subpart F [see Attachment 1].

   a. the recalculated TRE index value is less than or equal to 1.0;

   b. the recalculated TRE index value is less than or equal to 4.0 but greater than 1.0;

   c. the recalculated flow rate is greater than or equal to 0.005 standard cubic meter per minute; or

   d. the recalculated concentration is greater than or equal to 50 parts per million by volume.

7. The deviation (excursion) reports shall be submitted in accordance with the requirements of Part I - General Term and Condition A.1.c of this permit.

8. The permittee shall submit deviation (excursion) reports that identify the date when any leak was discovered in the process heater (B-10) convection section, the corrective action taken to repair the leak, the date of successful repair of the leak, and the results of the pressure test conducted after successful repair of the leak.

9. The permittee shall submit reports for benzene waste operations in accordance with the requirements specified in 40 CFR 61.357 [see Part II, section A.IV].

10. Reports required by 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3] shall be submitted to USEPA Region 5, with a copy to the Portsmouth local air agency, in accordance with 40 CFR 63.103(d) and (d)(1) [see Attachment 1].

11. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-449, issued on 9/10/97 and modified on 12/12/01: A.IV.1 through A.IV.10. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting

requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Particulate emissions from the process heater (B-10) shall not exceed 0.30 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.b Emission Limitation:

Particulate emissions from the process heater (B-10) shall not exceed 1.31 tons per year.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.c Emission Limitation:

Sulfur dioxide emissions from the process heater (B-10) shall not exceed 0.01 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6 or 6c.

1.d Emission Limitation:

Sulfur dioxide emissions from the process heater (B-10) shall not exceed 0.06 ton per year.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the ton per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.e Emission Limitation:

Nitrogen oxides emissions from the process heater (B-10) shall not exceed 2.94 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7 or 7e.

1.f Emission Limitation:

Nitrogen oxides emissions from the process heater (B-10) shall not exceed 12.9 tons per year.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.g Emission Limitation:

Volatile organic compound emissions from the process heater (B-10) shall not exceed 0.59 pound per hour.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25 or 25A, as appropriate.

1.h Emission Limitation:

Volatile organic compound emissions from the process heater (B-10) shall not exceed 2.58 tons per year.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.i Emission Limitation:

Volatile organic compound emissions from all equipment except the process heater (B-10) and fugitive equipment leaks shall not exceed 48.29 pounds per day.

Volatile organic compound emissions from all equipment except the process heater (B-10) and fugitive equipment leaks shall not exceed 8.81 tons per year.

Ammonia emissions from all equipment except the process heater (B-10) and fugitive equipment leaks shall not exceed 7.88 pounds per day.

Ammonia emissions from all equipment except the process heater (B-10) and fugitive equipment leaks shall not exceed 1.44 tons per year.

Applicable Compliance Method:

The volatile organic compound emissions (potential to emit) from the following equipment as listed in the following table shall be summed. The ammonia emissions (potential to emit) from the following equipment as listed in the following table shall be summed.

If required , compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25 or 25A or EPA CTM-027, as appropriate.

Equipment ID	Equipment Description	Egress Point	Control Device	VOC (lb/day)	VOC (tpy)	Ammonia (lb/day)	Ammonia (tpy)	Notes
F-10	Phenol feed tank	PN01	None	24.47	4.47	0	0	2
E-21	Scrubber	PN02	E-21 Scrubber	0.06	0.01	7.88	1.44	13

E-90	**Scrubber**	PN03	E-90 Scrubber	<0.01	<0.01	<0.01	<0.01	1
F-42A	Aniline rundown tank	PN04	None	3.91	0.71	0	0	2
F-42B	Aniline rundown tank	PN05	None	3.91	0.71	0	0	2
F-52	**Caustic tank**	**PN06**	**None**	**0**	**0**	**0**	**0**	**2**
F-54A	DPA day tank	PN07	None	4.11	0.75	0	0	2
F-54B	DPA day tank	PN08	None	4.11	0.75	0	0	2
F-51	Waste sump	PN09	None	0.23	0.04	0	0	2
J-10	Compressor oil storage tank	PN11	None	0.02	0	0	0	2
A-92	Pad water holding sump	PN12	None	0.09	0.02	0	0	2

1. VOC and ammonia emissions (lb/day and tpy) from this equipment are controlled. The VOC and ammonia emissions values listed are the controlled potentials to emit, which includes the emissions reductions to the control device, the use of which is federally enforceable.
2. VOC and ammonia emissions (lb/day and tpy) from this equipment are uncontrolled. The VOC and ammonia emissions values listed are the potentials to emit from each piece of equipment.
3. If required, in accordance with OAC rule 3745-15-04, emissions from the scrubber (E-21) will be determined in accordance with the requirements specified in EPA CTM-027.

1.j Emission Limitation:

Visible particulate emissions from process heater (B-10) stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

1.k Emission Limitation:

The emissions of total organic HAP from Group 1 process vents shall be reduced by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. The emission reduction or concentration shall be calculated on a dry basis, corrected to 3% oxygen.

Applicable Compliance Method:

The concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the process heater (B-10)) shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25, or 25A. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

1.l Emission Limitation:

Particulate emissions from the process heater (B-10) shall not exceed 0.020 pound per mmBtu of actual heat input.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

2. The permittee shall conduct, or have conducted, emission testing for the process heater (B-10) in accordance with the following requirements:

a. The emission testing shall be within 12 months of recommencing operation.

b. The emission testing shall be conducted to demonstrate compliance with the allowable emission rate for VOC and the HAP concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the process heater).

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): U. S. EPA Methods 1 through 4 and 18, 25, or 25A of 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency. The test shall be performed while this flexible operation chemical manufacturing process unit is producing the primary product as required by 40 CFR 63.103(b)(6) [see Attachment 1].

e. If required, the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test

methods and procedures specified in OAC rule 3745-21-10. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-449, issued on 9/10/97 and modified on 12/04/01: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: AMS Hydrogenation Process Unit (P006)

Activity Description: AMS Hydrogenation Process Unit

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
alphamethylstyrene hydrogenation process unit with the following air pollution control devices: condenser (3516-**C)**	OAC rule 3745-31-05(A)(3) (PTI 07-451)	Volatile organic compound emissions from all equipment except fugitive equipment leaks shall not exceed 16.71 pounds per day and 3.05 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and Attachments 1, 2, and 3.
	40 CFR Part 60, Subpart VV	See Part II, section A.I.
	OAC rule 3745-21-09(DD)	See Part II, section A.I.

2. Additional Terms and Conditions

None

II. Operational Restrictions

1. The average temperature of the liquid ammonia coolant in the condenser (3516-C), on a daily basis, shall not be greater than 41 degrees Fahrenheit.

2. Each surge control vessel or bottoms receiver tank which meets one of the conditions listed in 40 CFR 63.170 [see Attachment 3] shall be equipped with a closed vent system that routes the organic vapors from the surge control vessel or bottoms receiver tank back to the process or to a control device that complies with the requirements of 40 CFR 63.172 [see Attachment 3] or shall be equipped with a fixed roof and an internal floating roof or an external floating roof.

   In accordance with the permittee's permit application, the following surge control vessels and bottoms receiver tanks , do not exceed the threshold triggers of 40 CFR 63.170 [see Attachment 3]. Therefore, these vessels are not required to meet the conditions listed in 40 CFR 63.170 [see Attachment 3] at the time of permit issuance: 3510-F.

III. Monitoring and/or Record keeping

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the temperature of the liquid ammonia coolant in the condenser (3516-C) at least once every 15 minutes when the AMS Hydrogenation process unit is in operation. The equipment used to monitor temperature must have a minimum accuracy of (a) +/- 1 percent of the temperature being monitored expressed in degrees Celsius (^{o}C) or (b) +/ 0.5 degrees (^{o}C), whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

   The permittee shall collect and record the following information each day the AMS Hydrogenation process unit is in operation:

   a. the average temperature of the liquid ammonia coolant in the condenser (3516-C) on a daily calendar basis; and

   b. a log or record of downtimes for the capture (collection) system, control device, monitoring equipment, and the AMS Hydrogenation process unit.

2. Whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent, the permittee shall recalculate the TRE index value, flow, or organic HAP concentration as necessary to determine if the vent is Group 1 or Group 2 in accordance with 40 CFR 63.115(e) [see Attachment 2].

   The permittee shall maintain records of process vent group determinations in accordance with 40 CFR 63.117 and 40 CFR 63.118(c), (d), and (e) [see Attachment 2].

3. The permittee shall maintain procedures for the management of maintenance wastewater in accordance with 40 CFR 63.105(a) [see Attachment 1].

4. The permittee shall maintain records for benzene waste operations in accordance with the requirements specified in 40 CFR 61.356 [see Part II, section A.IV].

5. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-451, issued on 2/8/98 and modified on 7/27/04: A.III.1 through A.III.4. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit quarterly temperature deviation (excursion) reports that identify all periods during which the average temperature of the liquid ammonia coolant in the condenser (3516-C) on a daily calendar basis exceeded the temperature limitation specified above.

2. The permittee shall submit periodic reports in accordance with 40 CFR 63.152(c) [see Attachment 2]. The periodic reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The reports shall include all information specified in 40 CFR 63.117 and 40 CFR 63.118 [see Attachment 2] for process vents and all information specified in 40 CFR 63.146 [see Attachment 2] for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

3. The permittee shall submit reports of start-up, shutdown, and malfunction in accordance with 40 CFR 63.10(d)(5) [see Part II, section A.III] and 40 CFR 63.152(d)(1) [see Attachment 2]. The semiannual start-up, shutdown and malfunction reports may be submitted on the same schedule as the periodic reports required under 40 CFR 63.152(c) [see Attachment 2] instead of the schedule specified in 40 CFR 63.10(d)(5) [see Part II, section A.III].

4. Whenever the recalculations (performed when process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent) determine that one of the criteria below has been met, the permittee shall submit a report as specified in 40 CFR 63.118(g), (h), (i), and (j) [see Attachment 2] and the permittee shall comply with the appropriate provisions in 40 CFR 63.113 [see Attachment 2] by the dates specified in 40 CFR Part 63, Subpart F [see Attachment 1].

   a. the recalculated TRE index value is less than or equal to 1.0;
   b. the recalculated TRE index value is less than or equal to 4.0 but greater than 1.0;
   c. the recalculated flow rate is greater than or equal to 0.005 standard cubic meter per minute; or
   d. the recalculated concentration is greater than or equal to 50 parts per million by volume.

5. The permittee shall submit reports for benzene waste operations in accordance with the requirements specified in 40 CFR 61.357 [see Part II, section A.IV].

6. The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c of this permit.

7. Reports required by 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3] shall be submitted to USEPA Region 5, with a copy to the Portsmouth local air agency, in accordance with 40 CFR 63.103(d) and (d)(1) [see Attachment 1].

8. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-451, issued on 2/8/98 and modified on 7/27/04: A.IV.1 through A.IV.7. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emissions limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods.

1.a Emission Limitation:

Volatile organic compound emissions from all equipment except fugitive equipment leaks shall not exceed 16.71 pounds per day.

Volatile organic compound emissions from all equipment except fugitive equipment leaks shall not exceed 3.05 tons per year.

Applicable Compliance Method:

The volatile organic compound emissions (potential to emit) from the following equipment as listed below shall be summed.

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25, or 25A.

Equipment ID	Equipment Description	Egress Point	Control Device	VOC (lb/day)	VOC (tpy)	Notes
3512-F	Hydrogenation product drum	AH01	3516-C Condenser	16.71	3.05	1

1. VOC emissions (lb/hr and tpy) from this equipment are controlled. The VOC emissions include the emissions reductions due to the control device. These values represent the potential to emit and are identified in previous application submittals (PTI 07-00451). Individual equipment VOC (lb/hr and tpy) values are not independently enforceable in this permit.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-451, issued on 2/8/98 and modified on 7/27/04: A.V.1. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Phenol II Process Unit (P007)

Activity Description: Phenol II Process Unit

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
phenol II process unit with the following air pollution control devices: condenser (3301-C), scrubber (3310-E), thermal oxidizer (2007-L), and regenerative thermal oxidizer (RTO)	OAC rule 3745-31-05(A)(3) (PTI 07-00500)	Total volatile organic compound emissions (including acetone) from all equipment except for the thermal oxidizer (2007-L), regenerative thermal oxidizer (RTO) and fugitive equipment leaks shall not exceed 208.43 pounds per day and 38.04 tons per year, as a rolling, 12-month summation of the VOC emissions. Total particulate emissions from the thermal oxidizer (2007-L), for all equipment vented to the thermal oxidizer, shall not exceed 0.5 pound per hour and 2.19 tons per year. Total nitrogen oxides emissions from the thermal oxidizer (2007-L), for all equipment vented to the thermal oxidizer, shall not exceed 7.50 pounds per hour and 32.85 tons per year.

Total sulfur dioxide emissions from the thermal oxidizer (2007-L), for all equipment vented to the thermal oxidizer, shall not exceed 0.1 pound per hour and shall be less than 1 ton per year.

Total carbon monoxide emissions from the thermal oxidizer (2007-L), for all equipment vented to the thermal oxidizer,shall not exceed 8.24 pounds per hour and 36.07 tons per year.

Total particulate emissions from the regenerative thermal oxidizer (RTO), for all equipment vented to the regenerative thermal oxidizer, shall not exceed 0.68 pound per hour and 3.0 tons per year.

Total nitrogen oxides emissions from the regenerative thermal oxidizer (RTO), for all equipment vented to the regenerative thermal oxidizer, shall not exceed 1.66 pounds per hour and 7.25 tons per year.

Total carbon monoxide emissions from the regenerative thermal oxidizer (RTO), for all equipment vented to the regenerative thermal oxidizer, shall not exceed 7.56 pounds per hour and 33.11 tons per year.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-10 through OAC rule 3745-31-20, and 40 CFR Part 63, Subparts F, G,

	and H, 40 CFR Part 60, Subpart VV and NNN, 40 CFR Part 61, Subpart FF, and OAC rule 3745-21-09(DD).
OAC rule 3745-31-10 through OAC rule 3745-31-20	Total volatile organic compound emissions (including acetone) from the thermal oxidizer (2007-L), for all equipment vented to the thermal oxidizer serving emissions units P001 and P007, shall not exceed 6.11 pounds per hour and 26.77 tons per year, as a rolling, 12-month summation of the VOC emissions. Total volatile organic compound emissions (including acetone) from all modified equipment, [including egress points P201 (including primary cumene stripper 3202-E jet condenser system (3204-L)), P216, and P219] except for the thermal oxidizer (2007-L), regenerative thermal oxidizer (RTO) and fugitive equipment leaks shall not exceed 3.59 pounds per day and 0.66 ton per year, as a rolling, 12-month summation of the VOC emissions. Total volatile organic compound emissions (including acetone) from the regenerative thermal oxidizer (RTO) shall not exceed 6.11 pounds per hour and 26.77 tons per year, as a rolling, 12-month summation of the VOC emissions. See section A.I.2.a below.
40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
40 CFR Part 63, Subparts F, G, and H	

40 CFR Part 60, Subpart NNN	See Part II, section A.I and sections A.I.2.b and A.I.2.c below and Attachments 1, 2, and 3.
40 CFR Part 61, Subpart FF	See sections A.I.2.d through A.I.2.g below and Part II, section A.II.
40 CFR Part 60, Subpart VV	See sections A.III.19 and A.IV.10 below and Part II, section A.IV.
OAC rule 3745-21-09(DD)	See Part II, section A.I.
OAC rule 3745-18-06(E)	See Part II, section A.I.
OAC rule 3745-21-08(B)	See section A.I.2.h below.
OAC rule 3745-23-06(B)	See section A.I.2.l below.
	See section A.I.2.m below.

2. Additional Terms and Conditions

2.a This prevention of significant deterioration (PSD) best available control technology (BACT) determination requires volatile organic compound emissions that are vented to the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) to be reduced by not less than 99%, by weight. The VOC emissions from the following modified equipment shall be vented to the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO): the crude acetone column reflux drum (3304-F) and the acetone topping column reflux drum (3307-F).

The VOC emissions from the following modified equipment is uncontrolled: primary cumene stripper 3202-E jet condenser system (3204-L), hydrocarbon removal column 3305-E reflux drum (3318-F) and cleavage reactor 3202-DR jet condenser system (3207-L).

The PSD BACT determinations for the process vent emissions from the hydrocarbon removal system (3305-E), the primary cumene stripper (3202-E), and the cleavage reactor (3202-DR) requires maintaining existing operating conditions and does not require add on controls.

The PSD BACT determination for fugitive emissions from the Phenol II process unit requires compliance with the leak detection and repair program required by 40 CR Part 63, Subpart H [see Attachment 3].

2.b In accordance with 40 CFR 63.113(a)(2) [see Attachment 2], for all Group 1 process vent streams, the emissions of total organic HAPs shall be reduced by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. The emission reduction or concentration shall be calculated on a dry basis, corrected to 3-percent oxygen.

The VOC emissions from the following equipment is uncontrolled: preflash separator 3209-F jet condenser system (3203-LR), primary cumene stripper 3202-E jet condenser system (3204-L), secondary cumene stripper 3203-E jet condenser system (3205-L), CHP drain vessel (3214-F), pre-secondary cumene stripper 3227-E jet condenser system (3227-L), crude acetone column 3301-E preheater wash tank (3343-F), phenol rundown tanks (3321-FA and 3321-FB), neutralizer drain vessel (3226-F), phenol drain tank (3330-F), phenol finishing column 3304-E jet condenser system (3320-F), hydrocarbon removal column 3305-E reflux drum (3318-F), acetone finishing column 3303-E jet condenser system (3302-L), crude phenol column 3304-E jet condenser system (3303-L), and cleavage reactor 3202-DR jet condenser system (3207-L).

The VOC emissions from the following equipment shall be vented to the 3301-C condenser: neutralizer tank (3217-F), acid wash drum (3218-F), fractionation feed tank (3301-F), phenolic water tank (3303-F).

The acetone rundown tanks (3312-FA and 3312-FB) shall be equipped with an internal floating roof.

The VOC emissions from the crude acetone column 3301-E bottoms surge tank shall be controlled by the 3310-E scrubber.

2.c In accordance with 40 CFR 63.172(b) [see Attachment 3], the scrubber (3310-E) shall be designed and operated to recover the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to it with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.

2.d The requirements of 40 CFR Part 60, Subpart NNN apply to the following distillation units and associated recovery equipment within the Phenol II process unit:

Egress Point	Distillation Column (equipment number)
P201	Pre-Secondary Cumene Stripper (3227-E)
UT09	Crude Acetone Column (3301-E)
P215	Phenol Finishing Column (3307-E)
P216	Hydrocarbon Removal Column (3305-E)
P217	Acetone Finishing Column (3303-E) and Acetone Stripper (3309-E)
P218	Crude Phenol Column (3304-E)
P201	Secondary Cumene Stripper (3203-E)

P201	Primary Cumene Stripper (3202-E)
P201	Preflash Separator Drum (3209-F)
UT09	Acetone Topping Column (3302-E)

2.e [40 CFR 60.660(c)(4)]
The equipment subject to 40 CFR Part 60, NNN which have a total resource effectiveness (TRE) index value of greater than 8.0 are exempt from the requirements of 40 CFR Part 60, Subpart NNN except for the requirements specified in 60.662, 60.664(d), 60.664(e), and 60.664(f), 60.665(h), and 60.665(l). In accordance with the permittees's permit application, the following distillation columns have a TRE index value greater than 8.0: 3227-E, 3304-E, and 3305-E.

2.f [40 CFR 60.660(c)(6)]
The equipment subject to 40 CFR Part 60, Subpart NNN which have vent stream flow rate less than 0.008 standard cubic meters per minute (scm/min) are exempt from the requirements of 40 CFR Part 60 Subpart NNN except for the requirements specified in 60.664(g) and 60.665(i), 60.665(l)(5), and 60.665(o). At the time of permit issuance, the following distillation columns have a flow rate less than 0.008 standard cubic meters per minute: 3307-E, 3303-E, 3202-E, 3209-F, and 3203-E.

2.g [40 CFR 60.662]
The equipment subject to 40 CFR Part 60, Subpart NNN which have a TRE index of less than 8.0 and a flow rate greater than 0.008 standard cubic meters per minute shall comply with one of the following:

i. Reduce the emissions of total organic compounds (TOC) by 98% by weight or to a concentration of 20 ppmv TOC, on a dry basis corrected to 3% oxygen;

ii. Combust the emissions in a flare that meets the requirements of 40 CFR 60.18; or

iii. Maintain a TRE index value greater than 1.0 without the use of VOC emission control devices.

2.h The thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) is fueled with natural gas and process vent gas only and has no process weight as defined in OAC rule 3745-18-01(B)(13). Therefore, this equipment is exempt from the emissions limitation established in OAC rule 3745-18-06(E).

2.i There are no uncontrolled particulate emissions from the Phenol II process unit; therefore, OAC rules 3745-17-07(A) and 3745-17-11 are not applicable to the Phenol II process unit.

2.j The crude acetone columns bottom surge tank (3302-F) is a bottoms receiver tank with a capacity of 640.5 cubic meters, containing material with a maximum true organic HAP

vapor pressure of 11.17 psia at operating temperature, and the organic vapors vented from the tank are not vented back to the process. Therefore, the bottoms receiver tank shall be vented to a control device that complies with the requirements in 40 CFR 63.172 [see Attachment 3].

In accordance with the permittee's permit application, the permittee is operating by routing the organic vapors from the bottoms receiver tank to a scrubber (3310-E). Whenever organic HAP emissions are vented to a closed-vent system or control device used to comply with 40 CFR Part 63 Subpart H [see Attachment 3], such system or control device shall be operating. The scrubber (3310-E) shall be designed and operated to recover the organic hazardous air pollutant emissions or volatile organic compound emissions vented to it with an efficiency of 95% or greater, or to an exit concentration of 20 ppmv, whichever is less stringent.

2.k Each surge control vessel or bottoms receiver tank which meets one of the conditions listed in 40 CFR 63.170 [see Attachment 3] shall be equipped with a closed vent system that routes the organic vapors from the surge control vessel or bottoms receiver tank back to the process or to a control device that complies with the requirements of 40 CFR 63.172 [see Attachment 3] or shall be equipped with a fixed roof and an internal floating roof or an external floating roof.

In accordance with the permittee's permit application, the following surge control vessels and bottoms receiver tanks, do not exceed the threshold triggers of 40 CFR 63.170 [see Attachment 3]. Therefore, the following vessels are not required to meet the conditions listed in 40 CFR 63.170 [see Attachment 3] at the time of permit issuance: 3214-F, 3342-F, 3343-F, 3217-F, 3218-F, 3301-F, 3303-F, 3321-FA, 3321-FB, 3226-F, and 3330-F.

2.l The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 07-00500.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

2.m The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with

the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 07-00500.

II. Operational Restrictions

1. The average temperature of the liquid ammonia coolant in the condenser (3301-C), on a daily calendar basis, shall not be greater than 41 degrees Fahrenheit.

2. The scrubber (3310-E) water flow rate shall be continuously maintained at a value of not less than 6 gallons per minute as a daily average at all times while the Phenol II process unit is in operation.

3. In accordance with the permittee's permit application, the permittee is operating by routing the Group 1 process vents from the Phenol II process unit to a thermal oxidizer (2007-L) and/or regenerative thermal oxidizer (RTO) in order to comply with the percent reduction requirement or concentration limit specified in 40 CFR 63.113(a)(2) [see Attachment 2]. The minimum firebox temperature of the thermal oxidizer (2007-L) shall be 1,450 degrees Fahrenheit (788 degrees Celsius) as a daily average. The minimum firebox temperature of the regenerative thermal oxidizer (RTO) shall be established during the initial emissions testing required in section A.V.2.

4. The permittee shall burn only process vent gases and/or natural gas in the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO).

5. The Phenol II Hub and the CHP Hub shall be equipped with tightly fitting solid covers in accordance with 40 CFR 63.149 [see Attachment 2].

III. Monitoring and/or Record keeping

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the temperature of the liquid ammonia coolant in the condenser (3301-C) at least once every 15 minutes when the Phenol II process unit is in operation. The equipment used to monitor temperature must have a minimum accuracy of (a) +/- 1 percent of the temperature being monitored expressed in degrees Celsius (ºC) or (b) +/- 0.5 degrees (ºC), whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instruction, and operating manuals.

   The permittee shall collect and record the following information each day the Phenol II process unit is in operation:

   a. the average temperature of the liquid ammonia coolant in the condenser (3301-C) on a daily calendar basis; and

b. a log or record of downtimes for the capture (collection) system, control device, monitoring equipment, and the Phenol II process unit.

2. The permittee shall monitor the closed vent system which routes the organic vapors from the crude acetone columns bottom surge tank (3302-F) to the scrubber (3310-E) in accordance with 40 CFR 63.172(f) through 63.172(l) [see Attachment 3].

   The permittee shall monitor the scrubber (3310-E) to ensure that it is operated and maintained in conformance with its design as required by 40 CFR 63.172(e) [see Attachment 3]. The permittee shall properly install, operate and maintain equipment to monitor and record the scrubber water flow rate for the scrubber (3310-E) while the Phenol II process unit is in operation. The monitoring devices and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

   The permittee shall collect and record the following information once per day:

   a. the daily average scrubber water flow rate, in gallons per minute; and

   b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the Phenol II process unit.

3. The permittee shall maintain a temperature monitoring device, equipped with a continuous recorder, in the firebox of the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) in accordance with the requirements of 40 CFR 63.114(a) [see Attachment 2].

   The permittee shall maintain records of the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) firebox temperature in accordance with 40 CFR 63.118(a) [see Attachment 2].

4. The permittee shall monitor any bypass line(s) that could divert a Group 1 process vent away from the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) in accordance with 40 CFR 63.114(d) [see Attachment 2]. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to 40 CFR 63.114(d) [see Attachment 2].

   a. Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in 40 CFR 63.118(a)(3) [see Attachment 2]. The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

   b. Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism

shall be performed at least once every month to ensure that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

The permittee shall maintain records of the flow indicator or monthly visual inspection requirements for bypass lines that could divert a Group 1 process vent away from the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) in accordance with 40 CFR 63.118(a)(3) & (4) [see Attachment 2].

5. Whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent, the permittee shall recalculate the TRE index value, flow, or organic HAP concentration as necessary to determine if the vent is Group 1 or Group 2 in accordance with 40 CFR 63.115(e) [see Attachment 2].

   The permittee shall maintain records of process vent group determinations in accordance with 40 CFR 63.117, 63.118(c), (d), and (e) [see Attachment 2].

6. For each Group 2 storage vessel, the permittee shall comply with the record keeping requirements of 40 CFR 63.123(a) [see Attachment 2].

7. For each Group 2 process wastewater stream, the permittee shall comply with the record keeping requirements of 40 CFR 63.147 [see Attachment 2].

8. The permittee shall monitor the cooling water at the inlet and outlet of the Phenol II heat exchange system for the presence of cumene in accordance with 40 CFR 63.104(b), (d) and (e) [see Attachment 1]. On a quarterly basis, the permittee shall obtain three samples from the inlet and three samples from the outlet of the heat exchanger. The permittee shall analyze the samples in accordance with the methods and procedures of Method 624 of 40 CFR Part 136, Appendix A. The results of the analysis shall be evaluated as specified in 40 CFR 63.104(b) [see Attachment 1].

   The permittee shall maintain heat exchange system records in accordance with 40 CFR 63.104(f)(1) [see Attachment 1].

9. The permittee shall maintain procedures for the management of maintenance wastewater in accordance with 40 CFR 63.105 [see Attachment 1].

10. [40 CFR 60.664(d)]
    The net heating value of the gas combusted for determining the process vent stream TRE index value to determine compliance under 40 CFR 60.662(c) shall be determined in accordance with the equations and procedures in 40 CFR 60.664(d).

11. [40 CFR 60.664(e)]

For purposes of complying with 40 CFR 60.662(c), the permittee shall determine the TRE index value by calculating values using both the incinerator equation in 40 CFR 60.664(e)(1) and the flare equation in 40 CFR 60.664(e)(2) and selecting the lower of the two values.

12. [40 CFR 60.663(a)]
The permittee uses a thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) to comply with the TOC emission limit specified under 60.662(a) for two distillation columns with TRE index values less than 1.0 (or assumed to be less than 1.0): 3301-E and 3302-E. For these two distillation columns, the permittee shall comply only with the monitoring, testing, record keeping, and reporting of 40 CFR 63 Subpart G for Group 1 process vents in accordance with procedures for regulatory overlap in 40 CFR 63.110(d) [see Attachment 2].

13. [40 CFR 60.664(f)]
The permittee seeking to comply with 40 CFR 60.660(c)(4) or 40 CFR 60.662(c) shall recalculate the TRE index value for that affected facility whenever process changes are made. Examples of process changes include changes in production capacity, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. The TRE index value shall be recalculated based on test data, or on best engineering estimates of the effects of the change to the recovery system.

    a. Where the recalculated TRE index value is less than or equal to 1.0, the permittee shall notify the Administrator, with a copy to the Portsmouth local air agency, within 1 week of the recalculation and shall conduct a performance test according to the methods and procedures required by 40 CFR 60.664 in order to determine compliance with 40 CFR 60.662(a). Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

    b. Where the initial TRE index value is greater than 8.0 and the recalculated TRE index value is less than or equal to 8.0 but greater than 1.0, the permittee shall conduct a performance test in accordance with 40 CFR 60.8 and 40 CFR 60.664 and shall comply with 40 CFR 60.663, 60.664 and 60.665. Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

14. [40 CFR 60.663(d)]
For distillation columns complying with the TRE index value limit specified under 40 CFR 60.662(c) of greater than or equal to 1.0, the permittee shall install, calibrate, maintain, and operate according to manufacturer's specifications the equipment specified in 40 CFR 60.663(d).

15. [40 CFR 60.665(h)]
The permittee shall maintain the following records for each piece of equipment complying with 40 CFR 60.662(c):

    a. any changes in production capacity feedstock type, catalyst type, or of any replacement, removal, or addition of recovery equipment or a distillation unit;
    b. any recalculation of the TRE performed pursuant to 40 CFR 60.664(f); and
    c. the results of any performance test performed pursuant to 40 CFR 60.664(d).

16. [40 CFR 60.664(g)]
The permittee shall use Method 2, 2A, 2C, or 2D, 40 CFR Part 60, Appendix A for determination of the flow rate to demonstrate compliance with 40 CFR 60.660(c)(6).

17. [40 CFR 60.665(i)]
The permittee shall maintain the following records for each piece of equipment complying with 40 CFR 60.660(c)(6):

    a. that the vent stream flow rate is less than 0.008 scm/min; and
    b. any change in equipment or process operation that increases the vent stream flow rate including a measurement of the new vent stream flow rate.

18. For each day during which the permittee burns a fuel other than process vent gases and/or natural gas in the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO), the permittee shall maintain a record of the type and quantity of fuel burned.

19. The permittee shall maintain records for benzene waste operations in accordance with the requirements specified in 40 CFR Part 61.356 and section A.IV of Part II - Facility Specific Terms and Conditions.

20. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00500, issued on 10/07/04: A.III.1 through A.III.19. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit quarterly temperature deviation (excursion) reports that identify all periods during which the average temperature of the liquid ammonia coolant in the condenser (3301-C) on a daily calendar average exceeded the temperature limitation specified above.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the scrubber (3310-E) water flow rate was not maintained at or above the required levels.

3. The permittee shall submit periodic reports in accordance with 40 CFR 63.152(c) [see Attachment 2]. The periodic reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The reports shall include all information specified in 40 CFR 63.117 and 63.118 for process vents, all information specified in 40 CFR 63.146 for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

4. The permittee shall submit reports of start-up, shutdown, and malfunction in accordance with 40 CFR 63.152(d)(1) [see Attachment 2] and 40 CFR 63.10(d)(5) [see Part II, section A.III]. The semiannual start-up, shutdown and malfunction reports may be submitted on the same schedule as the periodic reports required under 40 CFR 63.152(c) [see Attachment 2] instead of the schedule specified in 40 CFR 63.10(d)(5) [see Part II, section A.III].

5. Whenever the recalculations (performed whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent) determine one of the criteria below have been met, the permittee shall submit a report as specified in 40 CFR 63.118 (g) through (j) [see Attachment 2] and the permittee shall comply with the appropriate provisions in 40 CFR 63.113 [see Attachment 2] by the dates specified in 40 CFR 63.100 [see Attachment 1].

   a. the recalculated TRE index value is less than or equal to 1.0;
   b. the recalculated TRE index value is less than or equal to 4.0 but greater than 1.0;
   c. the recalculated flow rate is greater than or equal to 0.005 standard cubic meter per minute; or
   d. the recalculated concentration is greater than or equal to 50 parts per million by volume.

6. For each heat exchange system, the permittee shall comply with the reporting requirements of 40 CFR 63.104(f)(2) [see Attachment 1].

7. The permittee shall submit the information required in 40 CFR 60.665(b)(4) when demonstrating compliance with the TRE index value of greater than 1.0 option of 40 CFR 60.662(c).

8. [40 CFR 60.665(l)]
The permittee shall submit semiannual reports of the following recorded information:

   a. Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in 40 CFR 60.660(c)(6), including a measurement of the new vent stream flow rate, as recorded under 40 CFR 60.665(i). These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed with the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and ETOC. The performance test is subject to the requirements of 40 CFR 60.8. Unless the facility qualifies for an exemption under the low capacity exemption status in 40 CFR 60.660(c)(5), the facility must begin compliance with the requirements set forth in 40 CFR 60.662.

   b. Any recalculation of the TRE index value, as recorded under 40 CFR 60.665(h).

9. The permittee shall submit reports of any fuels burned in the thermal oxidizer (2007-L) and/or regenerative thermal oxidizer (RTO) other than process vent gases and/or natural gas within 30 days to the Portsmouth local air agency, including the date, type, and amount of any such fuel burned.

10. The permittee shall submit reports for benzene waste operations in accordance with the requirements specified in 40 CFR Part 61.357 and section A.IV of Part II - Facility Specific Terms and Conditions.

11. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Terms and Conditions A.1.c of this permit.

12. Reports required by 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3] shall be submitted to USEPA Region 5, with a copy to the Portsmouth local air agency, in accordance with 40 CFR 63.103(c) [see Attachment 1].

13. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent or more stringent than the reporting requirements contained in Permit to Install #07-00500, issued on 10/07/04: A.IV.I through A.IV.12. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

VOC emissions (including acetone) from all equipment except for the thermal oxidizer (2007-L), and/or regenerative thermal oxidizer (RTO) and fugitive equipment leaks shall not exceed 208.43 pounds per day.

VOC emissions (including acetone) from all equipment except for the thermal oxidizer (2007-L), and/or regenerative thermal oxidizer (RTO) and fugitive equipment leaks shall not exceed 38.04 tons per year, as a rolling, 12-month summation of the VOC emissions.

VOC emissions (including acetone) from all modified equipment [including egress points P201 (including primary cumene stripper 3202-E jet condenser system (3204-L)), P216 and P219] except for the thermal oxidizer (2007-L) and/or regenerative thermal oxidizer (RTO) and fugitive equipment leaks shall not exceed 3.59 pounds per day.

VOC emissions (including acetone) from all modified equipment (including egress points P201 (including primary cumene stripper 3202-E jet condenser system (3204-L)), P216 and P219) except for the thermal oxidizer (2007-L) and/or regenerative thermal oxidizer (RTO) and fugitive equipment leaks shall not exceed 0.66 ton per year, as a rolling, 12-month summation of the VOC emissions.

Applicable Compliance Method:

The VOC and acetone emissions (potential to emit) from the equipment listed below shall be summed. Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate by the actual hours of operation per month and the conversion factor of ton/2000 lbs, to arrive at the tons per month emissions. The monthly emissions shall be added to the previous 11 months emissions to determine the rolling 12-months total emissions.

If required , compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25 or 25A, as appropriate.

Emissions Unit: **Phenol II Process Unit (P007)**

Equipment ID	Equipment Description	Egress Point	Control Device	VOC (lb/day)	VOC (tpy)	Acetone (lb/day)	Acetone (tpy)	Notes
3203-LR	Preflash separator 3209-F jet condenser system	P201	None	0.05	0.01	0	0	2
3204-L	Primary cumene stripper 3202-E jet condenser system	P201	None	<0.01	<0.01	0	0	2
3205-L	Secondary cumene stripper 3203-E jet condenser system	P201	None	0.02	<0.01	0	0	2
3214-F	CHP drain vessel	P201	None	1.73	0.32	0	0	2
3227-L	Pre-secondary cumene stripper 3227-E jet condenser system	P201	None	0.06	0.01	0	0	2
3342-F	Caustic dilution tank	P202	None	0	0	0	0	2
3343-F	Crude acetone column 3301-E preheater wash tank	P203	None	<0.01	<0.01	0.01	<0.01	2
3217-F	Neutralizer tank	P204	3301-C Condenser	0.04	0.01	2.12	0.39	1
3218-F	Acid wash drum	P204	3301-C Condenser	0.04	0.01	2.3	0.42	1
3301-F	Fractionation feed tank	P204	3301-C Condenser	0.66	0.12	37.26	6.8	1
3303-F	Phenolic water tank	P204	3301-C Condenser	<0.01	<0.01	<0.01	<0.01	1
3321-FA	Phenol rundown tank	P205	None	40.63	7.42	0	0	2
3321-FB	Phenol rundown tank	P206	None	40.63	7.42	0	0	2
3312-FA	Acetone rundown tank	P207	Internal floating roof	0	0	35.71	6.52	1
3312-FB	Acetone rundown tank	P208	Internal floating roof	0	0	35.71	6.52	1
3302-F	Crude acetone column 3301-E bottoms surge tank	P209	3310-E Scrubber	7.44	1.36	0	0	1

3226-F	Neutralizer drain vessel	P210	None	<0.01	<0.01	0.01	<0.01	2
3330-F	Phenol drain tank	P214	None	<0.01	<0.01	0.01	<0.01	2
3320-F	Phenol finishing column 3304-E jet condenser system	P215	None	0.12	0.02	0	0	2
3318-F	Hydrocarbon removal column 3305-E reflux drum	P216	None	2.12	0.39	0.98	0.18	2
3302-L	Acetone finishing column 3303-E jet condenser system	P217	None	<0.01	<0.01	<0.01	<0.01	2
3303-L	Crude phenol column 3304-E jet condenser system	P218	None	0.3	0.05	0.01	<0.01	2
3207-L	Cleavage reactor 3202-DR jet condenser system	P219	None	0.01	<0.01	0.48	0.09	2

1. VOC and acetone emissions (lb/day and tpy) from this equipment are controlled. The VOC emissions include the emissions reductions due to the control device. These values represent the controlled potentials to emit and are identified in previous application submittals (PTI 07-00500). Individual equipment VOC and acetone (lb/day and tpy) values are not independently enforceable in this permit.

2. VOC and acetone emissions (lb/day and tpy) from this equipment are uncontrolled. These values represent the potential to emit and are identified in previous application submittals (PTI 07-00500). Individual equipment VOC and acetone (lb/day and tpy) values are not independently enforceable in this permit.

1.b Emission Limitation:

Total particulate emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 0.5 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.c Emission Limitation:

Total particulate emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 2.19 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.d Emission Limitation:

Total nitrogen oxides emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 7.50 pounds per hour.

Applicable Compliance Method:

If required , compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7 or 7e.

1.e Emission Limitation:

Total nitrogen oxides emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 32.85 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.f Emission Limitation:

Total sulfur dioxide emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 0.1 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6 or 6c.

1.g Emission Limitation:

Total sulfur dioxide emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall be less than 1 ton per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the ton per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.h Emission Limitation:

Total particulate emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 0.68 pound per hour.

Applicable Compliance Method:

If required , compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.i Emission Limitation:

Total particulate emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 3.0 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.j Emission Limitation:

Total nitrogen oxides emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 1.66 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7 or 7e.

1.k Emission Limitation:

Total nitrogen oxides emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 7.25 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.l Emission Limitation:

Total carbon monoxide emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 7.56 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

1.m Emission Limitation:

Total carbon monoxide emissions from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 33.11 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.n Emission Limitation:

Total volatile organic compound emissions (including acetone) from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 6.11 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25 or 25A, as appropriate.

1.o Emission Limitation:

Total volatile organic compound emissions (including acetone) from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 26.77 tons per year, as a rolling, 12-month summation of the VOC emissions.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate by the actual hours of operation per month and then dividing by 2000 pounds per ton, to arrive at the tons per month emissions. The monthly emissions shall be added to the previous 11 months emissions to determine the rolling 12-months total emissions.

1.p Emission Limitation:

Total volatile organic compound emissions (including acetone) from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 6.11 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25 or 25A, as appropriate.

1.q Emission Limitation:

Total volatile organic compound emissions (including acetone) from the regenerative thermal oxidizer (RTO), of all equipment vented to the regenerative thermal oxidizer, shall not exceed 26.77 tons per year, as a rolling, 12-month summation of the VOC emissions.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate by the actual hours of operation per month and then dividing by 2000 pounds per ton, to arrive at the tons per month emissions. The monthly emissions shall be added to the previous 11 months emissions to determine the rolling 12-months total emissions.

1.r Emission Limitation:

The emissions of total organic HAP from Group 1 process vents shall be reduced by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. The emission reduction or concentration shall be calculated on a dry basis, corrected to 3% oxygen.

Applicable Compliance Method:

The concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the regenerative thermal oxidizer (RTO) or if required, the thermal oxidizer (2007-L), shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

1.s Emission Limitation:

Volatile organic compound emissions that are vented to the thermal oxidizer (2007-L) and/or the regenerative thermal oxidizer (RTO) shall be reduced by not less than 99%, by weight.

Applicable Compliance Method:

The concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the regenerative thermal oxidizer (RTO) or if required, the thermal oxidizer (2007-L), shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25 or 25A, as appropriate. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

1.t Emission Limitation:

Total carbon monoxide emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 8.24 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

1.u Emission Limitation:

Total carbon monoxide emissions from the thermal oxidizer (2007-L), of all equipment vented to the thermal oxidizer, shall not exceed 36.07 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

2. The permittee shall conduct, or have conducted, the emission testing for the regenerative thermal oxidizer (RTO) or thermal oxidizer (2007-L) in accordance with the following requirements:

a. The emission testing shall be conducted within 180 days after initial startup of the regenerative thermal oxidizer (RTO) or 180 days after permit to install issuance for the thermal oxidizer and within 6 months prior to expiration of the Title V permit.

b. The emission testing shall be conducted to demonstrate compliance with the allowable VOC emission rate, the VOC control efficiency, and the HAP concentration (ppm) and/or HAP control efficiency. The control efficiency is the percent reduction in mass emissions between the inlet and outlet of the control device.

c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

i. for the hourly VOC emission limitation, U.S. EPA Methods 1 through 4, and 18, 25, or 25A, 40 CFR Part 60, Appendix A;

ii. for the VOC control efficiency, U.S. EPA Methods 1 through 4, and 18, 25, or 25A, 40 CFR Part 60, Appendix A;

iii. for HAP concentration (ppm) and/or control efficiency, U. S. EPA Methods 1 through 4, and 18, 40 CFR Part 60, Appendix A.

Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

e. The hourly VOC emission limitation and VOC control efficiency shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or an approved alternative test protocol. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00500, issued on 10/07/04: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Phenol I Process Unit (P008)

Activity Description: Phenol I Process Unit

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
phenol I process unit with the following air pollution control devices: condenser (217-C) condenser (301-C) condenser (301-CA) condenser (311-C) condenser (351-C) condenser (363-C) condenser (365-C) scrubber (310-L) process heater (305-LA)	OAC rule 3745-31-05(A)(3) (PTI 07-00240)	Total sulfur dioxide emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 0.01 pound per hour and 0.03 ton per year. Total volatile organic compound emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 1.89 pounds per hour and 8.29 tons per year. The requirements of this rule also include compliance with the requirements of 40 CFR Part 63, Subpart VV, 40 CFR Part 60, Subpart NNN, 40 CFR Part 63, Subparts F, G, and H, OAC rules 3745-17-07(A), 3745-17-10(B)(1), 3745-17-10(C)(1), and 3745-21-09(DD).

40 CFR Part 63, Subpart F, G,and H	See Part II, section A.I and section A.I.2.a below and Attachments 1, 2, and 3.
40 CFR Part 60, Subpart NNN	See section A.I.2.b through A.I.2.e below.
40 CFR Part 60, Subpart VV	See Part II, section A.I.
OAC rule 3745-21-09(DD)	See Part II, section A.I.
OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
OAC rule 3745-17-10(B)(1)	Total particulate emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 0.020 pound per million Btu of actual heat input.
OAC rule 3745-18-06	See section A.I.2.f below.
40 CFR Part 63, Subpart DDDDD	See Part II, section A.VIII and Attachment 4.
40 CFR Part 63, Subpart A	See section A.I.2.g below, Attachment 1 (Table 3) and Attachment 4 (Table 10).

2. Additional Terms and Conditions

2.a In accordance with 40 CFR 63.113(a)(2), (a)(2)(i), and (a)(2)(ii) [see Attachment 2], for all Group 1 process vent streams, the emissions of total organic HAPs shall be reduced by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. The emission reduction or concentration shall be calculated on a dry basis, corrected to 3% oxygen.

2.b The requirements of 40 CFR Part 60, Subpart NNN apply to the following distillation units and associated recovery equipment within the Phenol I process unit:

Egress Point	Distillation Column (equipment number)
P140	Secondary Cumene Stripper (203-E)

2.c [40 CFR 60.660(c)(6)]
The equipment subject to 40 CFR Part 60, Subpart NNN that have a vent stream flow rate less than 0.008 standard cubic meter per minute are exempt from the requirements of 40 CFR Part 60, Subpart NNN except for the requirements specified in 60.664(g) and 60.665(i), 60.665(l)(5), and 60.665(o). In accordance with the permittee's permit application, the following distillation column has a flow rate less than 0.008 standard cubic meter per minute: 203-E.

2.d [40 CFR 60.660(c)(4)]
The equipment subject to 40 CFR Part 60, NNN that have a total resource effectiveness (TRE) index value of greater than 8.0 are exempt from the requirements of 40 CFR Part 60, Subpart NNN except for the requirements specified in 60.662, 60.664(d), 60.664(e), and 60.664(f), 60.665(h), and 60.665(l). In accordance with the permittee's permit application, the following distillation columns have a TRE index value greater than 8.0: none.

2.e [40 CFR 60.662]
The equipment subject to 40 CFR Part 60, Subpart NNN with a TRE index of less than 8.0 and a flow rate greater than 0.008 standard cubic meter per minute shall comply with one of the following:

i. reduce the emissions of total organic compounds (TOC) by 98%, by weight, or to a concentration of 20 ppmv TOC, on a dry basis corrected to 3% oxygen;
ii. combust the emissions in a flare that meets the requirements of 40 CFR 60.18; or
iii. maintain a TRE index value greater than 1.0 without the use of VOC emission control devices.

2.f The process heater (305-LA) is fueled with natural gas and process vent gas only and has no process weight as defined in OAC rule 3745-18-01(B)(13). Therefore, this equipment is exempt from the emission limitation established in OAC rule 3745-18-06(E).

2.g Refer to Part II - Specific Facility Terms and Conditions of this permit, section A.III, for the requirements of 40 CFR Part 63, Subpart A; - National Emission Standards for Hazardous Air Pollutants - General Provisions.

II. Operational Restrictions

1. Each surge control vessel or bottoms receiver tank that meets one of the conditions listed in 40 CFR 63.170 [see Attachment 3] shall be equipped with a closed vent system that routes the organic vapors from the surge control vessel or bottoms receiver tank back to the process or to a control device that complies with the requirements of 40 CFR 63.172 [see Attachment 3] or shall be equipped with a fixed roof and an internal floating roof or an external floating roof.

   In accordance with the permittee's permit application, the following surge control vessels and bottoms receiver tanks, do not exceed the threshold triggers of 40 CFR 63.170 [see Attachment 3]. Therefore, these vessels are not required to meet the conditions listed in 40 CFR 63.170 [see Attachment 3] at the time of permit issuance: 323-F, 303-F, 317-FR, 213-F, 214-F, 217-F, 301-FA, 308-F, 321-FA, 321-FB, 350-FR, 330-F, 342-F, 227-F, and 310-LF.

2. In accordance with the permittee's permit application, the permittee is operating by routing the organic vapors from Group 1 process vents from the Phenol I process unit to a process heater (305-LA) in order to comply with the percent reduction requirement or concentration limit specified in 40 CFR 63.113(a)(2), (a)(2)(i), and (a)(2)(ii) [see Attachment 2]. The minimum firebox temperature of the process heater (305-LA) shall be 1,170 degrees Fahrenheit calculated on a daily average.

3. The permittee shall burn only process vent gases and/or natural gas in the process heater (305-LA).

4. The CHP Hub shall be equipped with tightly fitting solid covers in accordance with 40 CFR 63.149 [see Attachment 2].

III. Monitoring and/or Record keeping

1. The permittee shall maintain a temperature monitoring device, equipped with a continuous recorder, in the firebox of the process heater (305-LA) in accordance with the requirements of 40 CFR 63.114(a) [see Attachment 2].

   The permittee shall maintain records of the process heater (305-LA) firebox temperature in accordance with 40 CFR 63.118(a) [see Attachment 2].

2. The permittee shall monitor any bypass line(s) that could divert a Group 1 process vent away from the process heater (305-LA) in accordance with 40 CFR 63.114(d) [see Attachment 2]. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to 40 CFR 63.114(d) [see Attachment 2].

a. Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in 40 CFR 63.118(a)(3) [see Attachment 2]. The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

b. Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

The permittee shall maintain records of the flow indicator or monthly visual inspection requirements for bypass lines that could divert a Group 1 process vent away from the heater (305-LA) in accordance with 40 CFR 63.118(a)(3) and (a)(4) [see Attachment 2].

3. Whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent, the permittee shall recalculate the TRE index value, flow, or organic HAP concentration as necessary to determine if the vent is Group 1 or Group 2 in accordance with 40 CFR 63.115(e) [see Attachment 2].

   The permittee shall maintain records of process vent group determinations in accordance with 40 CFR 63.117 and 40 CFR 63.118(c), (d), and (e) [see Attachment 2].

4. For each Group 2 storage vessel, the permittee shall comply with the record keeping requirements of 40 CFR 63.123(a) [see Attachment 2].

5. For each Group 2 process wastewater stream, the permittee shall comply with the record keeping requirements of 40 CFR 63.147 [see Attachment 2].

6. The permittee shall monitor the cooling water at the inlet and outlet of the Phenol I heat exchange system for the presence of phenol and cumene in accordance with 40 CFR 63.104(b), (d), and (e) [see Attachment 1]. On a quarterly basis, the permittee shall obtain three samples from the inlet and three samples from the outlet of the heat exchanger. The permittee shall analyze the samples in accordance with the methods and procedures of Method 624 and 625 of 40 CFR Part 136, Appendix A. The results of the analysis shall be evaluated as specified in 40 CFR 63.104(b) [see Attachment 1].

   The permittee shall maintain heat exchange system records in accordance with 40 CFR 63.104(f)(1) [see Attachment 1].

7. The permittee shall maintain procedures for the management of maintenance wastewater in accordance with 40 CFR 63.105(a) [see Attachment 1].

8. [40 CFR 60.664(g)]

The permittee shall use Method 2, 2A, 2C, or 2D, 40 CFR Part 60, Appendix A for determination of the flow rate to demonstrate compliance with 40 CFR 60.660(c)(6).

9. [40 CFR 60.665(i)]
The permittee shall maintain the following records for each piece of equipment complying with 40 CFR 60.660(c)(6):

   a. that the vent stream flow rate is less than 0.008 standard cubic meter per minute; and
   b. any change in equipment or process operation that increases the vent stream flow rate including a measurement of the new vent stream flow rate.

10. For each day during which the permittee burns a fuel other than process vent gases and/or natural gas in the process heater (305-LA), the permittee shall maintain a record of the type and quantity of fuel burned.

11. The permittee shall maintain records for benzene waste operations in accordance with the requirements specified in 40 CFR 61.356 [see Part II, section A.IV].

12. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-240, issued on 12/4/91 and modified on 09/23/04: A.III.1 through A.III.11. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit periodic reports in accordance with 40 CFR 63.152(c) [see Attachment 2]. The periodic reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The reports shall include all information specified in 40 CFR 63.117 and 40 CFR 63.118 [see Attachment 2] for process vents, and all information specified in 40 CFR 63.146 [see Attachment 2] for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

2. The permittee shall submit reports of start-up, shutdown, and malfunction in accordance with 40 CFR 63.10(d)(5) [see Part II, section A.III] and 40 CFR 63.152(d)(1) [see Attachment 2]. The semiannual start-up, shutdown and malfunction reports may be submitted on the same schedule as the periodic reports required under 40 CFR 63.181(c) [see Attachment 3] instead of the schedule specified in 40 CFR 63.10(d)(5) [see Part II, section A.III].

3. Whenever the recalculations (performed whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent) determine one of the criteria below has been met, the permittee shall submit a report as specified in 40 CFR 63.118(g), (h), (i), and (j) [see Attachment 2] and the permittee shall comply with the appropriate provisions in 40 CFR 63.113 [see Attachment 2] by the dates specified in 40 CFR Part 63, Subpart F [see Attachment 1].

   a. the recalculated TRE index value is less than or equal to 1.0;
   b. the recalculated TRE index value is less than or equal to 4.0 but greater than 1.0;
   c. the recalculated flow rate is greater than or equal to 0.005 standard cubic meter per minute; or
   d. the recalculated concentration is greater than or equal to 50 parts per million by volume.

4. For each heat exchange system, the permittee shall comply with the reporting requirements of 40 CFR 63.104(f)(2) [see Attachment 1].

5. The permittee shall submit reports of any fuels burned in the process heater (305-LA) other than process vent gases and/or natural gas within thirty (30) days to the Portsmouth local air agency, including the date, type, and amount of any such fuel burned.

6. The permittee shall submit reports for benzene waste operations in accordance with the requirements specified in 40 CFR 61.357 [see Part II, section A.IV].

7. Reports required by 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3] shall be submitted to USEPA Region 5, with a copy to the Portsmouth local air agency, in accordance with 40 CFR 63.103(d) and (d)(1) [see Attachment 1].

8. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-240, issued on 12/4/91 and modified on 09/23/04: A.IV.1 through A.IV.7. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Total sulfur dioxide emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 0.01 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 6 or 6c.

1.b Emission Limitation:

Total sulfur dioxide emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 0.03 ton per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the ton per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.c Emission Limitation:

Total volatile organic compound emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 1.89 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25, or 25A.

1.d Emission Limitation:

Total volatile organic compound emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 8.29 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.e Emission Limitation:

Visible particulate emissions from the process heater (305-LA) stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

1.f Emission Limitation:

Total particulate emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 0.020 pound per mmBtu of actual heat input.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.g Emission Limitation:

The emissions of total organic HAP from Group 1 process vents shall be reduced by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. The emission reduction or concentration shall be calculated on a dry basis, corrected to 3% oxygen.

Applicable Compliance Method:

The concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the process heater (305-LA)) shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Method 1 through 4, and 18, 25, or 25A. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

2. The permittee shall conduct, or have conducted, emission testing for the process heater (305-LA) in accordance with the following requirements:

a. The emission testing shall be conducted within 12 months of permit issuance.

b. The emission testing shall be conducted to demonstrate compliance with the allowable emission rate for VOC and the HAP concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the process heater).

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): U. S. EPA Methods 1 through 4, and 18, 25, or 25A of 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA**.**

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

e. If required, the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-240, issued on 12/4/91 and modified on 09/23/04: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating

permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Phenol WWT (P009)

Activity Description: Phenol Waste Water Treatment

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
phenol wastewater treatment plant with the following air pollution control devices: condenser (2473-C) process heater (305-LA)	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions from all equipment except the process heater (305-LA) and fugitive equipment leaks, shall not exceed 192.47 pounds per day and 35.13 tons per year. Acetone emissions from all equipment except the process heater (305-LA) and fugitive equipment leaks, shall not exceed 23.72 pounds per day and 4.33 tons per year. Ammonia emissions from all equipment except the process heater (305-LA) and fugitive equipment leaks, shall not exceed 185.32 pounds per day and 33.82 tons per year. Total volatile organic compound emissions from the process heater (305-LA), for all equipment vented

	to the process heater, shall not exceed 1.89 pounds per hour and 8.29 tons per year. Total sulfur dioxide emissions from the process heater (305-LA), for all equipment vented to the process heater, shall not exceed 0.01 pound per hour and 0.03 ton per year. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-17-10(B)(1).
40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I. and sections A.I.2.a through A.I.2.d below and Attachments 1, 2, and 3.
40 CFR Part 60, Subpart VV	See Part II, section A.I.
40 CFR Part 60, Subpart Kb	See section A.I.2.e below.
OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
OAC rule 3745-17-10(B)(1)	Total particulate emissions from the process heater (305-LA), for all equipment vented to the process heater, shall not exceed 0.020 pound per mmBtu of actual heat input.
40 CFR Part 63, Subpart DDDDD	See Part II, section A.VIII and Attachment 4.
40 CFR Part 63, Subpart A	See section A.I.2.f below, Attachment 1 (Table 3) and Attachment 4 (Table 10).

2. Additional Terms and Conditions

2.a The permittee shall achieve the Required Mass Removal (RMR) as specified in 40 CFR 63.138(f) [see Attachment 2] for Group 1 wastewater streams.

2.b For each wastewater tank that receives, manages, or treats a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream, the permittee shall comply with the requirements of either 40 CFR 63.133(a)(1) or (a)(2) [see Attachment 2] as specified in 40 CFR 63.133(a).

i. In accordance with the permittee's permit application and 40 CFR 63.133(a)(1) [see Attachment 2], the following wastewater tanks shall be equipped with a fixed roof:

wastewater collection tank (401-F)
MHP feed surge tank (2470-F)
wastewater holding tank (2426-F)
wastewater holding tank (2427-F)
neutralization sump (2427-A)
wastewater holding tank (2428-F)

ii. In accordance with the permittee's permit application and 40 CFR 63.133(a)(2) [see Attachment 2], the following wastewater tanks shall be equipped with a fixed roof and a closed vent system which routes the hazardous air pollutant vapors vented from the tank to a control device:

methyl hydroperoxide destruction reactor (2472-D) vented to a process heater (305-LA)

2.c At the time of permit issuance, the permittee does not use surface impoundments, containers or oil-water separators to receive, manage, or treat Group 1 wastewater. If at any time the permittee uses a surface impoundment, container or an oil-water separator to receive, manage, or treat a Group 1 wastewater, the permittee shall comply with the requirements for surface impoundments, containers and oil-water separators as specified in 40 CFR 63.134, 40 CFR 63.135 and 40 CFR 63.137 [see Attachment 2], except as provided in 40 CFR 63.132(a)(2) and 40 CFR 63.138(a) [see Attachment 2].

2.d The permittee shall comply with the applicable requirements for individual drain systems as specified in 40 CFR 63.136 [see Attachment 2], except as provided in 40 CFR 63.132(a)(2) and 40 CFR 63.138(a) [see Attachment 2].

2.e The wastewater tanks are subject to the provisions of 40 CFR 60, Subpart Kb but are required to comply only with the requirements of 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3].

2.f Refer to Part II - Specific Facility Terms and Conditions of this permit, section A.III, for the requirements of 40 CFR Part 63, Subpart A; - National Emission Standards for Hazardous Air Pollutants - General Provisions.

II. Operational Restrictions

1. In accordance with the permittee's permit application, the permittee is operating by treating the Group 1 wastewater streams in the enhanced biological treatment system (2600-D). The permittee has elected to monitor the chemical oxygen demand (COD) of the biological treatment system to fulfill the requirements of 40 CFR 63.143(c) [see Attachment 2]. The COD of the biological treatment system shall not exceed 200 ppm as a daily average.

2. In accordance with the permittee's permit application, the permittee is operating by routing the hazardous organic air pollutant vapors from the methyl hydroperoxide destruction reactor (2472-D) to the process heater (305-LA).

   The minimum firebox temperature of the process heater (305-LA) shall be 1,170 degrees Fahrenheit calculated on a daily average . Whenever organic HAP emissions are vented to the process heater (305-LA), the process heater shall be operating. The vent stream shall be introduced into the flame zone of the process heater.

   The process heater (305-LA) shall meet the conditions specified below and in 40 CFR 63.139(c)(1) [see Attachment 2].

   a. reduce the total organic compound emissions, less methane and ethane, or total organic HAPs emissions vented to the control device by 95 percent, by weight, or greater; or
   b. achieve an outlet total organic compound concentration, less methane and ethane, or total organic HAPs concentration of 20 ppmv on a dry basis corrected to 3% oxygen; or
   c. provide a minimum residence time of 0.5 second at a minimum temperature of 760 degrees Celsius.

III. Monitoring and/or Record keeping

1. On a daily basis the permittee shall collect a sample from side A and a sample from side B of the biological treatment unit (2600-D). Each sample shall be analyzed for the COD in accordance with the reactor digestion method of Hach Method 8000 (Hach Handbook of Water Analysis, 1979, Hach Chemical Company, P.O. Box 389, Loveland, CO 80537). The permittee shall maintain daily records of the COD value for side A and for side B of the biological treatment unit (2600-D).

2. The permittee shall maintain a temperature monitoring device, equipped with a continuous recorder, in the firebox of the process heater (305-LA) in accordance with the requirements of 40 CFR 63.143(e)(4) [see Attachment 2].

   The permittee shall maintain records of the process heater (305-LA) firebox temperature in accordance with 40 CFR 63.147(d) [see Attachment 2].

3. The permittee shall perform semiannual visual inspections of the wastewater tanks that receive, manage, or treat a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream, in accordance with 40 CFR 63.143(a) [see Attachment 2].

   Records of the wastewater tank inspections shall be maintained in accordance with 40 CFR 63.147 [see Attachment 2].

4. For individual drain systems used to receive, manage, or treat Group 1 wastewater, the permittee shall comply with the monitoring requirements of 40 CFR 63.143(a) [see Attachment 2].

   The permittee shall maintain records of the individual drain system inspections in accordance with 40 CFR 63.147 [see Attachment 2].

5. The permittee shall monitor any bypass line(s) that could divert a vent stream from the methyl hydroperoxide destruction reactor (2472-D) away from the process heater (305-LA) in accordance with 40 CFR Part 63, Subpart G, Table 13 [see Attachment 2].

   a. Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in 40 CFR Part 63, Subpart G, Table 13 [see Attachment 2]. The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

   b. Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

The permittee shall maintain records of the flow indicator or monthly visual inspection requirements for bypass lines that could divert a vent stream from the methyl hydroperoxide destruction reactor (2472-D) away from the process heater (305-LA) in accordance with 40 CFR 63.147 [see Attachment 2].

6. The permittee shall maintain procedures for the management of maintenance wastewater in accordance with 40 CFR 63.105(a) [see Attachment 1].

7. The permittee shall maintain records for benzene waste operations in accordance with the requirements specified in 40 CFR 61.356 [see Part II, section IV].

8. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-451, issued on 2/8/98 modified on 7/27/04: A.III.1 through A.III.7. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit periodic reports in accordance with 40 CFR 63.152(c) [see Attachment 2]. The periodic reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The reports shall include all information specified in 40 CFR 63.117 and 40 CFR 63.118 [see Attachment 2] for process vents and all information specified in 40 CFR 63.146 [see Attachment 2] for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

2. The permittee shall submit reports of start-up, shutdown, and malfunction in accordance with 40 CFR 63.10(d)(5) [see Part II, section A.III] and 40 CFR 63.152(d)(1) [see Attachment 2]. The semiannual start-up, shutdown and malfunction reports may be submitted on the same schedule as the periodic reports required under 40 CFR 63.152(c) [see Attachment 2] instead of the schedule specified in 40 CFR 63.10(d)(5) [see Part II, section A.III].

3. The permittee shall submit reports for benzene waste operations in accordance with the requirements specified in 40 CFR 61.357 [see Part II, section A.IV].

4. Reports required by 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3] shall be submitted to USEPA Region 5, with a copy to the Portsmouth local air agency, in accordance with 40 CFR 63.103(d) & (d)(1) [see Attachment 1].

5. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-451, issued on 2/8/98 and modified on 7/27/04: A.IV.1 through A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Volatile organic compound emissions from all equipment except the process heater (305-LA) and fugitive equipment leaks shall not exceed 192.47 pounds per day.

Volatile organic compound emissions from all equipment except the process heater (305-LA) and fugitive equipment leaks shall not exceed 35.13 tons per year.

Acetone emissions from all equipment except the process heater (305-LA) and fugitive equipment leaks shall not exceed 23.72 pounds per day.

Acetone emissions from all equipment except the process heater (305-LA) and fugitive equipment leaks shall not exceed 4.33 tons per year.

Ammonia emissions from all equipment except the process heater (305-LA) and fugitive equipment leaks shall not exceed 185.32 pounds per day.

Ammonia emissions from all equipment except the process heater (305-LA) and fugitive equipment leaks shall not exceed 33.82 tons per year.

Applicable Compliance Method:

The volatile organic compound emissions (the potential to emit) from the equipment listed in the following table shall be summed. The acetone emissions (the potential to emit) from the equipment listed in the following table shall be summed. The ammonia emissions (the potential to emit) from the equipment listed in the following table shall be summed.

If required , compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25 or 25A or EPA CTM-027, as appropriate.

Facility Name: **Sunoco Inc (R&M)**
Facility ID: **0773000080**

Emissions Unit: **Phenol WWT (P009)**

Equipment ID	Equipment Description	Egress Point	Control Device	VOC (lb/day)	VOC (tpy)	Acetone (lb/day)	Acetone (tpy)	NH3 (lb/day)	NH3 (tpy)	Notes
2421-A	Oily waste sump	WP01	None	0.19	0	0.2	0.04	0	0	2
2426-F	**Wastewater holding tank**	**WP02**	**None**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	2
2427-F	**Wastewater holding tank**	WP03	None	45.28	8.26	9.66	1.76	0	0	2
2428-F	**Wastewater holding tank**	WP04	None	24.16	4.41	7.39	1.35	0	0	2
2402-L	Coalescer	WP05	None	0.04	0	0.01	<0.01	0	0	2
2421-F	Waste oil decanter tank	WP05	None	0.16	0	0.03	0.01	0	0	2
2427-A	Neutralization sump	WP06	None	23	4.2	4.9	0.89	0	0	2
2428-A	Wastewater sump	WP11	None	0.13	0	<0.01	<0.01	0	0	2
2489-F	Waste oil decanter tank	WP13	None	0.38	0.1	0.31	0.06	0	0	2
2490-F	Wastewater tank	WP13	None	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2
2600-D	Biological treatment unit	WP14	None	82.86	15.1	1.21	0.22	0.44	0.08	2
401-F	Process wastewater collection tank	WP15	None	3.6	0.66	0	0	0	0	2
2470-F	MHP feed surge tank	WP16	2473-C Condenser			0	0	0	0	1
2439-F	Storm water tank	WP50	None	2.27	0.41	0	0	18.55	3.39	2
2440-F	Storm water tank	WP51	None	0.7	0.13	0	0	69.86	12.75	2
2441-F	Storm water tank	WP52	None	3.45	0.63	0	0	96.44	17.6	2
2242-F	Storm water tank	WP53	None	3.81	0.7	0	0	0	0	2

2201-A	Storm water diversion sump	WP54	None	2.44	0.45	0	0	0	0	2

1. VOC, acetone, and ammonia emissions (lb/day and tpy) from this equipment are controlled. The VOC, acetone, and ammonia emissions include the emissions reductions due to the control device. These values represent the controlled potentials to emit and are identified in previous application submittals (PTI 07-00451). Individual equipment VOC, acetone, and ammonia (lb/day and tpy) values are not independently enforceable in this permit.
2. VOC, acetone, and ammonia emissions (lb/day and tpy) from this equipment are uncontrolled. These values represent the potentials to emit and are identified in previous application submittals (PTI 07-00451). Individual equipment VOC, acetone, and ammonia (lb/day and tpy) values are not independently enforceable in this permit.

1.b Emission Limitation:

Total particulate emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 0.020 pound per mmBtu of actual heat input.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures and methods required in OAC rule 3745-17-03(B)(9).

1.c Emission Limitation:

Total volatile organic compound emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 1.89 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25, or 25A.

1.d Emission Limitation:

Total volatile organic compound emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 8.29 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.e Emission Limitation:

Total sulfur dioxide emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 0.01 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 6 or 6c.

1.f Emission Limitation:

Total sulfur dioxide emissions from the process heater (305-LA), of all equipment vented to the process heater, shall not exceed 0.03 ton per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by 8,760 hours per year, and then dividing by 2,000 pounds per ton. Compliance with the ton per year emission limitation shall be assumed provided compliance with the hourly emission limitation is maintained.

1.g Emission Limitation:

Visible particulate emissions from the process heater (305-LA) stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures and methods required in OAC rule 3745-17-03(B)(1).

1.h Emission Limitation:

Reduce the total organic compound emissions, less methane and ethane, or total organic HAPs emissions vented from the methyl hydroperoxide destruction reactor (2472-D) to the process heater (305-LA) by 95 percent, by weight, or greater; or

Achieve total organic compound concentration, less methane and ethane, or total organic HAPs concentration of 20 ppmv on a dry basis corrected to 3% oxygen at the outlet of the process heater (305-LA).

Applicable Compliance Method:

In accordance with 40 CFR 63.145(i) [see Attachment 2], the concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the process heater (305-LA)) shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Method 1 through 4, and 18, 25, or 25A. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

1.i Emission Limitation:

The permittee shall achieve the Required Mass Removal (RMR) of Table 9 compounds for Group 1 wastewater streams.

Applicable Compliance Method:

If required, the permittee shall demonstrate that the actual mass removal (AMR) is greater than or equal to the RMR. The RMR and AMR shall be calculated in accordance with the equations and procedures in 40 CFR 63.145(f) [see Attachment 2].

2. The permittee shall conduct, or have conducted, emission testing for the process heater (305-LA) in accordance with the following requirements:

a. The emission testing shall be conducted within 12 months of permit issuance.

b. The emission testing shall be conducted to demonstrate compliance with the allowable emission rate for VOC and the HAP concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the process heater).

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): U. S. EPA Methods 1 through 4, and 18, 25, or 25A, 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

e. If required, the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00451, issued on 2/8/98 and modified on 7/27/04: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Phenol III Process Unit (P012)

Activity Description: Phenol III Process Unit

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
phenol III process unit with the following air pollution control devices: condenser (4251-C) condenser (4711-C) condenser (4712-C) scrubber (4710-E) catalytic oxidizer (4230-L)	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions from the catalytic oxidizer (4230-L) shall not exceed 69.26 pounds per day and 12.64 tons per year. Acetone emissions from the catalytic oxidizer (4230-L) shall not exceed 4.93 pounds per day and 0.90 ton per year. Nitrogen oxides emissions from the catalytic oxidizer (4230-L) shall not exceed 41.32 pounds per day and 7.54 tons per year. Acetone emissions from the acetone rundown tanks (4312-FA and 4312-FB) shall not exceed 4.32 tons per year. Negligible emissions of particulate, particulate less than ten microns and

	sulfur dioxide from the catalytic oxidizer (4230-L). See section A.I.2.a below.
40 CFR 52.21 and OAC rule 3745-31-11 through 3745-31-20 (BACT Limit)	Volatile organic compound emissions shall be reduced by 99%.
40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and sections A.I.2.a and A.I.2.b below and Attachments 1, 2, and 3.
40 CFR Part 60, Subpart NNN	See section A.I.2.c below.
40 CFR Part 60, Subpart III	See section A.I.2.d below.
40 CFR Part 60, Subpart Kb	See section A.I.2.e below.
40 CFR Part 60, Subpart VV	See Part II, section A.I.
OAC rule 3745-21-09(DD)	See Part II, section A.I.
OAC rule 3745-21-09(EE)	See sections A.I.2.f and A.I.2.g below.
OAC rule 3745-18-06	See section A.I.2.h below.

2. Additional Terms and Conditions

2.a In accordance with 40 CFR 63.113(a)(2), (a)(2)(i), and (a)(2)(ii) [see Attachment 2], for all Group 1 process vent streams, the emissions of total organic HAPs shall be reduced by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. The emission reduction or concentration shall be calculated on a dry basis, corrected to 3% oxygen.

2.b For each wastewater tank that receives, manages, or treats a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream, the permittee shall comply with the

requirements of either 40 CFR 63.133(a)(1) or (a)(2) [see Attachment 2] as specified in 40 CFR 63.133(a) [see Attachment 2].

i. In accordance with the permittees's permit application and 40 CFR 63.133(a)(1) [see Attachment 2], the following wastewater tank shall be equipped with a fixed roof:

Dephenolization Purge Drum (4630-F).

ii. In accordance with the permittees's permit application and 40 CFR 63.133(a)(2) [see Attachment 2], the following wastewater tank shall be equipped with a fixed roof and a closed vent system which routes the hazardous air pollutant vapors vented from the tank to a control device:

MHP Decomposer (4272-D) vented to a catalytic oxidizer (4230-L).

2.c The following distillation units and associated recovery equipment are subject to the provisions of 40 CFR Part 60, Subpart NNN but are required to comply only with 40 CFR Part 63, Subparts F and G [see Attachments 1 and 2] for Group 1 process vents:

Egress Point	Distillation Column (equipment number)
P301	Primary Cumene Stripper (4202-E)
P301	Secondary Cumene Stripper (4203-E)
P301	Crude Acetone Column (4301-E)
P301	Acetone Product Column (4302-E)
P301	Crude Phenol Column (4304-E)
P301	Hydrocarbon Removal Column (4305-E)
P301	Phenol Finishing Column (4307-E)

2.d The following equipment is subject to the provisions of 40 CFR 60, Subpart III but are required to comply only with the terms and conditions of 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3]:

Air oxidation reactor train and its combined vent stream (4201-DA, 4201-DB, 4201-DC)
Oxidation Process Surge Drum (4208-F)

2.e The Group 2 storage vessels within this process unit are subject to the provisions of 40 CFR Part 60, Subpart Kb but are required to comply only with 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3].

2.f [OAC rule 3745-21-09(EE)(1)]

Except where exempted under OAC rule 3745-21-09(EE)(2), the permittee shall vent process vent streams from air oxidation processes, producing a chemical listed in Appendix A of OAC rule 3745-21-09, to a combustion device which:

i. reduces the VOC emissions vented to it with an efficiency of at least 98 percent, by weight; or
ii. emits a VOC concentration less than 20 ppm by volume, dry basis.

2.g [OAC rule 3745-21-09(EE)(2)(b)]
Any process vent stream or combination of process vent streams which maintain a TRE of value greater than 1.0 shall be exempt from the requirements of OAC rule 3745-21-09(EE)(1). If an air oxidation process has more than one process vent stream, the TRE shall be based upon a combination of the process vent streams. The TRE shall be calculated in accordance with OAC rule 3745-21-09(EE)(3).

2.h The catalytic oxidizer (4230-L) is fueled with natural gas and process vent gas only and has no process weight as defined in OAC rule 3745-18-01(B)(13). Therefore, this equipment is exempt from the emissions limitation established in OAC rule 3745-18-06(E).

2.i There are no uncontrolled particulate emissions from the Phenol III process unit; therefore, OAC rules 3745-17-07(A) and 3745-17-11 are not applicable to the Phenol III process unit.

II. Operational Restrictions

1. In accordance with the permittee's permit application, the permittee is operating by routing the organic vapors from Group 1 process vents from the Phenol III process unit to a catalytic oxidizer (4230-L) in order to comply with the percent reduction requirement or concentration limit specified in 40 CFR 63.113(a)(2), (a)(2)(i), and (a)(2)(ii) [see Attachment 2].

   In accordance with the permittee's permit application, the pernittee is operating by routing the hazardous organic air pollutant vapors from the MHP Decomposer (4272-D) to the catalytic oxidizer (4230-L) in order to comply with the percent reduction requirement, concentration limit, or residence time requirement specified in 40 CFR 63.139(c)(1) [see Attachment 2].

   The minimum temperature of gases at the inlet of the catalyst bed shall be 752 degrees Fahrenheit (400 degrees Celsius) calculated on a daily average.

   The minimum temperature difference of the gases across the catalyst bed shall be 49 degrees Fahrenheit (9.44 degrees Celsius) calculated on a daily average.

2. The permittee shall burn only process vent gases and/or natural gas in the catalytic oxidizer (4230-L).

3. The Phenol III Hub and the CHP Hub shall be equipped with tightly fitting solid covers in accordance with 40 CFR 63.149 [see Attachment 2].

4. The crude AMS surge tank (4505-F) is a surge control vessel with a capacity of 868.8 cubic meters, containing material with a maximum true organic HAP vapor pressure of 0.225 psia at operating temperature, and the organic vapors vented from the vessel are not vented back to the process. Therefore, the surge control vessel shall be vented to a control device that complies with the requirements in 40 CFR 63.172 [see Attachment 3].

   In accordance with the permittee's permit application, the permittee is operating by routing the organic vapors from the surge control vessel (4505-F) to the catalytic oxidizer (4230-L). Whenever organic HAP emissions are vented to a closed-vent system or control device used to comply with 40 CFR Part 63, Subpart H [see Attachment 3], such system or control device shall be operating.

   The catalytic oxidizer (4230-L) shall be designed and operated to reduce the organic HAP emissions or volatile organic compound emissions vented to it with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume on a dry basis corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 degrees Celsius.

5. Each surge control vessel or bottoms receiver tank which meets one of the conditions listed in 40 CFR 63.170 [see Attachment 3] shall be equipped with a closed vent system that routes the organic vapors from the surge control vessel or bottoms receiver tank back to the process or to a control device that complies with the requirements of 40 CFR 63.172 [see Attachment 3] or shall be equipped with a fixed roof and an internal floating roof or an external floating roof.

   In accordance with the permittee's permit application, the following surge control vessels and bottoms receiver tanks do not exceed the threshold triggers of 40 CFR 63.170 [see Attachment 3]. Therefore, these vessels are not required to meet the conditions listed in 40 CFR 63.170 [see Attachment 3] at the time of permit issuance: 4202-F, 4213-F, 4214-F, 4301-F, 4330-F, 4337-F, 4338-F, 4339-F, 4342-F, 4373-F, 4620-F, 4640-F, 4640-F, and 4721-F.

III. Monitoring and/or Record keeping

1. The permittee shall perform semiannual visual inspections of the wastewater tanks that receive, manage, or treat a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream in accordance with 40 CFR 63.143(a) [see Attachment 2]. Records of the wastewater tank inspections shall be maintained in accordance with 40 CFR 63.147 [see Attachment 2].

2. The permittee shall monitor the closed vent system which routes the organic vapors from the crude AMS surge control vessel (4505-F) to the catalytic oxidizer (4230-L) in accordance with 40 CFR 63.172(f), 40 CFR 63.172(h), (h)(1), & (h)(2), 40 CFR 63.172(i), 40 CFR 63.172(j), 40 CFR 63.172(k), and 40 CFR 63.172(l), (l)(1), & (l)(2) [see Attachment 3].

   The permittee shall monitor the catalytic oxidizer (4230-L) to ensure that it is operated and maintained in conformance with its design as required by 40 CFR 63.172(e) [see Attachment 3].

3. The permittee shall maintain temperature monitoring devices, equipped with continuous recorders, immediately before and after the catalyst bed of the catalytic oxidizer (4230-L) in accordance with the requirements of 40 CFR 63.114(a) and 40 CFR 63.143(e) [see Attachment 2].

   The permittee shall maintain records of the temperature immediately prior to the catalyst bed, immediately after the catalyst bed, and the temperature difference across the catalyst bed in accordance with 40 CFR 63.118(a) [see Attachment 2].

4. The permittee shall monitor any bypass line(s) that could divert a Group 1 process vent or vent stream away from the MHP Destructor (4272-D) away from the catalytic oxidizer (4230-L) in accordance with 40 CFR 63.114(d) and 40 CFR 63.143(e) [see Attachment 2]. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to 40 CFR 63.114(d) [see Attachment 2].

   a. Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in 40 CFR 63.118(a)(3) and 40 CFR Part 63, Subpart G, Table 13 [see Attachment 2]. The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere; or

   b. Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

   The permittee shall maintain records of the flow indicator or monthly visual inspection requirements for bypass lines that could divert a Group 1 process vent or vent stream from the MHP Destructor (4272-D) away from the catalytic oxidizer (4230-L) in accordance with 40 CFR 63.118(a)(3), 40 CFR 63.118(a)(4) and 40 CFR 63.147 [see Attachment 2].

5. Whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent, the permittee shall recalculate the TRE index value, flow, or organic HAP concentration, as necessary, to determine if the vent is Group 1 or Group 2 in accordance with 40 CFR 63.115(e) [see Attachment 2].

The permittee shall maintain records of process vent group determinations in accordance with 40 CFR 63.117, 40 CFR 63.118(c), 40 CFR 63.118(d), and 40 CFR 63.118(e) [see Attachment 2].

6. For each Group 2 storage vessel, the permittee shall comply with the record keeping requirements of 40 CFR 63.123(a) [see Attachment 2].

7. For each Group 1 process wastewater stream, the permittee shall comply with the requirements of 40 CFR 63.132 through 40 CFR 63.149 [see Attachment 2].

8. For each Group 2 process wastewater stream, the permittee shall comply with the record keeping requirements of 40 CFR 63.147 [see Attachment 2].

9. The permittee shall monitor the cooling water at the inlet and outlet of the Phenol III heat exchange system for the presence of cumene and phenol in accordance with 40 CFR 63.104(b), 40 CFR 63.104(d), and 40 CFR 63.104(e) [see Attachment 1]. On a quarterly basis, the permittee shall obtain three samples from the inlet and three samples from the outlet of the heat exchanger. The permittee shall analyze the samples in accordance with the methods and procedures of Method 624 and 625 of 40 CFR Part 136, Appendix A. The results of the analysis shall be evaluated as specified in 40 CFR 63.104(b)(6) [see Attachment 1].

   The permittee shall maintain heat exchange system records in accordance with 40 CFR 63.104(f)(1) [see Attachment 1].

10. The permittee shall maintain procedures for the management of maintenance wastewater in accordance with 40 CFR 63.105(a) [see Attachment 1].

11. For each day during which the permittee burns a fuel other than process vent gases and/or natural gas in the catalytic oxidizer (4230-L), the permittee shall maintain a record of the type and quantity of fuel burned.

12. [OAC rule 3745-21-09(EE)(3)(a)]
    The total resource effectiveness value for an air oxidation process shall be calculated in accordance with the following equations:

    i. For nonchlorinated process vent streams with a net heating value less than or equal to 3.6 and for all chlorinated process vent streams:

       $$TRE = [a + bW^{.88} + cW + dWH + eW^{.88} H^{.88} + f W^{.5}]/E$$

       where:

       TRE = total resource effectiveness value;

E = maximum hourly VOC emission rate at the vent stream design flowrate (W), in kilograms of VOC per hour (kg/hr);

W = vent stream design flowrate at a standard temperature of 20 degrees Celsius, in standard cubic meters per minute (scm/min);

H = vent stream net heating value, as determined in accordance with OAC rule 3745-21-10(P)(2), in megajoules per standard cubic meter (10^6J/scm); and

a, b, c, d, e, and f = applicable coefficients from Appendix B of OAC rule 3745-21-09.

ii. For nonchlorinated process vent streams with a net heating value greater than 3.6:

$$TRE = [a+bW^{.88} + cW + dWH + eW^{.88} H^{.88} + f(WH / 3.6)^{.5}]/E$$

where TRE, E, W, H, a, b, c, d, e, and f are defined as above.

13. [OAC rule 3745-21-09(EE)(3)(b)]
The parameters used in the total resource effectiveness equations shall be measured at the outlet(s) of the final product recovery device(s) where VOC is reclaimed for beneficial reuse (recycle, sale or use in another part of the process).

14. The permittee shall maintain records for benzene waste operations in accordance with the requirements specified in 40 CFR 61.356 [see Part II, section A.IV].

15. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-451, issued on 2/8/98 and modified on 7/27/04: A.III.1 through A.III.14. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit periodic reports in accordance with 40 CFR 63.152(c) [see Attachment 2]. The periodic reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The reports shall include all information specified in 40 CFR 63.117 and 40 CFR 63.118 [see Attachment 2] for process vents and all information specified in 40 CFR 63.146 [see Attachment 2] for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

2. The permittee shall submit reports of start-up, shutdown, and malfunction in accordance with 40 CFR 63.10(d)(5) [see Part II, section A.III] and 40 CFR 63.152(d)(1) [see Attachment 2]. The semiannual start-up, shutdown, and malfunction reports may be submitted on the same schedule as the periodic reports required under 40 CFR 63.181(c) [see Attachment 3] instead of the schedule specified in 40 CFR 63.10(d)(5) [see Part II, section A.III].

3. Whenever the recalculations (performed whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent) determine one of the criteria below have been met, the permittee shall submit a report as specified in 40 CFR 63.118(g), (h), (i), and (j) [see Attachment 2] and the permittee shall comply with the appropriate provisions in 40 CFR 63.113 [see Attachment 2] by the dates specified in 40 CFR Part 63, Subpart F [see Attachment 1].

   a. the recalculated TRE index value is less than or equal to 1.0;
   b. the recalculated TRE index value is less than or equal to 4.0 but greater than 1.0;
   c. the recalculated flow rate is greater than or equal to 0.005 standard cubic meter per minute; or
   d. the recalculated concentration is greater than or equal to 50 parts per million by volume.

4. For each heat exchange system, the permittee shall comply with the reporting requirements of 40 CFR 63.104(f)(2) [see Attachment 1].

5. The permittee shall submit reports of any fuels burned in the catalytic oxidizer (4230-L) other than process vent gases and/or natural gas within thirty (30) days to the Portsmouth local air agency, including the date, type, and amount of any such fuel burned.

6. The permittee shall submit reports for benzene waste operations in accordance with the requirements specified in 40 CFR 61.357 [see Part II, section A.IV].

7. Reports required by 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3] shall be submitted to USEPA Region 5, with a copy to the Portsmouth local air agency, in accordance with 40 CFR 63.103(d) and (d)(1) [see Attachment 1].

8. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-451, issued on 2/8/98 and modified on 7/27/04: A.IV.1 through A.IV.7. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in sections A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Volatile organic compound emissions from the catalytic oxidizer (4230-L) shall not exceed 69.26 pounds per day.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25, or 25A.

1.b Emission Limitation:

Volatile organic compound emissions from the catalytic oxidizer (4230-L) shall not exceed 12.64 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable daily emission limitation by 365 days per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the daily emission limitation is maintained.

1.c Emission Limitation:

Acetone emissions from the catalytic oxidizer (4230-L) shall not exceed 4.93 pounds per day.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18.

1.d Emission Limitation:

Acetone emissions from the catalytic oxidizer (4230-L) shall not exceed 0.90 ton per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable daily emission limitation by 365 days per year, and then dividing by 2,000 pounds per ton. Compliance with the ton per year emission limitation shall be assumed provided compliance with the daily emission limitation is maintained.

1.e Emission Limitation:

Nitrogen oxides emissions from the catalytic oxidizer (4230-L) shall not exceed 41.32 pounds per day.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 7 or 7e.

1.f Emission Limitation:

Nitrogen oxides emissions from the catalytic oxidizer (4230-L) shall not exceed 7.54 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable daily emission limitation by 365 days per year, and then dividing by 2,000 pounds per ton. Compliance with the tons per year emission limitation shall be assumed provided compliance with the daily emission limitation is maintained.

1.g Emission Limitation:

Negligible emissions of particulates, particulates less than ten microns, and sulfur dioxide from the catalytic oxidizer (4230-L).

Applicable Compliance Method:

The emission rates of particulates, particulates less than ten microns, and sulfur dioxide are negligible as long as only natural gas is burned as fuel in the catalytic oxidizer (4230-L).

1.h Emission Limitation:

Acetone emissions from the acetone rundown tanks (4312-FA and 4312-FB) shall be less than 4.32 tons per year.

Applicable Compliance Method:

The acetone emissions (the potential to emit) from the equipment as listed below shall be summed.

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18.

Equipment ID	Equipment Description	Egress Point	Control Device	Acetone (lb/day)	Acetone (tpy)	Notes
4312-FA	Acetone rundown tank	P302	Internal floating roof	11.82	2.16	1
4312-FB	Acetone rundown tank	P303	Internal floating roof	11.82	2.16	1

1. Acetone emissions (lb/day and tpy) from this equipment are controlled. The acetone emissions include the emissions reductions due to the control device. These values represent the controlled potentials to emit and are identified in previous application submittals (PTI 07-00451). Individual equipment acetone (lb/day and tpy) values are not independently enforceable in this permit.

1.i Emission Limitation:

Volatile organic compound emissions from all equipment vented to the catalytic oxidizer (4230-L) shall be reduced by 99%.

Applicable Compliance Method:

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the catalytic oxidizer (4230-L)) shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25, or 25A. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

1.j Emission Limitation:

The emissions of total organic HAP from Group 1 process vents shall be reduced by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. The emission reduction or concentration shall be calculated on a dry basis, corrected to 3% oxygen.

Applicable Compliance Method:

If required, the concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the catalytic oxidizer (4230-L)) shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25, or 25A. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

1.k Emission Limitation:

The emissions of total organic compounds, less methane and ethane, or total organic HAPs from the MHP Decomposer (4272-D) shall be reduced by 95 weight-percent or to a concentration of 20 parts per million by volume on a dry basis corrected to 3 percent oxygen, whichever is less stringent.

Applicable Compliance Method:

If required, the concentration (ppm) and/or control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the catalytic oxidizer (4230-L)) shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4, and 18, 25, or 25A. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

2. The permittee shall conduct, or have conducted, efficiency testing for the catalytic oxidizer (4230-L) in accordance with the following requirements:

   a. The emission testing shall be conducted within 24 months of permit issuance.

   b. The emission testing shall be conducted to demonstrate compliance with the VOC control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the catalytic oxidizer (4230-L)) and the allowable mass emission rate.

   c. The following test methods shall be employed to demonstrate compliance with the allowable emission rates: U. S. EPA Methods 1 through 4 and 18, 25, or 25A of 40 CFR Part 60, Appendix A. Alternative U. S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

   d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

   e. If required, the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test

methods and procedures specified in OAC rule 3745-21-10. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

3. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-451, issued on 2/8/98 and modified on 7/27/04: A.V.1 and A.V.2. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: AMS Distillation Process Unit (P013)

Activity Description: AMS Distillation Process Unit

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
AMS distillation process unit	OAC rule 3745-31-05(A)(3) (PTI 07-00500)	Total volatile organic compound emissions (including acetone) from all equipment except for the fugitive equipment leaks shall not exceed 75.16 pounds per day and 13.72 tons per year, as a rolling, 12-month summation of the VOC emissions. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-10 through OAC rule 3745-20 and 40 CFR Part 63, Subparts F, G, and H, 40 CFR Part 60, Subpart VV and NNN, 40 CFR Part 61, Subpart FF, and OAC rule 3745-21-09(DD).
	OAC rule 3745-31-10 through OAC rule 3745-31-20	Total volatile organic compound emissions (including acetone) from all modified equipment (including egress points AMS223 and AMS224) except for the fugitive equipment leaks shall not exceed 14.6 pounds per day and 2.66 tons

	per year, as a rolling, 12-month summation of the VOC emissions. See section A.I.2.a below.
40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and Attachments 1, 2, and 3.
40 CFR Part 60, Subpart VV	See Part II, section A.I.
OAC rule 3745-21-09(DD)	See Part II, section A.I.
40 CFR Part 60, Subpart NNN	See sections A.I.2.b through A.I.2.e below and Part II, section A.II.
40 CFR Part 61, Subpart FF	See sections A.III.12 and A.IV.7 below and Part II, section A.IV.

2. Additional Terms and Conditions

2.a These PSD BACT determinations for process vent emissions from the AMS topping column (3501-E) and the AMS tailing column (3502-E) require maintaining existing operating conditions and do not require add on controls.

This PSD BACT determination for fugitive emissions from the AMS Distillation process unit requires compliance with the leak detection and repair program required by 40 CR Part 63, Subpart H [see Attachment 3].

2.b The requirements of 40 CFR Part 60, Subpart NNN apply to the following distillation units and associated recovery equipment within the AMS Distillation process unit:

Egress Point	Distillation Column (equipment number)
AMSP223	AMS Super Topper (3500-E) and AMS Topping Column (3501-F)
AMSP224	AMS Tailing Column (3502-E)
AMSP128	AMS Topping Column (501-E)
AMSP132	Ethylbenzene Removal Column (503-E)

2.c [40 CFR 60.660(c)(4)]
The equipment subject to 40 CFR Part 60, NNN which have a total resource effectiveness (TRE) index value of greater than 8.0 are exempt from the requirements of 40 CFR Part 60, Subpart NNN except for the requirements specified in 60.662, 60.664(d), 60.664(e), and 60.664(f), 60.665(h), and 60.665(l). At the time of permit issuance, the following distillation column has a TRE index value greater than 8.0: 3500-E, 501-E, 503-E.

2.d [40 CFR 60.660(c)(6)]
The equipment subject to 40 CFR Part 60, Subpart NNN which have vent stream flow rate less than 0.008 standard cubic meters per minute (scm/min) are exempt from the requirements of 40 CFR Part 60 Subpart NNN except for the requirements specified in 60.664(g) and 60.665(i), 60.665(l)(5), and 60.665(o). At the time of permit issuance, the following distillation column has a flow rate less than 0.008 standard cubic meters per minute: 3502-E.

2.e [40 CFR 60.662]
The equipment subject to 40 CFR Part 60, Subpart NNN which have a TRE index of less than 8.0 and a flow rate greater than 0.008 standard cubic meters per minute shall comply with one of the following:

i. Reduce the emissions of total organic compounds (TOC) by 98% by weight or to a concentration of 20 ppmv TOC, on a dry basis corrected to 3% oxygen;

ii. Combust the emissions in a flare that meets the requirements of 40 CFR 60.18; or

iii. Maintain a TRE index value greater than 1.0 without the use of VOC emission control devices.

II. Operational Restrictions

1. Each surge control vessel or bottoms receiver tank which meets one of the conditions listed in 40 CFR 63.170 [see Attachment 3] shall be equipped with a closed vent system that routes the organic vapors from the surge control vessel or bottoms receiver tank back to the process or to a control device that complies with the requirements of 40 CFR 63.172 [see Attachment 3] or shall be equipped with a fixed roof and an internal floating roof or an external floating roof.

   In accordance with the permittee's permit application, the following surge control vessels and bottoms receiver tanks do not exceed the threshold triggers of 40 CFR 63.170 [see Attachment 3]. Therefore, these vessels are not required to meet the conditions listed in 40 CFR 63.170 [see Attachment 3] at the time of permit issuance: 3505-F, 3507-FA, 3507-FB, 314-FA, 351-F.

III. Monitoring and/or Record keeping Requirements

1. Whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent, the permittee shall recalculate the TRE index value, flow, or organic HAP concentration as necessary to determine if the vent is Group 1 or Group 2 in accordance with 40 CFR 63.115(e) [see Attachment 2].

   The permittee shall maintain records of process vent group determinations in accordance with 40 CFR 63.117, 63.118(c), (d), and (e) [see Attachment 2].

2. For each Group 2 storage vessel, the permittee shall comply with the record keeping requirements of 40 CFR 63.123(a) [see Attachment 2].

3. For each Group 2 process wastewater stream, the permittee shall comply with the record keeping requirements of 40 CFR 63.147 [see Attachment 2].

4. The permittee shall maintain procedures for the management of maintenance wastewater in accordance with 40 CFR 63.105 [see Attachment 1].

5. [40 CFR 60.664(d)]
   The net heating value of the gas combusted for determining the process vent stream TRE index value to determine compliance under 40 CFR 60.662(c) shall be determined in accordance with the equations and procedures in 40 CFR 60.664(d).

6. [40 CFR 60.664(e)]
   For purposes of complying with 40 CFR 60.662(c) , the permittee shall determine the TRE index value by calculating values using both the incinerator equation in 40 CFR 60.664(e)(1) and the flare equation in 40 CFR 60.664(e)(2) and selecting the lower of the two values.

7. [40 CFR 60.664(f)]
   The permittee seeking to comply with 40 CFR 60.660(c)(4) or 40 CFR 60.662(c) shall recalculate the TRE index value for that affected facility whenever process changes are made. Examples of process changes include changes in production capacity, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. The TRE index value shall be recalculated based on test data, or on best engineering estimates of the effects of the change to the recovery system.

   a. Where the recalculated TRE index value is less than or equal to 1.0, the permittee shall notify the Administrator, with a copy to the Portsmouth local air agency, within 1 week of the recalculation and shall conduct a performance test according to the methods and procedures required by 40 CFR 60.664 in order to determine compliance with 40 CFR

60.662(a). Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

b. Where the initial TRE index value is greater than 8.0 and the recalculated TRE index value is less than or equal to 8.0 but greater than 1.0, the permittee shall conduct a performance test in accordance with 40 CFR 60.8 and 40 CFR 60.664 and shall comply with 40 CFR 60.663, 60.664 and 60.665. Performance tests must be conducted as soon as possible after the process change but no later than 180 days from the time of the process change.

8. [40 CFR 60.663(d)]
For distillation columns complying with the TRE index value limit specified under 40 CFR 60.662(c) of greater than or equal to 1.0, the permittee shall install, calibrate, maintain, and operate according to manufacturer's specifications the equipment specified in 40 CFR 60.663(d).

9. [40 CFR 60.665(h)]
The permittee shall maintain the following records for each piece of equipment complying with 40 CFR 60.662(c):

a. any changes in production capacity feedstock type, catalyst type, or of any replacement, removal, or addition of recovery equipment or a distillation unit;

b. any recalculation of the TRE performed pursuant to 40 CFR 60.664(f); and

c. the results of any performance test performed pursuant to 40 CFR 60.664(d).

10. [40 CFR 60.664(g)]
The permittee shall use Method 2, 2A, 2C, or 2D, 40 CFR Part 60, Appendix A for determination of the flow rate to demonstrate compliance with 40 CFR 60.660(c)(6).

11. [40 CFR 60.665(i)]
The permittee shall maintain the following records for each piece of equipment complying with 40 CFR 60.660(c)(6):

a. that the vent stream flow rate is less than 0.008 scm/min; and

b. any change in equipment or process operation that increases the vent stream flow rate including a measurement of the new vent stream flow rate.

12. The permittee shall maintain records for benzene waste operations in accordance with the requirements specified in 40 CFR Part 61.356 and section A.IV of Part II - Facility Specific Terms and Conditions.

13. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-00500, issued on 10/07/04: A.III.1 through A.III.12. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

1. The permittee shall submit periodic reports in accordance with 40 CFR 63.152(c) [see Attachment 2]. The periodic reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The reports shall include all information specified in 40 CFR 63.117 and 63.118 for process vents, all information specified in 40 CFR 63.146 for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

2. The permittee shall submit reports of start-up, shutdown, and malfunction in accordance with 40 CFR 63.152(d)(1) [see Attachment 2] and 40 CFR 63.10(d)(5) [see Part II, section A.III]. The semiannual start-up, shutdown and malfunction reports may be submitted on the same schedule as the periodic reports required under 40 CFR 63.152(c) instead of the schedule specified in 40 CFR 63.10(d)(5) [see Part II, section A.III].

3. Whenever the recalculations (performed whenever process changes are made that could reasonably be expected to change a Group 2 process vent to a Group 1 process vent) determine one of the criteria below have been met, the permittee shall submit a report as specified in 40 CFR 63.118 (g) through (j) [see Attachment 2] and the permittee shall comply with the appropriate provisions in 40 CFR 63.113 [see Attachment 2] by the dates specified in 40 CFR 63.100 [see Attachment 1].

   a. the recalculated TRE index value is less than or equal to 1.0;

   b. the recalculated TRE index value is less than or equal to 4.0 but greater than 1.0;

   c. the recalculated flow rate is greater than or equal to 0.005 standard cubic meter per minute; or

   d. the recalculated concentration is greater than or equal to 50 parts per million by volume.

4. The permittee shall submit the information required in 40 CFR 60.665(b)(4) when demonstrating compliance with the TRE index value of greater than 1.0 option of 40 CFR 60.662(c).

5. [40 CFR 60.665(l)]
The permittee shall submit semiannual reports of the following recorded information:

   a. Any change in equipment or process operation that increases the operating vent stream flow rate above the low flow exemption level in 40 CFR 60.660(c)(6), including a measurement of the new vent stream flow rate, as recorded under 40 CFR 60.665(i). These must be reported as soon as possible after the change and no later than 180 days after the change. These reports may be submitted either in conjunction with semiannual reports or as a single separate report. A performance test must be completed with the same time period to verify the recalculated flow value and to obtain the vent stream characteristics of heating value and ETOC. The performance test is subject to the requirements of 40 CFR 60.8. Unless the facility qualifies for an exemption under the low capacity exemption status in 40 CFR 60.660(c)(5), the facility must begin compliance with the requirements set forth in 40 CFR 60.662.

   b. Any recalculation of the TRE index value, as recorded under 40 CFR 60.665(h).

6. The deviation (excursion) reports shall be submitted in accordance with Part I - General Terms and Conditions of this permit under section (A)(1).

7. The permittee shall submit reports for benzene waste operations in accordance with the requirements specified in 40 CFR Part 61.357 and section A.IV of Part II - Facility Specific Terms and Conditions.

8. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #07-00500, issued on 10/07/04: A.IV.1 through A.IV.7. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitations:

VOC emissions (including acetone) from all equipment except for fugitive equipment leaks shall not exceed 75.16 pounds per day.

VOC emissions (including acetone) from all equipment except for fugitive equipment leaks shall not exceed 13.72 tons per year, as a rolling, 12-month summation of the VOC emissions.

VOC emissions (including acetone) from all modified equipment (including egress points AMS223 and AMS 224) except for fugitive equipment leaks shall not exceed 14.6 pounds per day.

VOC emissions (including acetone) from all modified equipment (including egress points AMS223 and AMS224) except for fugitive equipment leaks shall not exceed 2.66 tons per year, as a rolling, 12-month summation of the VOC emissions.

Applicable Compliance Method:

The VOC emissions and acetone emissions (potential to emit) from the equipment listed below shall be summed. Compliance with the annual emission limitation shall be determined by multiplying the hourly emission rate by the actual hours of operation per month and the conversion factor of ton/2000 lbs, to arrive at the tons per month emissions. The monthly emissions shall be added to the previous 11 months emissions to determine the rolling 12-months total emissions.

If required, compliance shall be demonstrated in accordance with the requirements specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25 or 25A, as appropriate.

Equipment ID	Equipment Description	Egress Point	Control Device	VOC (lb/day)	VOC (tpy)	Acetone (lb/day)	Acetone (tpy)	Notes
314-FA	Crude AMS storage tank	AMSP114	None	12.38	2.26	0	0	1
502-F	501-E AMS topping column overhead accumulator	AMSP128	None	0.08	0.01	0	0	1
505-F	503-E ethylbenzene removal column accumulator	AMSP132	None	1.86	0.34	3.16	0.58	1
351-F	AMS lights surge tank	AMSP137	None	0.34	0.06	9.26	1.69	1
3505-F	AMS feed tank	AMSP211	None	28.75	5.25	0	0	1
3507-FA	AMS product tank	AMSP212	None	2.36	0.43	0	0	1
3507-FB	AMS product tank	AMSP213	None	2.36	0.43	0	0	1

3502-F	3501-E and 3500-E AMS topping columns reflux drum	AMSP223	None	1.13	0.21	13.39	2.44	1
3503-F	3502-E AMS tailing column reflux drum	AMSP224	None	0.08	0.01	0	0	1

1. VOC and acetone emissions (lb/day and tpy) from this equipment are uncontrolled. These values represent the potentials to emit and are identified in previous application submittals (PTI 07-00500). Individual equipment VOC and acetone (lb/day and tpy) values are not independently enforceable in this permit.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00500, issued on 10/07/04: A.V.1. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2003-F (T022)

Activity Description: Light Hydrocarbon Fuel Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
200,000-gallon light hydrocarbon fuel storage tank (2003-F) with an internal floating roof and submerged fill	OAC rule 3745-31-05(A)(3) (PTI 07-00232)	Volatile organic compound emissions shall not exceed 0.159 ton per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.
	40 CFR Part 60, Subpart Kb	See section A.I.2.a below.

2. Additional Terms and Conditions

2.a This group 2 storage vessel is subject to the provisions of 40 CFR Part 60, Subpart Kb but is required to comply only with 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3].

2.b The light hydrocarbon by-product fuel is hazardous waste; therefore, Tank 2003-F (emissions unit T022) is subject to the requirements of 40 CFR Part 264 and 265.

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00232, issued on 02/27/91: A.III.1 . The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 0.159 ton per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00232, issued on 02/27/91: A.V.1. The testing contained in the above-referenced Permit to Install are

subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2101-FA (T023)

Activity Description: Cumene Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
1,504,000-gallon cumene storage tank (2101-FA) with a fixed roof and submerged fill	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions shall not exceed 5.86 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.III.1. The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 5.86 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2101-FB (T024)

Activity Description: Cumene Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
1,504,000-gallon cumene storage tank (2101-FB) with a fixed roof and submerged fill	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions shall not exceed 5.86 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.III.1. The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 5.86 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2102-FA (T025)

Activity Description: Phenol Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
993,000-gallon phenol storage tank (2102-FA) with a fixed roof and submerged fill	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions shall not exceed 4.93 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.III.1. The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 4.93 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2102-FB (T026)

Activity Description: Phenol Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
993,000-gallon phenol storage tank (2102-FB) with a fixed roof and submerged fill	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions shall not exceed 4.93 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.III.1. The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 4.93 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2104-F (T029)

Activity Description: Heavy Hydrocarbons Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
200,000-gallon heavy hydrocarbon storage tank (2104-F) with a fixed roof, submerged fill and the following air pollution control devices:	OAC rule 3745-31-05(A)(3) (PTI 07-00232)	Volatile organic compound emissions shall not exceed 0.40 ton per year. See section A.I.2.a below.
scrubber (2502-LF) condenser (2105-C)	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

2.a The closed vent system for storage tanks T029 and T030 shall be designed to collect all VOC vapors and gases discharged from the storage vessels operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in 40 CFR Part 60, Subpart VV.

2.b The heavy hydrocarbon by-product fuel is hazardous waste; therefore, Tank 2104-F (emissions unit T029) is subject to the requirements of 40 CFR Part 264 and 265.

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-00232, issued on 2/27/91: A.III.1. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 0.40 ton per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC emission factor of 7.46×10^{-9} ton VOC per gallon heavy hydrocarbon feed, by the maximum quantity of heavy hydrocarbon feed to the tank in gallons per year. The VOC emission factor was calculated from the results of the December, 1992 stack test. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00232, issued on 2/27/91: A.V.1. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these

requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2105-F (T030)

Activity Description: Heavy Hydrocarbons Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
246,000-gallon heavy hydrocarbon storage tank (2105-F) with a fixed roof, submerged fill and the following air pollution control devices:	OAC rule 3745-31-05(A)(3) (PTI 07-00232)	Volatile organic compound emissions shall not exceed 0.40 ton per year. See section A.I.2.a below.
scrubber (2502-LF) condenser (2105-C)	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I, section A.III.1 below and Attachments 1, 2, and 3.
	40 CFR Part 60, Subpart Kb	See section A.I.2.b below.

2. Additional Terms and Conditions

2.a The closed vent system for storage tanks T029 and T030 shall be designed to collect all VOC vapors and gases discharged from the storage vessels operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in 40 CFR Part 60, Subpart VV.

2.b This group 2 storage vessel is subject to the provisions of 40 CFR Part 60, Subpart Kb but is required to comply only with 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3].

2.c The heavy hydrocarbon by-product fuel is hazardous waste; therefore, Tank 2105-F (emissions unit T030) is subject to the requirements of 40 CFR Part 264 and 265.

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-00232, issued on 2/27/91: A.III.1. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 0.40 ton per year.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the VOC emission factor of 7.46×10^{-9} ton VOC per gallon heavy hydrocarbon feed, by the maximum quantity of heavy hydrocarbon feed to the tank in gallons per year. The VOC emission factor, was calculated from the results of the

December 1992 stack test. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00232, issued on 2/27/91: A.V.1. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2101-FC (T033)

Activity Description: Cumene Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
2,086,000-gallon cumene storage tank (2101-FC) with a fixed roof and submerged fill	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions shall not exceed 7.96 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.III.1 . The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 7.96 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2102-FC (T034)

Activity Description: Phenol Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
977,600-gallon phenol storage tank (2102-FC) with a fixed roof and submerged fill	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compounds shall not exceed 5.06 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.III.1. The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compounds shall not exceed 5.06 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2003-FA (T039)

Activity Description: Cumene or Crude AMS Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
1,015,112-gallon fixed roof cumene or crude AMS storage tank (2003-FA) with submerged fill	OAC rule 3745-31-05 (A)(3) (PTI 07-00451)	Volatile organic compound emissions shall not exceed 4.94 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.III.1. The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 4.94 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: F-91A (T045)

Activity Description: Aniline Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
846,850-gallon aniline storage tank (F-91-A) with fixed roof and submerged fill	OAC rule 3745-31-05(A)(3) (PTI 07-00449)	Volatile organic compound emissions shall not exceed 1.65 tons per year
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00449, issued on 09/10/97 and modified on 12/12/01: A.III.1. The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 1.65 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00449, issued on 09/10/97 and modified on 12./12/01: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: F-91B (T046)

Activity Description: Aniline Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
846,850-gallon aniline storage tank (F-91-B) with fixed roof and submerged fill	OAC rule 3745-31-05(A)(3) (PTI 07-00449)	Volatile organic compound emissions shall not exceed 1.65 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00449, issued on 09/10/97 and modified on 12/12/01: A.III.1. The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 1.65 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00449, issued on 09/10/97 and modified on 12/12/01: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 3510-F (T059)

Activity Description: Alpha Methyl Styrene Hydrogenation Feed Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
11,844-gallon hydrogenation feed tank with submerged fill and the following air pollution control device:	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions shall not exceed 1.11 tons per year.
condenser (3511-C)	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G and H as applicable	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.
	40 CFR Part 60, Subpart Kb	See section A.I.2.a below.

2. Additional Terms and Conditions

2.a This group 2 storage vessel is subject to the provisions of 40 CFR Part 60, Subpart Kb but is required to comply only with 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3].

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.III.1. The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 1.11 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 2108-F (T063)

Activity Description: Heavy Hydrocarbons Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
112,800-gallon heavy hydrocarbon storage tank (2108-F) with a fixed roof, submerged fill and the following air pollution control devices: scrubber (2502-LF) condenser (2105-C)	OAC rule 3745-31-05(A)(3) (PTI 07-00435**)**	Volatile organic compound emissions shall not exceed 1.8 pounds per day and 0.33 ton per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G, and H	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.
	40 CFR Part 60, Subpart Kb	See section A.I.2.a below.

2. Additional Terms and Conditions

2.a This group 2 storage vessel is subject to the provisions of 40 CFR Part 60, Subpart Kb but is required to comply only with 40 CFR Part 63, Subparts F, G, and H [see Attachments 1, 2, and 3].

2.b The heavy hydrocarbon by-product fuel is hazardous waste; therefore, Tank 2108-F (emissions unit T063) is subject to the requirements of 40 CFR Part 264 and 265.

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install # 07-00435, issued on 1/15/97: A.III.1. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 1.8 pounds per day and 0.33 ton per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #07-00435, issued

on 1/15/97: A.V.1. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 326-F (T064)

Activity Description: Hydrogenation AMS Storage Tank

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
41,130-gallon hydrogenation AMS storage tank (326-F) with fixed roof and submerged fill	OAC rule 3745-31-05(A)(3) (PTI 07-00451)	Volatile organic compound emissions shall not exceed 6.55 tons per year.
	40 CFR Part 63, Subpart A	See Part II, section A.III and Attachment 1 (Table 3).
	40 CFR Part 63, Subparts F, G and H as applicable	See Part II, section A.I and section A.III.1 below and Attachments 1, 2, and 3.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

1. The permittee shall comply with the record keeping requirements for group 2 storage vessels of 40 CFR 63.123(a) [see Attachment 2].

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent or as more stringent than the monitoring and record keeping requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.III.1. The monitoring and record keeping contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the emission limitation in section A.I.1 of these terms and conditions shall be determined in accordance with the following method:

1.a Emission Limitation:

Volatile organic compound emissions shall not exceed 6.55 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated using maximum throughput and the calculations and emission factors contained in AP-42, Volume I, 5th Edition, Chapter 1, Section 7.1, dated September, 1997. Alternate emission factors may be used with prior approval by the Portsmouth local air agency and may also require the PTI and this permit to be modified.

2. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent or as more stringent than the testing requirements contained in Permit to Install #07-00451, issued on 02/08/98: A.V.1. The testing contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

{Last updated 6/25/03}

Subpart F - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry (SOCMI)

§ 63.100 Applicability and Designation of Source;
§ 63.101 Definitions;
§ 63.102 Emission standard;
§ 63.103 General compliance, reporting, and recordkeeping provisions;
§ 63.104 Heat exchange system requirements;
§ 63.105 Maintenance wastewater requirements;
§ 63.106 Delegation of authority.

Tables to Subpart F
Table 1- Synthetic Organic Chemical Manufacturing Chemicals
Table 2- Organic Hazardous Air Pollutants
Table 3- General Provisions to Subpart F, G, and H to Subpart F
Table 4- Organic Hazardous Air Pollutants subject to cooling tower monitoring required in Sec. 63.104

Appendix to Subpart F- General Provisions for Subpart F

§ 63.100 Applicability and designation of source.

(a) This subpart provides applicability provisions, definitions, and other general provisions that are applicable to subparts G and H of this part.

(b) Except as provided in paragraphs (b)(4) and (c) of this section, the provisions of subparts F, G,
and H of this part apply to chemical manufacturing process units that meet all the criteria specified
in paragraphs (b)(1), (b)(2), and (b)(3) of this section:

(1) Manufacture as a primary product one or more of the chemicals listed in paragraphs (b)(1)(i) or (b)(1)(ii) of this section.

(i) One or more of the chemicals listed in table 1 of this subpart; or

(ii) One or more of the chemicals listed in paragraphs (b)(1)(ii)(A) or (b)(1)(ii)(B) of this section:

(A) Tetrahydrobenzaldehyde (CAS Number 100-50-5); or

(B) Crotonaldehyde
(CAS Number 123-73-9).

(2) Use as a reactant or manufacture as a product, or co-product, one or more of the organic hazardous air pollutants listed in table 2 of this subpart;

(3) Are located at a plant site that is a major source as defined in section 112(a) of the Act.

(4) The owner or operator of a chemical manufacturing processing unit is exempt from all requirements of subparts F, G, and H of this part until not later than April 22, 1997 if the owner or operator certifies, in a notification to the appropriate EPA Regional Office, not later than May 14, 1996, that the plant site at which the chemical manufacturing processing unit is located emits, and will continue to emit, during any 12-month period, less than 10 tons per year of any

individual hazardous air pollutants (HAP), and less than 25 tons per year of any combination of HAP.

(i) If such a determination is based on limitations and conditions that are not federally enforceable (as defined in subpart A of this part), the owner or operator shall document the basis for the determination as specified in paragraphs (b)(4)(i)(A) through (b)(4)(i)(C) and comply with the recordkeeping requirement in 63.103(f).

(A) The owner or operator shall identify all HAP emission points at the plant site, including those emission points subject to and emission points not subject to subparts F, G, and H;

(B) The owner or operator shall calculate the amount of annual HAP emissions released from each emission point at the plant site, using acceptable measurement or estimating techniques for maximum expected operating conditions at the plant site. Examples of estimating procedures that are considered acceptable include the calculation procedures in § 63.150 of subpart G, the early reduction demonstration procedures specified in §§ 63.74 (c)(2), (c)(3), (d)(2), (d)(3), and (g), or accepted engineering practices. If the total annual HAP emissions for the plant site are annually reported under Emergency Planning and Community Right-to-Know Act (EPCRA) section 313, then such reported annual emissions may be used to satisfy the requirements of § 63.100(b)(4)(i)(B).

(C) The owner or operator shall sum the amount of annual HAP emissions from all emission points on the plant site. If the total emissions of any one HAP are less than 10 tons per year and the total emissions of any combination of HAP are less than 25 tons per year, the plant site qualifies for the exemption described in paragraph (b)(4) of this section, provided that emissions are kept below these thresholds.

(ii) If such a determination is based on limitations and conditions that are federally enforceable (as defined in subpart A of this part), the owner or operator is not subject to the provisions of paragraph (b)(4) of this section.

(c) The owner or operator of a chemical manufacturing process unit that meets the criteria specified in paragraphs (b)(1) and (b)(3) of this section but does not use as a reactant or manufacture as a product or co-product, any organic hazardous air pollutant listed in table 2 of this subpart shall comply only with the requirements of § 63.103(e) of this subpart. To comply with this subpart, such chemical manufacturing process units shall not be required to comply with the provisions of subpart A of this part.

(d) The primary product of a chemical manufacturing process unit shall be determined according to the procedures specified in paragraphs (d)(1), (d)(2), (d)(3), and (d)(4) of this section.

(1) If a chemical manufacturing process unit produces more than one intended chemical product, the product with the greatest annual design capacity on a mass basis determines the primary product of the process.

(2) If a chemical manufacturing process unit has two or more products that have the same maximum annual design capacity on a mass basis and if one of those chemicals is listed in table 1 of this subpart, then the listed chemical is considered the primary product and the chemical manufacturing process unit is subject to this subpart. If more than one of the products is listed in table 1 of this subpart, then the owner or operator may designate as the primary product any of the listed chemicals and the chemical manufacturing process unit is subject to this subpart.

(3) For chemical manufacturing process units that are designed and operated as flexible operation units producing one or more chemicals listed in table 1 of this subpart, the primary product shall be determined for existing sources based on the expected utilization for the five years following April 22, 1994 and for new sources based on the expected utilization for the first five years after initial startup.

(i) If the predominant use of the flexible operation unit, as described in paragraphs (d)(3)(i)(A) and (d)(3)(i)(B) of this section, is to produce one or more chemicals listed in table 1 of this subpart, then the flexible operation unit shall be subject to the provisions of subparts F, G, and H of this part.

(A) If the flexible operation unit produces one product for the greatest annual operating time, then that product shall represent the primary product of the flexible operation unit.

(B) If the flexible operation unit produces multiple chemicals equally based on operating time, then the product with the greatest annual production on a mass basis shall represent the primary product of the flexible operation unit.

(ii) The determination of applicability of this subpart to chemical manufacturing process units that are designed and operated as flexible operation units shall be reported as part of an operating permit application or as otherwise specified by the permitting authority.

(4) Notwithstanding the provisions of paragraph (d)(3) of this section, for chemical manufacturing process units that are designed and operated as flexible operation units producing a chemical listed in paragraph (b)(1)(ii) of this section, the primary product shall be determined for existing sources based on the expected utilization for the five years following May 12, 1998 and for new sources based on the expected utilization for the first five years after the initial start-up.

(i) The predominant use of the flexible operation unit shall be determined according to paragraphs (d)(3)(i)(A) and (d)(3)(i)(B) of this section. If the predominant use is to produce one of the chemicals listed in paragraph (b)(1)(ii) of this section, then the flexible operation unit shall be subject to the provisions of this subpart and subparts G and H of this part.

(ii) The determination of applicability of this subpart to chemical manufacturing process units that are designed and operated as flexible operation units shall be reported as part of an operating permit application or as otherwise specified by the permitting authority.

(e) The source to which this subpart applies is the collection of all chemical manufacturing process units and the associated equipment at a major source that meet the criteria specified in paragraphs (b)(1) through (3) of this section. The source includes the process vents; storage vessels; transfer racks; waste management units; maintenance wastewater; heat exchange systems; equipment identified in § 63.149; and pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, surge control vessels, and bottoms receivers that are associated with that collection of chemical manufacturing process units. The source also includes equipment required by, or utilized as a method of compliance with, subparts F, G, or H of this part which may include control devices and recovery devices.

(1) This subpart applies to maintenance wastewater and heat exchange systems within a source that is subject to this subpart.

(2) This subpart F and subpart G of this part apply to process vents, storage vessels, transfer racks, equipment identified in § 63.149 of subpart G of this part, and wastewater streams and associated treatment residuals within a source that is subject to this subpart.

(3) This subpart F and subpart H of this part apply to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, surge control vessels, and bottoms receivers within a source that is subject to this subpart. If specific items of equipment, comprising part of a chemical manufacturing process unit subject to this subpart, are managed by different administrative organizations (e.g., different companies, affiliates, departments, divisions, etc.), those items of equipment may be aggregated with any chemical manufacturing process unit within the source

for all purposes under subpart H of this part, providing there is no delay in the applicable compliance date in § 63.100(k).

(f) The source includes the emission points listed in paragraphs (f)(1) through (f)(11) of this section, but those emission points are not subject to the requirements of this subpart F and subparts G and H of this part. This subpart does not require emission points that are listed in paragraphs (f)(1) through (f)(11) of this section to comply with the provisions of subpart A of this part.

(1) Equipment that is located within a chemical manufacturing process unit that is subject to this subpart but the equipment does not contain organic hazardous air pollutants.

(2) Stormwater from segregated sewers;

(3) Water from fire-fighting and deluge systems in segregated sewers;

(4) Spills;

(5) Water from safety showers;

(6) Water from testing of deluge systems;

(7) Water from testing of firefighting systems;

(8) Vessels storing organic liquids that contain organic hazardous air pollutants only as impurities;

(9) Loading racks, loading arms, or loading hoses that only transfer liquids containing organic hazardous air pollutants as impurities;

(10) Loading racks, loading arms, or loading hoses that vapor balance during all loading operations; and

(11) Equipment that is intended to operate in organic hazardous air pollutant service, as defined in § 63.161 of subpart H of this part, for less than 300 hours during the calendar year.

(g) The owner or operator shall follow the procedures specified in paragraphs (g)(1) through (g)(4) of this section to determine whether a storage vessel is part of the source to which this subpart applies.

(1) Where a storage vessel is dedicated to a chemical manufacturing process unit, the storage vessel shall be considered part of that chemical manufacturing process unit.

(i) If the chemical manufacturing process unit is subject to this subpart according to the criteria specified in paragraph (b) of this section, then the storage vessel is part of the source to which this subpart applies.

(ii) If the chemical manufacturing process unit is not subject to this subpart according to the criteria specified in paragraph (b) of this section, then the storage vessel is not part of the source to which this subpart applies.

(2) If a storage vessel is not dedicated to a single chemical manufacturing process unit, then the applicability of this subpart F and subpart G of this part shall be determined according to the provisions in paragraphs (g)(2)(i) through (g)(2)(iii) of this section.

(i) If a storage vessel is shared among chemical manufacturing process units and one of the process units has the predominant use, as determined by paragraph (g)(2)(i)(A) and (g)(2)(i)(B) of this section, then the storage vessel is part of that chemical manufacturing process unit.

(A) If the greatest input into the storage vessel is from a chemical manufacturing process unit that is located on the same plant site, then that chemical manufacturing process unit has the predominant use.

(B) If the greatest input into the storage vessel is provided from a chemical manufacturing process unit that is not located on the same plant site, then the predominant use is the chemical manufacturing process unit on the same plant site that receives the greatest amount of material from the storage vessel.

(ii) If a storage vessel is shared among chemical manufacturing process units so that there is no single predominant use, and at least one of those chemical manufacturing process units is subject to this subpart, the storage vessel shall be considered to be part of the chemical manufacturing process unit that is subject to this subpart. If more than one chemical manufacturing process unit is subject to this subpart, the owner or operator may assign the storage vessel to any of the chemical manufacturing process units subject to this subpart.

(iii) If the predominant use of a storage vessel varies from year to year, then the applicability of this subpart shall be determined according to the criteria in paragraphs (g)(2)(iii)(A) and (g)(2)(iii)(B) of this section, as applicable.

(A) For chemical manufacturing process units that produce one or more of the chemicals listed in table 1 of this subpart and meet the criteria in paragraphs (b)(2) and (b)(3) of this section, the applicability shall be based on the utilization that occurred during the 12-month period preceding April 22, 1994.

(B) For chemical manufacturing process units that produce one or more of the chemicals listed in paragraph (b)(1)(ii) of this section and meet the criteria in paragraphs (b)(2) and (b)(3) of this section, the applicability shall be based on the utilization that occurred during the 12-month period preceding May 12, 1998.

(iv) If there is a change in the material stored in the storage vessel, the owner or operator shall reevaluate the applicability of this subpart to the vessel.

(3) Where a storage vessel is located at a major source that includes one or more chemical manufacturing process units which place material into, or receive materials from the storage vessel, but the storage vessel is located in a tank farm (including a marine tank farm), the applicability of this subpart F and subpart G of this part shall be determined according to the provisions in paragraphs (g)(3)(i) through (g)(3)(iv) of this section.

(i) The storage vessel may only be assigned to a chemical manufacturing process unit that utilizes the storage vessel and does not have an intervening storage vessel for that product (or raw material, as appropriate). With respect to any chemical manufacturing process unit, an intervening storage vessel means a storage vessel connected by hard-piping to the chemical manufacturing process unit and to the storage vessel in the tank farm so that product or raw material entering or leaving the chemical manufacturing process unit flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.

(ii) If there is no chemical manufacturing process unit at the major source that meets the criteria of paragraph (g)(3)(i) of this section with respect to a storage vessel, this subpart F and subpart G of this part do not apply to the storage vessel.

(iii) If there is only one chemical manufacturing process unit at the major source that meets the criteria of paragraph (g)(3)(i) of this section with respect to a storage vessel, the storage vessel shall be assigned to that chemical manufacturing process unit. Applicability of this subpart F and subpart G to this part to the storage vessel shall then be determined according to the provisions of paragraph (b) of this section.

(iv) If there are two or more chemical manufacturing process units at the major source that meet the criteria of paragraph (g)(3)(i) of this section with respect to a storage vessel, the storage vessel shall be assigned to one of those chemical manufacturing process units according to the provisions of paragraph (g)(2) of this section. The predominant use shall be determined among only those chemical manufacturing process units that meet the criteria of paragraph (g)(3)(i) of this section. Applicability of this subpart F and subpart G of this part to the storage vessel shall then be determined according to the provisions of paragraph (b) of this section.

(4) If the storage vessel begins receiving material from (or sending material to) another chemical manufacturing process unit, or ceasing to receive material from (or send material to) a

chemical manufacturing process unit, or if the applicability of this subpart F and subpart G of this part to a storage vessel has been determined according to the provisions of paragraphs (g)(2)(i) through (g)(2)(ii) of this section and there is a change so that the predominant use may reasonably have changed, the owner or operator shall reevaluate the applicability of this subpart to the storage vessel.

(h) The owner or operator shall follow the procedures specified in paragraphs (h)(1) and (h)(2) of this section to determine whether the arms and hoses in a loading rack are part of the source to which this subpart applies.

(1) Where a loading rack is dedicated to a chemical manufacturing process unit, the loading rack shall be considered part of that specific chemical manufacturing process unit.

(i) If the chemical manufacturing process unit is subject to this subpart according to the criteria specified in paragraph (b) of this section and the loading rack does not meet the criteria specified in paragraphs (f)(9) and (f)(10) of this section, then the loading rack is considered a transfer rack (as defined in § 63.101 of this subpart) and is part of the source to which this subpart applies.

(ii) If the chemical manufacturing process unit is not subject to this subpart according to the criteria specified in paragraph (b) of this section, then the loading rack is not considered a transfer rack (as defined in § 63.101 of this subpart) and is not a part of the source to which this subpart applies.

(2) If a loading rack is shared among chemical manufacturing process units, then the applicability of this subpart F and subpart G of this part shall be determined at each loading arm or loading hose according to the provisions in paragraphs (h)(2)(i) through (h)(2)(iv) of this section.

(i) Each loading arm or loading hose that is dedicated to the transfer of liquid organic hazardous air pollutants listed in table 2 of this subpart from a chemical manufacturing process unit to which this subpart applies is part of that chemical manufacturing process unit and is part of the source to which this subpart applies unless the loading arm or loading hose meets the criteria specified in paragraphs (f)(9) or (f)(10) of this section.

(ii) If a loading arm or loading hose is shared among chemical manufacturing process units, and one of the chemical manufacturing process units provides the greatest amount of the material that is loaded by the loading arm or loading hose, then the loading arm or loading hose is part of that chemical manufacturing process unit.

(A) If the chemical manufacturing process unit is subject to this subpart according to the criteria specified in paragraph (b) of this section, then the loading arm or loading hose is part of the source to which this subpart applies unless the loading arm or loading hose meets the criteria specified in paragraphs (f)(9) or (f)(10) of this section.

(B) If the chemical manufacturing process unit is not subject to this subpart according to the criteria specified in paragraph (b) of this section, then the loading arm or loading hose is not part of the source to which this subpart applies.

(iii) If a loading arm or loading hose is shared among chemical manufacturing process units so that there is no single predominant use as described in paragraph (h)(2)(ii) of this section and at least one of those chemical manufacturing process units is subject to this subpart, then the loading arm or hose is part of the chemical manufacturing process unit that is subject to this subpart. If more than one of the chemical manufacturing process units is subject to this subpart, the owner or operator may assign the loading arm or loading hose to any of the chemical manufacturing process units subject to this subpart.

(iv) If the predominant use of a loading arm or loading hose varies from year to year, then the applicability of this subpart shall be determined according to the criteria in paragraphs (h)(2)(iv)(A) and (h)(2)(iv)(B) of this section, as applicable.

(A) For chemical manufacturing process units that produce one or more of the chemicals listed in table 1 of this subpart and meet the criteria in paragraphs (b)(2) and (b)(3) of this section, the applicability shall be based on the utilization that occurred during the 12-month period preceding April 22, 1994.

(B) For chemical manufacturing process units that produce one or more of the chemicals listed in paragraph (b)(1)(ii) of this section and meet the criteria in paragraphs (b)(2) and (b)(3) of this section, the applicability shall be based on the utilization that occurred during the year preceding May 12, 1998.

(3) If a loading rack that was dedicated to a single chemical manufacturing process unit begins to serve another chemical manufacturing process unit, or if applicability was determined under the provisions of paragraphs (h)(2)(i) through (h)(2)(iv) of this section and there is a change so that the predominant use may reasonably have changed, the owner or operator shall reevaluate the applicability of this subpart to the loading rack, loading arm, or loading hose.

(i) Except as provided in paragraph (i)(4) of this section, the owner or operator shall follow the procedures specified in paragraphs (i)(1) through (i)(3) and (i)(5) of this section to determine whether the vent(s) from a distillation unit is part of the source to which this subpart applies.

(1) Where a distillation unit is dedicated to a chemical manufacturing process unit, the distillation column shall be considered part of that chemical manufacturing process unit.

(i) If the chemical manufacturing process unit is subject to this subpart according to the criteria specified in paragraph (b) of this section, then the distillation unit is part of the source to which this subpart applies.

(ii) If the chemical manufacturing process unit is not subject to this subpart according to the criteria specified in paragraph (b) of this section, then the distillation unit is not part of the source to which this subpart applies.

(2) If a distillation unit is not dedicated to a single chemical manufacturing process unit, then the applicability of this subpart and subpart G of this part shall be determined according to the provisions in paragraphs (i)(2)(i) through (i)(2)(iv) of this section.

(i) If the greatest input to the distillation unit is from a chemical manufacturing process unit located on the same plant site, then the distillation unit shall be assigned to that chemical manufacturing process unit.

(ii) If the greatest input to the distillation unit is provided from a chemical manufacturing process unit that is not located on the same plant site, then the distillation unit shall be assigned to the chemical manufacturing process unit located at the same plant site that receives the greatest amount of material from the distillation unit.

(iii) If a distillation unit is shared among chemical manufacturing process units so that there is no single predominant use as described in paragraphs (i)(2)(i) and (i)(2)(ii) of this section, and at least one of those chemical manufacturing process units is subject to this subpart, the distillation unit shall be assigned to the chemical manufacturing process unit that is subject to this subpart. If more than one chemical manufacturing process unit is subject to this subpart, the owner or operator may assign the distillation unit to any of the chemical manufacturing process units subject to this subpart.

(iv) If the predominant use of a distillation unit varies from year to year, then the applicability of this subpart shall be determined according to the criteria in paragraphs (i)(2)(iv)(A) and (i)(2)(iv)(B), as applicable.

(A) For chemical manufacturing process units that produce one or more of the chemicals listed in table 1 of this subpart and meet the criteria in paragraphs (b)(2) and (b)(3) of this section, the applicability shall be based on the utilization that occurred during the year preceding April 22, 1994.

(B) For chemical manufacturing process units that produce one or more of the chemicals listed in paragraph (b)(1)(i) of this section and meet the criteria in paragraphs (b)(2) and (b)(3) of this section, the applicability shall be based on the utilization that occurred during the year preceding May 12, 1998.

(3) If the chemical manufacturing process unit to which the distillation unit is assigned is subject to this subpart, then each vent from the individual distillation unit shall be considered separately to determine whether it is a process vent (as defined in § 63.101 of this subpart). Each vent that is a process vent is part of the source to which this subpart applies.

(4) If the distillation unit is part of one of the chemical manufacturing process units listed in paragraphs (i)(4)(i) through (i)(4)(iii) of this section, then each vent from the individual distillation unit shall be considered separately to determine whether it is a process vent (as defined in § 63.101 of this subpart). Each vent that is a process vent is part of the source to which this subpart applies:

(i) The Aromex unit that produces benzene, toluene, and xylene;

(ii) The unit that produces hexane; or

(iii) The unit that produces cyclohexane.

(5) If a distillation unit that was dedicated to a single chemical manufacturing process unit, or that was part of a chemical manufacturing unit identified in paragraphs (i)(4)(i) through (i)(4)(iii) of this section, begins to serve another chemical manufacturing process unit, or if applicability was determined under the provisions of paragraphs (i)(2)(i) through (i)(2)(iv) of this section and there is a change so that the predominant use may reasonably have changed, the owner or operator shall reevaluate the applicability of this subpart to the distillation unit.

(j) The provisions of subparts F, G, and H of this part do not apply to the processes specified in paragraphs (j)(1) through (j)(6) of this section. Subparts F, G, and H do not require processes specified in paragraphs (j)(1) through (j)(6) to comply with the provisions of subpart A of this part.

(1) Research and development facilities, regardless of whether the facilities are located at the same plant site as a chemical manufacturing process unit that is subject to the provisions of subparts F, G, or H of this part.

(2) Petroleum refining process units, regardless of whether the units supply feedstocks that include chemicals listed in table 1 of this subpart to chemical manufacturing process units that are subject to the provisions of subparts F, G, or H of this part.

(3) Ethylene process units, regardless of whether the units supply feedstocks that include chemicals listed in table 1 of this subpart to chemical manufacturing process units that are subject to the provisions of subpart F, G, or H of this part.

(4) Batch process vents within a chemical manufacturing process unit;

(5) Chemical manufacturing process units that are located in coke by-product recovery plants.

(6) Solvent reclamation, recovery, or recycling operations at hazardous waste TSDF facilities requiring a permit under 40 CFR part 270 that are separate entities and not part of a SOCMI chemical manufacturing process unit.

(k) Except as provided in paragraphs (l), (m), and (p) of this section, sources subject to subpart F, G, or H of this part are required to achieve compliance on or before the dates specified in paragraphs (k)(1) through (k)(8) of this section.

(1) (i) New sources that commence construction or reconstruction after December 31, 1992, but before August 27, 1996 shall be in compliance with this subpart F, subparts G and H of this part upon initial start-up or by April 22, 1994, whichever is later, as provided in § 63.6(b) of subpart A of this part, and further, where start-up occurs before January 17, 1997 shall

also be in compliance with this subpart F and subparts G and H of this part (as amended on January 17, 1997) by January 17, 1997, except that, with respect to all new sources that commenced construction or reconstruction after December 31, 1992, and before August 27, 1996:

(A) Heat exchange systems and maintenance wastewater, that are part of a new source on which construction or reconstruction commenced after December 31, 1992, but before August 27, 1996, shall be in compliance with this subpart F no later than initial start-up or 180 days after January 17, 1997, whichever is later;

(B) Process wastewater streams and equipment subject to § 63.149, that are part of a new source on which construction or reconstruction commenced after December 31, 1992, but before August 27, 1996, shall be in compliance with this subpart F and subpart G of this part no later than initial start-up or 180 days after January 17, 1997, whichever is later; and

(ii) New sources that commence construction after August 26, 1996 shall be in compliance with this subpart F, subparts G and H of this part upon initial start-up or by January 17, 1997, whichever is later.

(2) Existing sources shall be in compliance with this subpart F and subpart G of this part no later than the dates specified in paragraphs (k)(2)(i) and (k)(2)(ii) of this section, unless an extension has been granted by the Administrator as provided in § 63.151(a)(6) of subpart G of this part or granted by the permitting authority as provided in § 63.6(i) of subpart A of this part.

(i) Process vents, storage vessels, and transfer racks at an existing source shall be in compliance with the applicable sections of this subpart and subpart G of this part no later than April 22, 1997.

(ii) Heat exchange systems and maintenance wastewater shall be in compliance with the applicable sections of this subpart, and equipment subject to § 63.149 and process wastewater streams shall be in compliance with the applicable sections of this subpart and subpart G of this part no later than April 22, 1999, except as provided in paragraphs (k)(2)(ii)(A) and (k)(2)(ii)(B) of this section.

(A) If a process wastewater stream or equipment subject to § 63.149 is subject to the control requirements of subpart G of this part due to the contribution of nitrobenzene to the total annual average concentration (as determined according to the procedures in § 63.144(b) of subpart G of this part), the wastewater stream shall be in compliance no later than January 18, 2000.

(B) If a process wastewater stream is used to generate credits in an emissions average in accordance with § 63.150 of subpart G of this part, the process wastewater stream shall be in compliance with the applicable sections of subpart G of this part no later than April 22, 1997.

(3) Existing sources shall be in compliance with subpart H of this part no later than the dates specified in paragraphs (k)(3)(i) through (k)(3)(v) of this section, except as provided for in paragraphs (k)(4) through (k)(8) of this section, unless an extension has been granted by the Administrator as provided in § 63.182(a)(6) of this part or granted by the permitting authority as provided in § 63.6(I) of subpart A of this part. The group designation for each process unit is indicated in table 1 of this subpart.

(i) Group I: October 24, 1994.

(ii) Group II: January 23, 1995.

(iii) Group III: April 24, 1995.

(iv) Group IV: July 24, 1995.

(v) Group V: October 23, 1995.

(4) Existing chemical manufacturing process units in Groups I and II as identified in table 1 of this subpart shall be in compliance with the requirements of § 63.164 of subpart H no later than May 10, 1995, for any compressor meeting one or more of the criteria in paragraphs (k)(4)(i)

through (k)(4)(iv) of this section, if the work can be accomplished without a process unit shutdown, as defined in § 63.161 in subpart H.

(i) The seal system will be replaced;

(ii) A barrier fluid system will be installed;

(iii) A new barrier fluid will be utilized which requires changes to the existing barrier fluid system; or

(iv) The compressor must be modified to permit connecting the compressor to a closed vent system.

(5) Existing chemical manufacturing process units shall be in compliance with the requirements of § 63.164 in subpart H no later than 1 year after the applicable compliance date specified in paragraph (k)(3) of this section, for any compressor meeting the criteria in paragraphs (k)(5)(i) through (k)(5)(iv) of this section.

(i) The compressor meets one or more of the criteria specified in paragraphs (k)(4) (i) through (iv) of this section;

(ii) The work can be accomplished without a process unit shutdown as defined in § 63.161 of subpart H;

(iii) The additional time is actually necessary due to the unavailability of parts beyond the control of the owner or operator; and

(iv) The owner or operator submits a request to the appropriate EPA Regional Office at the addresses listed in § 63.13 of subpart A of this part no later than 45 days before the applicable compliance date in paragraph (k)(3) of this section, but in no event earlier than May 10, 1995. The request shall include the information specified in paragraphs (k)(5)(iv)(A) through (k)(5)(iv)(E) of this section. Unless the EPA Regional Office objects to the request within 30 days after receipt, the request shall be deemed approved.

(A) The name and address of the owner or operator and the address of the existing source if it differs from the address of the owner or operator;

(B) The name, address, and telephone number of a contact person for further information;

(C) An identification of the chemical manufacturing process unit, and of the specific equipment for which additional compliance time is required;

(D) The reason compliance can not reasonably be achieved by the applicable date specified in paragraphs (k)(3)(i) through (k)(3)(v) of this section; and

(E) The date by which the owner or operator expects to achieve compliance.

(6) (i) If compliance with the compressor provisions of § 63.164 of subpart H of this part can not reasonably be achieved without a process unit shutdown, as defined in § 63.161 of subpart H, the owner or operator shall achieve compliance no later than April 22, 1996, except as provided for in paragraph (k)(6)(ii) of this section. The owner or operator who elects to use this provision shall comply with the requirements of § 63.103(g) of this subpart.

(ii) If compliance with the compressor provisions of § 63.164 of subpart H of this part can not be achieved without replacing the compressor or recasting the distance piece, the owner or operator shall achieve compliance no later than April 22, 1997. The owner or operator who elects to use this provision shall also comply with the requirements of § 63.103(g) of this subpart.

(7) Existing sources shall be in compliance with the provisions of § 63.170 of subpart H no later than April 22, 1997.

(8) If an owner or operator of a chemical manufacturing process unit subject to the provisions of subparts F, G, and H of part 63 plans to implement pollution prevention measures to eliminate the use or production of HAP listed in table 2 of this subpart by October 23, 1995, the provisions of subpart H do not apply regardless of the compliance dates specified in paragraph

(k)(3) of this section. The owner or operator who elects to use this provision shall comply with the requirements of § 63.103(h) of this subpart. (9) All terms in this subpart F or subpart G of this part that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annual), unless specified otherwise in the section or subsection that imposes the requirement, refer to the standard calendar periods.

(i) Notwithstanding time periods specified in this subpart F or subpart G of this part for completion of required tasks, such time periods may be changed by mutual agreement between the owner or operator and the Administrator, as specified in subpart A of this part (e.g., a period could begin on the compliance date or another date, rather than on the first day of the standard calendar period). For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(ii) Where the period specified for compliance is a standard calendar period, if the initial compliance date occurs after the beginning of the period, compliance shall be required according to the schedule specified in paragraphs (k)(9)(ii)(A) or (k)(9)(ii)(B) of this section, as appropriate.

(A) Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs, if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(B) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs.

(iii) In all instances where a provision of this subpart F or subpart G of this part requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during the specified period, provided the task is conducted at a reasonable interval after completion of the task during the previous period.

(l) (1) If an additional chemical manufacturing process unit meeting the criteria specified in paragraph (b) of this section is added to a plant site that is a major source as defined in section 112(a) of the Act, the addition shall be subject to the requirements for a new source in subparts F, G, and H of this part if:

(i) It is an addition that meets the definition of construction in § 63.2 of subpart A of this part;

(ii) (A) Such construction commenced after December 31, 1992 for chemical manufacturing process units that produce as a primary product one or more of the chemicals listed in table 1 of this subpart;

(B) Such construction commenced after August 22, 1997 for chemical manufacturing process units that produce as a primary product one or more of the chemicals listed in paragraph (b)(1)(ii) of this section; and

(iii) The addition has the potential to emit 10 tons per year or more of any HAP or 25 tons per year or more of any combination of HAP's, unless the Administrator establishes a lesser quantity.

(2) If any change is made to a chemical manufacturing process unit subject to this subpart, the change shall be subject to the requirements of a new source in subparts F, G, and H of this part if:

(i) It is a change that meets the definition of reconstruction in § 63.2 of subpart A of this part; and

(ii) (A) Such construction commenced after December 31, 1992 for chemical manufacturing process units that produce as a primary product one or more of the chemicals listed in table 1 of this subpart;

(B) Such construction commenced after August 22, 1997 for chemical manufacturing process units that produce as a primary product one or more of the chemicals listed in paragraph (b)(1)(ii) of this section.

(3) If an additional chemical manufacturing process unit is added to a plant site or a change is made to a chemical manufacturing process unit and the addition or change is determined to be subject to the new source requirements according to paragraph (l)(1) or (l)(2) of this section:

(i) The new or reconstructed source shall be in compliance with the new source requirements of subparts F, G, and H of this part upon initial start-up of the new or reconstructed source or by April 22, 1994, whichever is later; and

(ii) The owner or operator of the new or reconstructed source shall comply with the reporting and recordkeeping requirements in subparts F, G, and H of this part that are applicable to new sources. The applicable reports include, but are not limited to:

(A) The application for approval of construction or reconstruction which shall be submitted by the date specified in § 63.151(b)(2)(ii) of subpart G of this part, or an Initial Notification as specified in § 63.151(b)(2)(iii) of subpart G of this part;

(B) Changes that meet the criteria in § 63.151(j) of subpart G of this part, unless the information has been submitted in an operating permit application or amendment;

(C) The Notification of Compliance Status as required by § 63.152(b) of subpart G of this part for the new or reconstructed source;

(D) Periodic Reports and Other Reports as required by § 63.152(c) and (d) of subpart G of this part;

(E) Reports required by § 63.182 of subpart H of this part; and

(F) Reports and notifications required by sections of subpart A of this part that are applicable to subparts F, G, and H of this part, as identified in table 3 of this subpart.

(4) If an additional chemical manufacturing process unit is added to a plant site, or if an emission point is added to an existing chemical manufacturing process unit, or if another deliberate operational process change creating an additional Group 1 emission point(s) is made to an existing chemical manufacturing process unit, or if a surge control vessel or bottoms receiver becomes subject to § 63.170 of subpart H, or if a compressor becomes subject to § 63.164 of subpart H, and if the addition or change is not subject to the new source requirements as determined according to paragraph (l)(1) or (l)(2) of this section, the requirements in paragraphs (l)(4)(i) through (l)(4)(iii) of this section shall apply. Examples of process changes include, but are not limited to, changes in production capacity, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of this paragraph and paragraph (m) of this section, process changes do not include: Process upsets, unintentional temporary process changes, and changes that are within the equipment configuration and operating conditions documented in the Notification of Compliance Status required by § 63.152(b) of subpart G of this part.

(i) The added emission point(s) and any emission point(s) within the added or changed chemical manufacturing process unit are subject to the requirements of subparts F, G, and H of this part for an existing source;

(ii) The added emission point(s) and any emission point(s) within the added or changed chemical manufacturing process unit shall be in compliance with subparts F, G, and H of this part by the dates specified in paragraph (l)(4)(ii) (A) or (B) of this section, as applicable.

(A) If a chemical manufacturing process unit is added to a plant site or an emission point(s) is added to an existing chemical manufacturing process unit, the added emission

point(s) shall be in compliance upon initial startup of the added chemical manufacturing process unit or emission point(s) or by 3 years after April 22, 1994, whichever is later.

(B) If a deliberate operational process change to an existing chemical manufacturing process unit causes a Group 2 emission point to become a Group 1 emission point, if a surge control vessel or bottoms receiver becomes subject to § 63.170 of subpart H, or if a compressor becomes subject to § 63.164 of subpart H, the owner or operator shall be in compliance upon initial start-up or by 3 years after April 22, 1994, whichever is later, unless the owner or operator demonstrates to the Administrator that achieving compliance will take longer than making the change. If this demonstration is made to the Administrator's satisfaction, the owner or operator shall follow the procedures in paragraphs (m)(1) through (m)(3) of this section to establish a compliance date.

(iii) The owner or operator of a chemical manufacturing process unit or emission point that is added to a plant site and is subject to the requirements for existing sources shall comply with the reporting and recordkeeping requirements of subparts F, G, and H of this part that are applicable to existing sources, including, but not limited to, the reports listed in paragraphs (l)(4)(iii) (A) through (E) of this section. A change to an existing chemical manufacturing process unit shall be subject to the reporting requirements for existing sources, including but not limited to, the reports listed in paragraphs (l)(4)(iii)(A) through (E) of this section if the change meets the criteria specified in § 63.118(g), (h), (i), or (j) of subpart G of this part for process vents or the criteria in § 63.155(i) or (j) of subpart G of this part. The applicable reports include, but are not limited to:

(A) Reports specified in § 63.151(i) and (j) of subpart G of this part, unless the information has been submitted in an operating permit application or amendment;

(B) The Notification of Compliance Status as required by § 63.152(b) of subpart G of this part for the emission points that were added or changed;

(C) Periodic Reports and other reports as required by § 63.152 (c) and (d) of subpart G of this part;

(D) Reports required by § 63.182 of subpart H of this part; and

(E) Reports and notifications required by sections of subpart A of this part that are applicable to subparts F, G, and H of this part, as identified in table 3 of this subpart.

(m) If a change that does not meet the criteria in paragraph (l)(4) of this section is made to a chemical manufacturing process unit subject to subparts F and G of this part, and the change causes a Group 2 emission point to become a Group 1 emission point (as defined in § 63.111 of subpart G of this part), then the owner or operator shall comply with the requirements of subpart G of this part for the Group 1 emission point as expeditiously as practicable, but in no event later than 3 years after the emission point becomes Group 1.

(1) The owner or operator shall submit to the Administrator for approval a compliance schedule, along with a justification for the schedule.

(2) The compliance schedule shall be submitted with the report required in § 63.151(i)(2) of subpart G of this part for emission points included in an emissions average or § 63.151(j)(1) or subpart G of this part for emission points not in an emissions average, unless the compliance schedule has been submitted in an operating permit application or amendment.

(3) The Administrator shall approve the compliance schedule or request changes within 120 calendar days of receipt of the compliance schedule and justification.

(n) *Rules stayed for reconsideration.* Notwithstanding any other provision of this subpart, the effectiveness of subpart F is stayed from October 24, 1994, to April 24, 1995, only as applied to

those sources for which the owner or operator makes a representation in writing to the Administrator that the resolution of the area source definition issues could have an effect on the compliance status of the source with respect to subpart F.

(o) *Sections stayed for reconsideration.* Notwithstanding any other provision of this subpart, the effectiveness of §§ 63.164 and 63.170 of subpart H is stayed from October 28, 1994, to April 24, 1995, only as applied to those sources subject to § 63.100(k)(3) (i) and (ii).

(p) Compliance dates for chemical manufacturing process units that produce crotonaldehyde or tetrahydrobenzaldehyde. Notwithstanding the provisions of paragraph (k) of this section, chemical manufacturing process units that meet the criteria in paragraphs (b)(1)(ii), (b)(2), and (b)(3) of this section shall be in compliance with this subpart and subparts G and H of this part by the dates specified in paragraphs (p)(1) and (p)(2) of this section, as applicable.

(1) If the source consists only of chemical manufacturing process units that produce as a primary product one or more of the chemicals listed in paragraph (b)(1)(ii) of this section, new sources shall comply by the date specified in paragraph (p)(1)(i) of this section and existing sources shall comply by the dates specified in paragraphs (p)(1)(ii) and (p)(1)(iii) of this section.

(i) Upon initial startup or May 12, 1998, whichever is later.

(ii) This subpart and subpart G of this part by May 14, 2001, unless an extension has been granted by the Administrator as provided in Sec. 63.151(a)(6) or granted by the permitting authority as provided in Sec. 63.6(i) of subpart A of this part. When April 22, 1994 is referred to in this subpart and subpart G of this part, May 12, 1998 shall be used as the applicable date for that provision. When December 31, 1992 is referred to in this subpart and subpart G of this part, August 22, 1997 shall be used as the applicable date for that provision.

(iii) Subpart H of this part by May 12, 1999, unless an extension has been granted by the Administrator as provided in Sec. 63.151(a)(6) or granted by the permitting authority as provided in Sec. 63.6(i) of subpart A of this part. When April 22, 1994 is referred to in subpart H of this part, May 12, 1998 shall be used as the applicable date for that provision. When December 31, 1992 is referred to in subpart H of this part, August 22, 1997 shall be used as the applicable date for that provision.

(2) If the source consists of a combination of chemical manufacturing process units that produce as a primary product one or more of the chemicals listed in paragraphs (b)(1)(i) and (b)(1)(ii) of this section, new chemical manufacturing process units that meet the criteria in paragraph (b)(1)(ii) of this section shall comply by the date specified in paragraph (p)(1)(i) of this section and existing chemical manufacturing process units producing crotonaldehyde and/or tetrahydrobenzaldehyde shall comply by the dates specified in paragraphs (p)(1)(ii) and (p)(1)(iii) of this section.

(q) If the owner or operator of a process vent, or of a gas stream transferred subject to § 63.113(i), is unable to comply with the provisions of §§ 63.113 through 63.118 by the applicable compliance date specified in paragraph (k),(l), or (m) of this section for the reasons stated in paragraph (q)(1),(3), or (5) of this section, the owner or operator shall comply with the applicable provisions in §§ 63.113 through 63.118 as expeditiously as practicable, but in no event later than the date approved by the Administrator pursuant to paragraph (q)(2), (4), or (6) of this section, respectively. For requests under paragraph (q)(1) or (3) of this section, the date approved by the Administrator may be earlier than, and shall not be later than, the later of January 22, 2004 or 3 years after the transferee's refusal to accept the stream for disposal. For requests submitted under paragraph (q)(5) of this section, the date approved by the Administrator may be earlier than, and

shall not be later than, 3 years after the date of publication of the amendments to this subpart or to subpart G of this part which created the need for an extension of the compliance.

(1) If the owner or operator has been sending a gas stream for disposal as described in § 63.113(i) prior to January 22, 2001, and the transferee does not submit a written certification as described in § 63.113(i)(2) and ceases to accept the gas stream for disposal, the owner or operator shall comply with paragraph (q)(2) of this section.

(2) (i) An owner or operator directed to comply with paragraph (q)(2) of this section shall submit to the Administrator for approval a compliance schedule, along with a justification for the schedule.

(ii) The compliance schedule and justification shall be submitted no later than 90 days after the transferee ceases to accept the gas stream for disposal.

(iii) The Administrator shall approve the compliance schedule or request changes within 120 days of receipt of the compliance schedule and justification.

(3) If the owner or operator has been sending the gas stream for disposal as described in § 63.113(i) to a transferee who had submitted a written certification as described in § 63.113(i)(2), and the transferee revokes its written certification, the owner or operator shall comply with paragraph (q)(4) of this section. During the period between the date when the owner or operator receives notice of revocation of the transferee's written certification and the compliance date established under paragraph (q)(4) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions to the extent practical. For purposes of this paragraph (q)(3), the term ''excess emissions'' means emissions in excess of those that would have occurred if the transferee had continued managing the gas stream in compliance with the requirements in §§ 63.113 through 63.118. The measures to be taken shall be identified in the applicable startup, shutdown, and malfunction plan. If the measures that can be reasonably taken will change over time, so that a more effective measure which could not reasonably be taken initially would be reasonable at a later date, the Administrator may require the more effective measure by a specified date (in addition to or instead of any other measures taken sooner or later than that date) as a condition of approval of the compliance schedule.

(4) (i) An owner or operator directed to comply with this paragraph (q)(4) shall submit to the Administrator for approval the documents specified in paragraphs (q)(4)(i)(A) through (E) of this section no later than 90 days after the owner or operator receives notice of revocation of the transferee's written certification.

(A) A request for determination of a compliance date.

(B) A justification for the request for determination of a compliance date.

(C) A compliance schedule.

(D) A justification for the compliance schedule.

(E) A description of the measures that will be taken to minimize excess emissions until the new compliance date, and the date when each measure will first be implemented. The owner or operator shall describe how, and to what extent, each measure will minimize excess emissions, and shall justify any period of time when measures are not in place.

(ii) The Administrator shall approve or disapprove the request for determination of a compliance date and the compliance schedule, or request changes, within 120 days after receipt of the documents specified in paragraphs (q)(4)(i)(A) through (E) of this section. Upon approving the request for determination and compliance schedule, the Administrator shall specify a reasonable compliance date consistent with the introductory text in paragraph (q) of this section.

(5) If the owner's or operator's inability to meet otherwise applicable compliance deadlines is due to amendments of this subpart or of subpart G of this part published on or after January 22, 2001 and neither condition specified in paragraph (q)(1) or (3) of this section is applicable, the owner or operator shall comply with paragraph (q)(6) of this section.

(6) (i) An owner or operator directed to comply with this paragraph (6)(i) shall submit to the Administrator for approval, a request for determination of a compliance date, a compliance schedule, a justification for the determination of a compliance date, and a justification for the compliance schedule.

(ii) The documents required to be submitted under paragraph (q)(6)(i) of this section shall be submitted no later than 120 days after publication of the amendments of this subpart or of subpart G of this part which necessitate the request for an extension.

(iii) The Administrator shall approve or disapprove the request for a determination of a compliance date, or request changes, within 120 days after receipt of the request for determination of a compliance date, the compliance schedule, and the two justifications. If the request for determination of a compliance date is disapproved, the compliance schedule is disapproved and the owner or operator shall comply by the applicable date specified in paragraph (k),(l), or (m) of this section. If the request for the determination of a compliance date is approved, the Administrator shall specify, at the time of approval, a reasonable compliance date consistent with the introductory text in paragraph (q) of this section.

§ 63.101 Definitions.

(a) The following terms as used in subparts F, G, and H of this part shall have the meaning given them in subpart A of this part: Act, actual emissions, Administrator, affected source, approved permit program, commenced, compliance date, construction, continuous monitoring system, continuous parameter monitoring system, effective date, emission standard, emissions averaging, EPA, equivalent emission limitation, existing source, Federally enforceable, fixed capital cost, hazardous air pollutant, lesser quantity, major source, malfunction, new source, owner or operator, performance evaluation, performance test, permit program, permitting authority, reconstruction, relevant standard, responsible official, run, standard conditions, State, and stationary source.

(b) All other terms used in this subpart and subparts G and H of this part shall have the meaning given them in the Act and in this section. If the same term is defined in subpart A of this part and in this section, it shall have the meaning given in this section for purposes of subparts F, G, and H of this part.

Air oxidation reactor means a device or vessel in which air, or a combination of air and oxygen, is used as an oxygen source in combination with one or more organic reactants to produce one or more organic compounds. Air oxidation reactor includes the product separator and any associated vacuum pump or steam jet.

Batch operation means a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and processed at one time. Batch operation includes noncontinuous operations in which the equipment is fed intermittently or discontinuously. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started.

Batch process vent means gaseous venting to the atmosphere from a batch operation.

Bottoms receiver means a tank that collects distillation bottoms before the stream is sent for storage or for further downstream processing.

By-product means a chemical that is produced coincidentally during the production of another chemical.

Chemical manufacturing process unit means the equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product. A chemical

manufacturing process unit consists of more than one unit operation. For the purpose of this subpart, chemical manufacturing process unit includes air oxidation reactors and their associated product separators and recovery devices; reactors and their associated product separators and recovery devices; distillation units and their associated distillate receivers and recovery devices; associated unit operations; associated recovery devices; and any feed, intermediate and product storage vessels, product transfer racks, and connected ducts and piping. A chemical manufacturing process unit includes pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, and control devices or systems. A chemical manufacturing process unit is identified by its primary product.

Control device means any combustion device, recovery device, or recapture device. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. For process vents (as defined in this section), recapture devices are considered control devices but recovery devices are not considered control devices. For a steam stripper, a primary condenser is not considered a control device.

Co-product means a chemical that is produced during the production of another chemical.

Distillate receiver means overhead receivers, overhead accumulators, reflux drums, and condenser(s) including ejector-condenser(s) associated with a distillation unit.

Distillation unit means a device or vessel in which one or more feed streams are separated into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and the vapor phases by vaporization and condensation as they approach equilibrium within the distillation unit. Distillation unit includes the distillate receiver, reboiler, and any associated vacuum pump or steam jet.

Emission point means an individual process vent, storage vessel, transfer rack, wastewater stream, or equipment leak.

Equipment leak means emissions of organic hazardous air pollutants from a connector, pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, surge control vessel, bottoms receiver, or instrumentation system in organic hazardous air pollutant service as defined in § 63.161.

Ethylene process or *ethylene process unit* means a chemical manufacturing process unit in which ethylene and/or propylene are produced by separation from petroleum refining process streams or by subjecting hydrocarbons to high temperatures in the presence of steam. The ethylene process unit includes the separation of ethylene and/or propylene from associated streams such as a C4 product, pyrolysis gasoline, and pyrolysis fuel oil. The ethylene process does not include the manufacture of SOCMI chemicals such as the production of butadiene from the C4 stream and aromatics from pyrolysis gasoline.

Flexible operation unit means a chemical manufacturing process unit that manufactures different chemical products periodically by alternating raw materials or operating conditions. These units are also referred to as campaign plants or blocked operations.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and flow and pressure control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in in-process
combustion equipment such as furnaces and gas turbines either singly or in combination.

Heat exchange system means any cooling tower system or once-through cooling water system (e.g., river or pond water). A heat exchange system can include more than one heat exchanger and can include an entire recirculating or once-through cooling system.

Impurity means a substance that is produced coincidentally with the primary product, or is present in a raw material. An impurity does not serve a useful purpose in the production or use of the primary product and is not isolated.

Initial start-up means the first time a new or reconstructed source begins production, or, for equipment added or changed as described in § 63.100 (l) or (m) of this subpart, the first time the equipment is put into operation. Initial start-up does not include operation solely for testing equipment. For purposes of subpart G of this part, initial start-up does not include subsequent start-ups (as defined in this section) of chemical manufacturing process units following malfunctions or shutdowns or following changes in product for flexible operation units or following recharging of equipment in batch operation. For purposes of subpart H of this part, initial start-up does not include subsequent start-ups (as defined in § 63.161 of subpart H of this part) of process units (as defined in § 63.161 of subpart H of this part) following malfunctions or process unit shutdowns.

Loading rack means a single system used to fill tank trucks and railcars at a single geographic site. Loading equipment and operations that are physically separate (i.e, do not share common piping, valves, and other equipment) are considered to be separate loading racks.

Maintenance wastewater means wastewater generated by the draining of process fluid from components in the chemical manufacturing process unit into an individual drain system prior to or during maintenance activities. Maintenance wastewater can be generated during planned and unplanned shutdowns and during periods not associated with a shutdown. Examples of activities that can generate maintenance wastewaters include descaling of heat exchanger tubing bundles, cleaning of distillation column traps, draining of low legs and high point bleeds, draining of pumps into an individual drain system, and draining of portions of the chemical manufacturing process unit for repair.

On-site or *On site* means, with respect to records required to be maintained by this subpart, that the records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the chemical manufacturing process unit to which the records pertain, or storage in central files elsewhere at the major source.

Operating permit means a permit required by 40 CFR part 70 or 71.

Organic hazardous air pollutant or *organic HAP* means one of the chemicals listed in table 2 of this subpart.

Petroleum refining process, also referred to as a *petroleum refining process unit*, means a process that for the purpose of producing transportation fuels (such as gasoline and diesel fuels), heating fuels (such as fuel gas, distillate, and residual fuel oils), or lubricants separates petroleum or separates, cracks, or reforms unfinished derivatives. Examples of such units include, but are not limited to, alkylation units, catalytic hydrotreating, catalytic hydrorefining, catalytic hydrocracking, catalytic reforming, catalytic cracking, crude distillation, and thermal processes.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Process vent means the point of discharge to the atmosphere (or the point of entry into a control device, if any) of a gas stream if the gas stream has the characteristics specified in § 63.107(b) through (h), or meets the criteria specified in § 63.107(i). For purposes of §§ 63.113 through 63.118, all references to the characteristics of a process vent (e.g., flow rate, total HAP concentration, or TRE index value) shall mean the characteristics of the gas stream.

Process wastewater means wastewater which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product. Examples are product tank drawdown or feed tank drawdown; water formed during a chemical reaction or used as a reactant;

water used to wash impurities from organic products or reactants; water used to cool or quench organic vapor streams through direct contact; and condensed steam from jet ejector systems pulling vacuum on vessels containing organics.

Product means a compound or chemical which is manufactured as the intended product of the chemical manufacturing process unit. By-products, isolated intermediates, impurities, wastes, and trace contaminants are not considered products.

Product separator means phase separators, flash drums, knock-out drums, decanters, degassers, and condenser(s) including ejector-condenser(s) associated with a reactor or an air oxidation reactor.

Reactor means a device or vessel in which one or more chemicals or reactants, other than air, are combined or decomposed in such a way that their molecular structures are altered and one or more new organic compounds are formed. Reactor includes the product separator and any associated vacuum pump or steam jet.

Recapture device means an individual unit of equipment capable of and used for the purpose of recovering chemicals, but not normally for use, reuse, or sale. For example, a recapture device may recover chemicals primarily for disposal. Recapture devices include, but are not limited to, absorbers, carbon adsorbers, and condensers.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse or for sale for fuel value, use, or reuse. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. For purposes of the monitoring, recordkeeping, and reporting requirements of subpart G of this part, recapture devices are considered recovery devices.

Research and development facility means laboratory and pilot plant operations whose primary purpose is to conduct research and development into new processes and products, where the operations are under the close supervision of technically trained personnel, and is not engaged in the manufacture of products for commercial sale, except in a *de minimis* manner.

Shutdown means for purposes including, but not limited to, periodic maintenance, replacement of equipment, or repair, the cessation of operation of a chemical manufacturing process unit or a reactor, air oxidation reactor, distillation unit, waste management unit, equipment required or used to comply with this subpart F, subparts G, or H of this part or the emptying and degassing of a storage vessel. Shutdown does not include the routine rinsing or washing of equipment in batch operation between batches.

Source means the collection of emission points to which this subpart applies as determined by the criteria in § 63.100 of this subpart. For purposes of subparts F, G, and H of this part, the term *affected source* as used in subpart A of this part has the same meaning as the term *source* defined here.

Start-up means the setting into operation of a chemical manufacturing process unit or a reactor, air oxidation reactor, distillation unit, waste management unit, or equipment required or used to comply with this subpart F, subpart G, or H of this part or a storage vessel after emptying and degassing. Start-up includes initial start-up, operation solely for testing equipment, the recharging of equipment in batch operation, and transitional conditions due to changes in product for flexible operation units.

Start-up, shutdown, and malfunction plan means the plan required under § 63.6(e)(3) of subpart A of this part. This plan details the procedures for operation and maintenance of the source during periods of start-up, shutdown, and malfunction.

Storage vessel means a tank or other vessel that is used to store organic liquids that contain one or more of the organic HAP's listed in table 2 of this subpart and that has been

assigned, according to the procedures in § 63.100(g) of this subpart, to a chemical manufacturing process unit that is subject to this subpart. Storage vessel does not include:

(1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;

(2) Pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere;

(3) Vessels with capacities smaller than 38 cubic meters;

(4) Vessels storing organic liquids that contain organic hazardous air pollutants only as impurities;

(5) Bottoms receiver tanks;

(6) Surge control vessels; or

(7) Wastewater storage tanks. Wastewater storage tanks are covered under the wastewater provisions.

Surge control vessel means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within a chemical manufacturing process unit when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.

Transfer operation means the loading, into a tank truck or railcar, of organic liquids that contain one or more of the organic hazardous air pollutants listed in table 2 of this subpart from a transfer rack (as defined in this section). Transfer operations do not include loading at an operating pressure greater than 204.9 kilopascals.

Transfer rack means the collection of loading arms and loading hoses, at a single loading rack, that are assigned to a chemical manufacturing process unit subject to this subpart according to the procedures specified in § 63.100(h) of this subpart and are used to fill tank trucks and/or railcars with organic liquids that contain one or more of the organic hazardous air pollutants listed in table 2 of this subpart. Transfer rack includes the associated pumps, meters, shutoff valves, relief valves, and other piping and valves. Transfer rack does not include:

(1) Racks, arms, or hoses that only transfer liquids containing organic hazardous air pollutants as impurities;

(2) Racks, arms, or hoses that vapor balance during all loading operations; or

(3) Racks transferring organic liquids that contain organic hazardous air pollutants only as impurities.

Unit operation means one or more pieces of process equipment used to make a single change to the physical or chemical characteristics of one or more process streams. Unit operations include, but are not limited to, reactors, distillation units, extraction columns, absorbers, decanters, dryers, condensers, and filtration equipment.

Vapor balancing system means a piping system that is designed to collect organic hazardous air pollutants vapors displaced from tank trucks or railcars during loading; and to route the collected organic hazardous air pollutants vapors to the storage vessel from which the liquid being loaded originated, or to another storage vessel connected by a common header or to compress and route to a process or a fuel gas system the collected organic hazardous air pollutants vapors.

Waste management unit means the equipment, structure(s), and/or device(s) used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include: Wastewater tanks, surface impoundments, individual drain systems, and biological wastewater treatment units. Examples of equipment that may be waste management units include containers, air flotation units, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. If such equipment is used for recovery then it is part of a chemical manufacturing process unit and is not a waste management unit.

Wastewater means water that:

(1) Contains either:

(i) An annual average concentration of Table 9 compounds (as defined in § 63.111 of subpart G of this part) of at least 5 parts per million by weight and has an annual average flow rate of 0.02 liter per minute or greater, or

(ii) An annual average concentration of Table 9 compounds (as defined in § 63.111 of subpart G) of at least 10,000 parts per million by weight at any flow rate, and that

(2) Is discarded from a chemical manufacturing process unit that meets all of the criteria specified in § 63.100 (b)(1) through (b)(3) of this subpart.

Wastewater is process wastewater or maintenance wastewater.

§ 63.102 General standards.

(a) Owners and operators of sources subject to this subpart shall comply with the requirements of subparts G and H of this part.

(1) The provisions set forth in this subpart F and subpart G of this part shall apply at all times except during periods of start-up or shutdown (as defined in § 63.101 of this subpart), malfunction, or non-operation of the chemical manufacturing process unit (or specific portion thereof) resulting in cessation of the emissions to which this subpart F and subpart G of this part apply. However, if a start-up, shutdown, malfunction or period of non-operation of one portion of a chemical manufacturing process unit does not affect the ability of a particular emission point to comply with the specific provisions to which it is subject, then that emission point shall still be required to comply with the applicable provisions of this subpart F and subpart G of this part during the start-up, shutdown, malfunction or period of non-operation. For example, if there is an overpressure in the reactor area, a storage vessel in the chemical manufacturing process unit would still be required to be controlled in accordance with § 63.119 of subpart G of the part. Similarly, the degassing of a storage vessel would not affect the ability of a process vent to meet the requirements of § 63.113 of subpart G of this part.

(2) The provisions set forth in subpart H of this part shall apply at all times except during periods of start-up or shutdown, as defined in § 63.101(b) of this subpart, malfunction, process unit shutdown (as defined in § 63.161 of subpart H of this part), or non-operation of the chemical manufacturing process unit (or specific portion thereof) in which the lines are drained and depressurized resulting in cessation of the emissions to which subpart H of this part applies.

(3) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with the provisions of this subpart F, subpart G or H of this part during times when emissions (or, where applicable, wastewaters streams or residuals) are being routed to such items of equipment, if the shutdown would contravene requirements of this subpart F, subpart G or H of this part applicable to such items of equipment. This paragraph does not apply if the item of equipment is malfunctioning, or if the owner or operator must shut down the equipment to avoid damage due to a contemporaneous start-up, shutdown, or malfunction of the chemical manufacturing process unit or portion thereof.

(4) During start-ups, shutdowns, and malfunctions when the requirements of this subpart F, subparts G and/or H of this part do not apply pursuant to paragraphs (a)(1) through (a)(3) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions to the extent practical. For purposes of this paragraph, the term ‘‘excess emissions’’ means emissions in excess of those that would have occurred if there were no start-up, shutdown, or malfunction and the owner or operator complied with the relevant provisions of this subpart F, subparts G and/or H of this part. The measures to be taken shall be identified in the applicable start-up, shutdown, and malfunction plan, and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices,

pollution prevention, monitoring, and/or changes in the manner of operation of the source. Back-up control devices are not required, but may be used if available.

(b) If, in the judgment of the Administrator, an alternative means of emission limitation will achieve a reduction in organic HAP emissions at least equivalent to the reduction in organic HAP emissions from that source achieved under any design, equipment, work practice, or operational standards in subpart G or H of this part, the Administrator will publish in the FEDERAL REGISTER a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(1) The notice may condition the permission on requirements related to the operation and maintenance of the alternative means.

(2) Any notice under paragraph (b) of this section shall be published only after public notice and an opportunity for a hearing.

(3) Any person seeking permission to use an alternative means of compliance under this section shall collect, verify, and submit to the Administrator information showing that the alternative means achieves equivalent emission reductions.

(c) Each owner or operator of a source subject to this subpart shall obtain a permit under 40 CFR part 70 or part 71 from the appropriate permitting authority by the date determined by 40 CFR part 70 or part 71, as appropriate.

(1) If the EPA has approved a State operating permit program under 40 CFR Part 70, the permit shall be obtained from the State authority. If the State operating permit program has not been approved, the source shall apply to the EPA Regional Office.

(2) [Reserved]

(d) The requirements in subparts F, G, and H of this part are Federally enforceable under section 112 of the Act on and after the dates specified in § 63.100(k) of this subpart.

§ 63.103 General compliance, reporting, and recordkeeping provisions.

(a) Table 3 of this subpart specifies the provisions of subpart A that apply and those that do not apply to owners and operators of sources subject to subparts F, G, and H of this part.

(b) Initial performance tests and initial compliance determinations shall be required only as specified in subparts G and H of this part.

(1) Performance tests and compliance determinations shall be conducted according to the schedule and procedures in § 63.7(a) of subpart A of this part and the applicable sections of subparts G and H of this part.

(2) The owner or operator shall notify the Administrator of the intention to conduct a performance test at least 30 calendar days before the performance test is scheduled to allow the Administrator the opportunity to have an observer present during the test.

(3) Performance tests shall be conducted according to the provisions of § 63.7(e) of subpart A of this part, except that performance tests shall be conducted at maximum representative operating conditions for the process. During the performance test, an owner or operator may operate the control or recovery device at maximum or minimum representative operating conditions for monitored control or recovery device parameters, whichever results in lower emission reduction.

(4) Data shall be reduced in accordance with the EPA-approved methods specified in the applicable subpart or, if other test methods are used, the data and methods shall be validated according to the protocol in Method 301 of appendix A of this part.

(5) Performance tests may be waived with approval of the Administrator as specified in § 63.7(h)(2) of subpart A of this part. Owners or operators of sources subject to subparts F, G, and H of this part who apply for a waiver of a performance test shall submit the application by the dates specified in paragraph (b)(5)(i) of this section rather than the dates specified in § 63.7(h)(3) of subpart A of this part.

(i) If a request is made for an extension of compliance under § 63.151(a)(6) of subpart G or § 63.6(i) of subpart A of this part, the application for a waiver of an initial performance test shall accompany the information required for the request for an extension of compliance. If no extension of compliance is requested, the application for a waiver of an initial performance test shall be submitted no later than 90 calendar days before the Notification of Compliance Status required in § 63.152(b) of subpart G of this part is due to be submitted.

(ii) Any application for a waiver of a performance test shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the source performing the required test.

(6) The owner or operator of a flexible operation unit shall conduct all required compliance demonstrations during production of the primary product. The owner or operator is not required to conduct compliance demonstrations for operating conditions during production of a product other than the primary product. Except as otherwise provided in this subpart or in subpart G or subpart H of this part, as applicable, the owner or operator shall operate each control device, recovery device, and/or recapture device that is required or used for compliance, and associated monitoring systems, without regard for whether the product that is being produced is the primary product or a different product. Except as otherwise provided in this subpart, subpart G and/or subpart H of this part, as applicable, operation of a control device, recapture device and/or recovery device required or used for compliance such that the daily average of monitored parameter values is outside the parameter range established pursuant to Sec. 63.152(b)(2), or such that the monitoring data show operation inconsistent with the monitoring plan established pursuant to Sec. 63.120(d)(2) or Sec. 63.181(g)(1)(iv), shall constitute a violation of the required operating conditions.

(c) Each owner or operator of a source subject to subparts F, G, and H of this part shall keep copies of all applicable reports and records required by subparts F, G, and H of this part for at least 5 years; except that, if subparts G or H require records to be maintained for a time period different than 5 years, those records shall be maintained for the time specified in subpart G or H of this part. If an owner or operator submits copies of reports to the applicable EPA Regional Office, the owner or operator is not required to maintain copies of reports. If the EPA Regional Office has waived the requirement of § 63.10(a)(4)(ii) for submittal of copies of reports, the owner or operator is not required to maintain copies of reports.

(1) All applicable records shall be maintained in such a manner that they can be readily accessed. The most recent 6 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request. The remaining four and one-half years of records may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

(2) The owner or operator subject to subparts F, G, and H of this part shall keep the records specified in this paragraph, as well as records specified in subparts G and H.

(i) Records of the occurrence and duration of each start-up, shutdown, and malfunction of operation of process equipment or of air pollution control equipment or continuous monitoring systems used to comply with this subpart F, subpart G, or H of this part during which excess emissions (as defined in § 63.102(a)(4)) occur.

(ii) For each start-up, shutdown, and malfunction during which excess emissions (as defined in § 63.102(a)(4)) occur, records that the procedures specified in the source's start-up, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. For example, if a start-up, shutdown, and malfunction plan includes procedures for routing a control device to a backup control device (e.g., the incinerator for a halogenated stream could be routed to a flare during periods when the primary control device is out of service), records must be kept of whether the plan was followed. These records may take the form of a ''checklist,'' or other form of recordkeeping that confirms conformance with the start-up, shutdown, and malfunction plan for the event.

(iii) For continuous monitoring systems used to comply with subpart G of this part, records documenting the completion of calibration checks and maintenance of continuous monitoring systems that are specified in the manufacturer's instructions or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(3) Records of start-up, shutdown and malfunction and continuous monitoring system calibration and maintenance are not required if they pertain solely to Group 2 emission points, as defined in § 63.111 of subpart G of this part, that are not included in an emissions average.

(d) All reports required under subparts F, G, and H of this part shall be sent to the Administrator at the addresses listed in § 63.13 of subpart A of this part, except that requests for permission to use an alternative means of compliance as provided for in § 63.102(b) of this subpart and application for approval of a nominal efficiency as provided for in § 63.150 (i)(1) through (i)(6) of subpart G of this part shall be submitted to the Director of the EPA Office of Air Quality Planning and Standards rather than to the Administrator or delegated authority.

(1) Wherever subpart A of this part specifies ''postmark'' dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent on or before the specified date.

(2) If acceptable to both the Administrator and the owner or operator of a source, reports may be submitted on electronic media.

(e) The owner or operator of a chemical manufacturing process unit which meets the criteria of § 63.100(b)(1) and § 63.100(b)(3), but not the criteria of § 63.100(b)(2), shall comply with the requirements of either paragraph (e)(1) or (e)(2) of this section.

(1) Retain information, data, and analysis used to determine that the chemical manufacturing process unit does not use as a reactant or manufacture as a product or co-product any organic hazardous air pollutant. Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

(2) When requested by the Administrator, demonstrate that the chemical manufacturing process unit does not use as a reactant or manufacture as a product or co-product any organic hazardous air pollutant.

(f) To qualify for the exemption specified in § 63.100(b)(4) of this subpart, the owner or operator shall maintain the documentation of the information required pursuant to § 63.100(b)(4)(i), and documentation of any update of this information requested by the EPA Regional Office, and shall provide the documentation to the EPA Regional Office upon request. The EPA Regional Office will notify the owner or operator, after reviewing such documentation, if the source does not qualify for the exemption specified in § 63.100(b)(4) of this section. In such cases, compliance with subpart H shall be required no later than 90 days after expiration of the applicable compliance date in § 63.100(k)(3), but in no event earlier than 90 days after the date of such

notification by the EPA Regional Office. Compliance with this subpart F and subpart G of this part shall be no later than April 22, 1997, or as otherwise specified in § 63.100(k)(2)(ii) of this subpart, unless an extension has been granted by the EPA Regional Office or permitting authority as provided in § 63.6(i) of subpart A of this part.

(g) An owner or operator who elects to use the compliance extension provisions of § 63.100(k)(6)(i) or (ii) shall submit a compliance extension request to the appropriate EPA Regional Office no later than 45 days before the applicable compliance date in § 63.100(k)(3), but in no event is submittal required earlier than May 10, 1995. The request shall contain the information specified in § 63.100(k)(5)(iv) and the reason compliance can not reasonably be achieved without a process unit shutdown, as defined in 40 CFR 63.161 or without replacement of the compressor or recasting of the distance piece.

(h) An owner or operator who elects to use the compliance extension provisions of § 63.100(k)(8) shall submit to the appropriate EPA Regional Office a brief description of the process change, identify the HAP eliminated, and the expected date of cessation of use or production of HAP. The description shall be submitted no later than May 10, 1995, or with the Notice of Compliance Status as required in § 63.182(c) of subpart H, whichever is later.

§ 63.104 Heat exchange system requirements.

(a) Unless one or more of the conditions specified in paragraphs (a)(1) through (a)(6) of this section are met, owners and operators of sources subject to this subpart shall monitor each heat exchange system used to cool process equipment in a chemical manufacturing process unit meeting the conditions of § 63.100 (b)(1) through (b)(3) of this subpart, except for chemical manufacturing process units meeting the condition specified in § 63.100(c) of this subpart, according to the provisions in either paragraph (b) or (c) of this section. Whenever a leak is detected, the owner or operator shall comply with the requirements in paragraph (d) of this section.

(1) The heat exchange system is operated with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side.

(2) There is an intervening cooling fluid, containing less than 5 percent by weight of total hazardous air pollutants listed in table 4 of this subpart, between the process and the cooling water. This intervening fluid serves to isolate the cooling water from the process fluid and the intervening fluid is not sent through a cooling tower or discharged. For purposes of this section, discharge does not include emptying for maintenance purposes.

(3) The once-through heat exchange system is subject to a National Pollution Discharge Elimination System (NPDES) permit with an allowable discharge limit of 1 part per million or less above influent concentration or 10 percent or less above influent concentration, whichever is greater.

(4) The once-through heat exchange system is subject to an NPDES permit that:

(i) Requires monitoring of a parameter(s) or condition(s) to detect a leak of process fluids into cooling water;

(ii) Specifies or includes the normal range of the parameter or condition;

(iii) Requires monitoring for the parameters selected as leak indicators no less frequently than monthly for the first six months and quarterly thereafter; and

(iv) Requires the owner or operator to report and correct leaks to the cooling water when the parameter or condition exceeds the normal range.

(5) The recirculating heat exchange system is used to cool process fluids that contain less than 5 percent by weight of total hazardous air pollutants listed in table 4 of this subpart.

(6) The once-through heat exchange system is used to cool process fluids that contain less than 5 percent by weight of total hazardous air pollutants listed in table 9 of subpart G of this part.

(b) The owner or operator who elects to comply with the requirements of paragraph (a) of this section by monitoring the cooling water for the presence of one or more organic hazardous air pollutants or other representative substances whose presence in cooling water indicates a leak shall comply with the requirements specified in paragraphs (b)(1) through (b)(6) of this section. The cooling water shall be monitored for total hazardous air pollutants, total volatile organic compounds, total organic carbon, one or more speciated HAP compounds, or other representative substances that would indicate the presence of a leak in the heat exchange system.

(1) The cooling water shall be monitored monthly for the first 6 months and quarterly thereafter to detect leaks.

(2) (i) For recirculating heat exchange systems (cooling tower systems), the monitoring of speciated hazardous air pollutants or total hazardous air pollutants refers to the hazardous air pollutants listed in table 4 of this subpart.

(ii) For once-through heat exchange systems, the monitoring of speciated hazardous air pollutants or total hazardous air pollutants refers to the hazardous air pollutants listed in table 9 of subpart G of this part.

(3) The concentration of the monitored substance(s) in the cooling water shall be determined using any EPA-approved method listed in part 136 of this chapter as long as the method is sensitive to concentrations as low as 10 parts per million and the same method is used for both en-trance and exit samples. Alternative methods may be used upon approval by the Administrator.

(4) The samples shall be collected either at the entrance and exit of each heat exchange system or at locations where the cooling water enters and exits each heat exchanger or any combination of heat exchangers.

(i) For samples taken at the entrance and exit of recirculating heat exchange systems, the entrance is the point at which the cooling water leaves the cooling tower prior to being returned to the process equipment and the exit is the point at which the cooling water is introduced to the cooling tower after being used to cool the process fluid.

(ii) For samples taken at the entrance and exit of once-through heat exchange systems, the entrance is the point at which the cooling water enters and the exit is the point at which the cooling water exits the plant site or chemical manufacturing process units.

(iii) For samples taken at the entrance and exit of each heat exchanger or any combination of heat exchangers in chemical manufacturing process units, the entrance is the point at which the cooling water enters the individual heat exchanger or group of heat exchangers and the exit is the point at which the cooling water exits the heat exchanger or group of heat exchangers.

(5) A minimum of three sets of samples shall be taken at each entrance and exit as defined in paragraph (b)(4) of this section. The average entrance and exit concentrations shall then be calculated. The concentration shall be corrected for the addition of any makeup water or for any evaporative losses, as applicable.

(6) A leak is detected if the exit mean concentration is found to be greater than the entrance mean using a one-sided statistical procedure at the 0.05 level of significance and the amount by which it is greater is at least 1 part per million or 10 percent of the entrance mean, whichever is greater.

(c) The owner or operator who elects to comply with the requirement of paragraph (a) of this section by monitoring using a surrogate indicator of heat exchange system leaks shall comply

with the requirements specified in paragraphs (c)(1) through (c)(3) of this section. Surrogate indicators that could be used to develop an acceptable monitoring program are ion specific electrode monitoring, pH, conductivity or other representative indicators.

(1) The owner or operator shall prepare and implement a monitoring plan that documents the procedures that will be used to detect leaks of process fluids into cooling water. The plan shall require monitoring of one or more surrogate indicators or monitoring of one or more process parameters or other conditions that indicate a leak. Monitoring that is already being conducted for other purposes may be used to satisfy the requirements of this section. The plan shall include the information specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this section.

(i) A description of the parameter or condition to be monitored and an explanation of how the selected parameter or condition will reliably indicate the presence of a leak.

(ii) The parameter level(s) or conditions(s) that shall constitute a leak. This shall be documented by data or calculations showing that the selected levels or conditions will reliably identify leaks. The monitoring must be sufficiently sensitive to determine the range of parameter levels or conditions when the system is not leaking. When the selected parameter level or condition is outside that range, a leak is indicated.

(iii) The monitoring frequency which shall be no less frequent than monthly for the first 6 months and quarterly thereafter to detect leaks.

(iv) The records that will be maintained to document compliance with the requirements of this section.

(2) If a substantial leak is identified by methods other than those described in the monitoring plan and the method(s) specified in the plan could not detect the leak, the owner or operator shall revise the plan and document the basis for the changes. The owner or operator shall complete the revisions to the plan no later than 180 days after discovery of the leak.

(3) The owner or operator shall maintain, at all times, the monitoring plan that is currently in use. The current plan shall be maintained on-site, or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request. If the monitoring plan is superseded, the owner or operator shall retain the most recent superseded plan at least until 5 years from the date of its creation. The superseded plan shall be retained on-site (or accessible from a central location by computer or other means that provides access within two hours after a request) for at least 6 months after its creation.

(d) If a leak is detected according to the criteria of paragraph (b) or (c) of this section, the owner or operator shall comply with the requirements in paragraphs (d)(1) and (d)(2) of this section, except as provided in paragraph (e) of this section.

(1) The leak shall be repaired as soon as practical but not later than 45 calendar days after the owner or operator receives results of monitoring tests indicating a leak. The leak shall be repaired unless the owner or operator demonstrates that the results are due to a condition other than a leak.

(2) Once the leak has been repaired, the owner or operator shall confirm that the heat exchange system has been repaired within 7 calendar days of the repair or startup, whichever is later.

(e) Delay of repair of heat exchange systems for which leaks have been detected is allowed if the equipment is isolated from the process. Delay of repair is also allowed if repair is technically infeasible without a shutdown and any one of the conditions in paragraph (e)(1) or (e)(2) of this section is met. All time periods in paragraphs (e)(1) and (e)(2) of this section shall be determined from the date when the owner or operator determines that delay of repair is necessary.

(1) If a shutdown is expected within the next 2 months, a special shutdown before that planned shutdown is not required.

(2) If a shutdown is not expected within the next 2 months, the owner or operator may delay repair as provided in paragraph (e)(2)(i) or (e)(2)(ii) of this section. Documentation of a decision to delay repair shall state the reasons repair was delayed and shall specify a schedule for completing the repair as soon as practical.

(i) If a shutdown for repair would cause greater emissions than the potential emissions from delaying repair, the owner or operator may delay repair until the next shutdown of the process equipment associated with the leaking heat exchanger. The owner or operator shall document the basis for the determination that a shutdown for repair would cause greater emissions than the emissions likely to result from delaying repair as specified in paragraphs (e)(2)(i)(A) and (e)(2)(i)(B) of this section.

(A) The owner or operator shall calculate the potential emissions from the leaking heat exchanger by multiplying the concentration of total hazardous air pollutants listed in table 4 of this subpart in the cooling water from the leaking heat exchanger by the flowrate of the cooling water from the leaking heat exchanger by the expected duration of the delay. The owner or operator may calculate potential emissions using total organic carbon concentration instead of total hazardous air pollutants listed in table 4 of this subpart.

(B) The owner or operator shall determine emissions from purging and depressurizing the equipment that will result from the unscheduled shut-down for the repair.

(ii) If repair is delayed for reasons other than those specified in paragraph (e)(2)(i) of this section, the owner or operator may delay repair up to a maximum of 120 calendar days. The owner shall demonstrate that the necessary parts or personnel were not available.

(f) (1) *Required records*. The owner or operator shall retain the records identified in paragraphs (f)(1)(i) through (f)(1)(iv) of this section as specified in § 63.103(c)(1).

(i) Monitoring data required by this section indicating a leak and the date when the leak was detected, and if demonstrated not to be a leak, the basis for that determination;

(ii) Records of any leaks detected by procedures subject to paragraph (c)(2) of this section and the date the leak was discovered;

(iii) The dates of efforts to repair leaks; and

(iv) The method or procedure used to confirm repair of a leak and the date repair was confirmed.

(2) *Reports.* If an owner or operator invokes the delay of repair provisions for a heat exchange system, the following information shall be submitted in the next semi-annual periodic report required by § 63.152(c) of subpart G of this part. If the leak remains unrepaired, the information shall also be submitted in each subsequent periodic report, until repair of the leak is reported.

(i) The owner or operator shall report the presence of the leak and the date that the leak was detected.

(ii) The owner or operator shall report whether or not the leak has been repaired.

(iii) The owner or operator shall report the reason(s) for delay of repair. If delay of repair is invoked due to the reasons described in paragraph (e)(2) of this section, documentation of emissions estimates must also be submitted.

(iv) If the leak remains unrepaired, the owner or operator shall report the expected date of repair.

(v) If the leak is repaired, the owner or operator shall report the date the leak was successfully repaired.

§ 63.105 Maintenance wastewater requirements.

(a) Each owner or operator of a source subject to this subpart shall comply with the requirements of paragraphs (b) through (e) of this section for maintenance wastewaters containing those organic HAP's listed in table 9 of subpart G of this part.

(b) The owner or operator shall prepare a description of maintenance procedures for management of wastewaters generated from the emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance, and repair (i.e., a maintenance-turnaround) and during periods which are not shutdowns (i.e., routine maintenance). The descriptions shall:

(1) Specify the process equipment or maintenance tasks that are anticipated to create wastewater during maintenance activities.

(2) Specify the procedures that will be followed to properly manage the wastewater and control organic HAP emissions to the atmosphere; and

(3) Specify the procedures to be followed when clearing materials from process equipment.

(c) The owner or operator shall modify and update the information required by paragraph (b) of this section as needed following each maintenance procedure based on the actions taken and the wastewaters generated in the preceding maintenance procedure.

(d) The owner or operator shall implement the procedures described in paragraphs (b) and (c) of this section as part of the start-up, shutdown, and malfunction plan required under § 63.6(e)(3) of subpart A of this part.

(e) The owner or operator shall maintain a record of the information required by paragraphs (b) and (c) of this section as part of the start-up, shutdown, and malfunction plan required under § 63.6(e)(3) of subpart A of this part.

§ 63.106 Delegation of authority.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to requirements in Sec. Sec. 63.100, 63.102, and 63.104. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart.

(2) Approval of major alternatives to test methods under Sec. 63.7(e)(2)(ii) and (f), as defined in Sec. 63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under Sec. 63.8(f), as defined in Sec. 63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under Sec. 63.10(f), as defined in Sec. 63.90, and as required in this subpart.

§ 63.107 Identification of process vents subject to this subpart.

(a) The owner or operator shall use the criteria specified in this § 63.107 to determine whether there are any process vents associated with an air oxidation reactor, distillation unit, or reactor that is in a source subject to this subpart. A process vent is the point of discharge to the atmosphere (or the point of entry into a control device, if any) of a gas stream if the gas stream has the characteristics specified in paragraphs (b) through (h) of this section, or meets the criteria specified in paragraph (i) of this section.

(b) Some, or all, of the gas stream originates as a continuous flow from an air oxidation reactor, distillation unit, or reactor during operation of the chemical manufacturing process unit.

(c) The discharge to the atmosphere (with or without passing through a control device) meets at least one of the conditions specified in paragraphs (c)(1) through (3) of this section.

(1) Is directly from an air oxidation reactor, distillation unit, or reactor; or

(2) Is from an air oxidation reactor, distillation unit, or reactor after passing solely *(i.e.,* without passing through any other unit operation for a process purpose) through one or more recovery devices within the chemical manufacturing process unit; or

(3) Is from a device recovering only mechanical energy from a gas stream that comes either directly from an air oxidation reactor, distillation unit, or reactor, or from an air oxidation reactor, distillation unit, or reactor after passing solely *(i.e.,* without passing through any other unit operation for a process purpose) through one or more recovery devices within the chemical manufacturing process unit.

(d) The gas stream contains greater than 0.005 weight percent total organic HAP at the point of discharge to the atmosphere (or at the point of entry into a control device, if any).

(e) The air oxidation reactor, distillation unit, or reactor is part of a chemical manufacturing process unit that meets the criteria of § 63.100(b).

(f) The gas stream is in the gas phase from the point of origin at the air oxidation reactor, distillation unit, or reactor to the point of discharge to the atmosphere (or to the point of entry into a control device, if any).

(g) The gas stream is discharged to the atmosphere either on-site, off-site, or both.

(h) The gas stream is not any of the items identified in paragraphs (h)(1) through (9) of this section.

(1) A relief valve discharge.

(2) A leak from equipment subject to subpart H of this part.

(3) A gas stream going to a fuel gas system as defined in § 63.101.

(4) A gas stream exiting a control device used to comply with § 63.113.

(5) A gas stream transferred to other processes (on-site or off-site) for reaction or other use in another process *(i.e.,* for chemical value as a product, isolated intermediate, byproduct, or coproduct, or for heat value).

(6) A gas stream transferred for fuel value *(i.e.*, net positive heating value), use, reuse, or for sale for fuel value, use, or reuse.

(7) A storage vessel vent or transfer operation vent subject to § 63.119 or § 63.126.

(8) A vent from a waste management unit subject to §§ 63.132 through 63.137.

(9) A gas stream exiting an analyzer.

(i) The gas stream would meet the characteristics specified in paragraphs (b) through (g) of this section, but, for purposes of avoiding applicability, has been deliberately interrupted, temporarily liquefied, routed through any item of equipment for no process purpose, or disposed of in a flare that does not meet the criteria in § 63.11(b), or an incinerator that does not reduce emissions of organic HAP by 98 percent or to a concentration of 20 parts per million by volume, whichever is less stringent.

TABLE 1 TO SUBPART F - SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY CHEMICALS

Chemical name[a]	CAS No.[b]	Group
Acenaphthene	83329	V
Acetal	105577	V
Acetaldehyde	75070	II
Acetamide	60355	II
Acetanilide	103844	II
Acetic acid	64197	II
Acetic anhydride	108247	II
Acetoacetanilide	102012	III
Acetone	67641	I
Acetone cyanohydrin	75865	V
Acetonitrile	75058	I
Acetophenone	98862	I
Acrolein	107028	IV
Acrylamide	79061	I
Acrylic acid	79107	IV
Acrylonitrile	107131	I
Adiponitrile	111693	I
Alizarin	72480	V
Alkyl anthraquinones	008	V
Allyl alcohol	107186	I
Allyl chloride	107051	IV
Allyl cyanide	109751	IV
Aminophenol sulfonic acid	0010	V
Aminophenol (p-)	123308	I
Aniline	62533	I
Aniline hydrochloride	142041	III
Anisidine (o-)	90040	II
Anthracene	120127	V
Anthraquinone	84651	III
Azobenzene	103333	I
Benzaldehyde	100527	III
Benzene	71432	I

 Attachment 1 Attachment 1

Benzenedisulfonic acid ..... 98486 I
Benzenesulfonic acid ..... 98113 I
Benzil ..... 134816 III
Benzilic acid ..... 76937 III
Benzoic acid ..... 65850 III
Benzoin ..... 119539 III
Benzonitrile ..... 100470 III
Benzophenone ..... 119619 I
Benzotrichloride ..... 98077 III
Benzoyl chloride ..... 98884 III
Benzyl acetate ..... 140114 III
Benzyl alcohol ..... 100516 III
Benzyl benzoate ..... 120514 III
Benzyl chloride ..... 100447 III
Benzyl dichloride ..... 98873 III
Biphenyl ..... 92524 I
Bisphenol A ..... 80057 III
Bis(Chloromethyl) Ether ..... 542881 I
Bromobenzene ..... 108861 I
Bromoform ..... 75252 V
Bromonaphthalene ..... 27497514 IV
Butadiene (1,3-) ..... 106990 II
Butanediol (1,4-) ..... 110634 I
Butyl acrylate (n-) ..... 141322 V
Butylene glycol (1,3-) ..... 107880 II
Butyrolactone ..... 96480 I
Caprolactam ..... 105602 II
Carbaryl ..... 63252 V
Carbazole ..... 86748 V
Carbon disulfide ..... 75150 IV
Chemical name a CAS No. b Group
Carbon tetrabromide ..... 558134 II
Carbon tetrachloride ..... 56235 I
Carbon tetrafluoride ..... 75730 II
Chloral ..... 75876 II
Chloroacetic acid ..... 79118 II
Chloroacetophenone (2-) ..... 532274 I
Chloroaniline (p-) ..... 106478 II
Chlorobenzene ..... 108907 I
2-Chloro-1,3-butadiene (Chloroprene) 126998 II
Chlorodifluoroethane ..... 25497294 V

TABLE 1 TO SUBPART F - SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY CHEMICALS (Continued)-

Chemical name[a]	CAS No.[b]	Group
Chlorodifluoromethane	75456	I
Chloroform	67663	I
Chloronaphthalene	25586430	IV
Chloronitrobenzene(m-)	121733	I

Chloronitrobenzene(o-)..... 88733 I
Chloronitrobenzene(p-)..... 100005 I
Chlorophenol (m-) ..... 108430 II
Chlorophenol (o-) ..... 95578 II
Chlorophenol (p-) ..... 106489 II
Chlorotoluene (m-) ..... 108418 III
Chlorotoluene (o-) ..... 95498 III
Chlorotoluene (p-) ..... 106434 III
Chlorotrifluoromethane ..... 75729 II
Chrysene ..... 218019 V
Cresol and cresylic acid (m-) ..... 108394 III
Cresol and cresylic acid (o-) ..... 95487 III
Cresol and cresylic acid (p-) ..... 106445 III
Cresols and cresylic acids (mixed) ... 1319773 III
Cumene ..... 98828 I
Cumene hydroperoxide ..... 80159 I
Cyanoacetic acid ..... 372098 II
Cyclohexane ..... 110827 I
Cyclohexanol ..... 108930 I
Cyclohexanone ..... 108941 I
Cyclohexylamine ..... 108918 III
Cyclooctadienes ..... 29965977 II
Decahydronaphthalene ..... 91178 IV
Diacetoxy-2-Butene (1,4-) ..... 0012 V
Diaminophenol hydrochloride ..... 137097 V
Dibromomethane ..... 74953 V
Dichloroaniline (mixed isomers) ..... 27134276 I
Dichlorobenzene (p-) ..... 106467 I
Dichlorobenzene (m-) ..... 541731 I
Dichlorobenzene (o-) ..... 95501 I
Dichlorobenzidine(3,3'-).....91941 I
Dichlorodifluoromethane ..... 75718 I
Dichloroethane (1,2-)(Ethylenedichloride) (EDC).107062 I
Dichloroethyl ether (bis(2-chloroethyl)ether).111444 I
Dichloroethylene (1,2-) ..... 540590 II
Dichlorophenol (2,4-) ..... 120832 III
Dichloropropene (1,3-) ..... 542756 II
Dichlorotetrafluoro-ethane. 1320372 V
Dichloro-1-butene (3,4-) ..... 760236 II
Dichloro-2-butene (1,4-) ..... 764410 V

TABLE 1 TO SUBPART F - SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY CHEMICALS (Continued)-

Chemical name[a]	CAS No.[b]	Group
Diethanolamine (2,2'-Iminodiethanol)	111422	I
Diethyl sulfate	64675	II
Diethylamine	109897	IV
Diethylaniline (2,6-)	579668	V
Diethylene glycol	111466	I

Diethylene glycol dibutyl ether ..... 112732 I
Diethylene glycol diethyl ether .....112367 I
Diethylene glycol dimethyl ether ....111966 I
Diethylene glycol monobutyl ether acetate.124174 I
Diethylene glycol monobutyl ether .....112345 I
Diethylene glycol monoethyl ether acetate.112152 I
Diethylene glycol monoethyl ether .... 111900 I
Diethylene glycol monohexyl ether ... 112594 V
Diethylene glycol monomethyl ether acetate.629389 V
Diethylene glycol monomethyl ether.. 111773 I
Dihydroxybenzoic acid (Resorcylic acid).27138574 V
Dimethylbenzidine(3,3'-)..... 119937 II
Dimethyl ether ..... 115106 IV
Dimethylformamide (N,N-) ..... 68122 II
Dimethylhydrazine (1,1-)..... 57147 II
Dimethyl sulfate ..... 77781 I
Dimethyl terephthalate ..... 120616 II
Dimethylamine ..... 124403 IV
Dimethylaminoethanol (2-) ..... 108010 I
Dimethylaniline (N,N') ..... 121697 III
Dinitrobenzenes (NOS) [c] ..... 25154545 I
Dinitrophenol (2,4-) ..... 51285 III
Dinitrotoluene (2,4-) ..... 121142 III
Dioxane (1,4-) (1,4-Diethyleneoxide) ..1239 11I
Dioxolane (1,3-) ..... 646060 I
Diphenyl methane ..... 101815 I
Diphenyl oxide ..... 101848 I
Diphenyl thiourea ..... 102089 III
Diphenylamine ..... 122394 III
Dipropylene glycol ..... 110985 I
Di-o-tolyguanidine ..... 97392 III
Dodecanedioic acid ..... 693232 I
Dodecyl benzene (branched) ..... 123013 V
Dodecyl phenol (branched) ..... 121158585 V
Dodecylaniline ..... 28675174 V
Dodecylbenzene (n-) ..... 121013 I
Dodecylphenol ..... 27193868 III
Epichlorohydrin (1-chloro-2,3-epoxypropane).106898 I
Ethanolamine ..... 141435 I

TABLE 1 TO SUBPART F - SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY CHEMICALS (Continued)-

Chemical name[a]	CAS No.[b]	Group
Ethyl acrylate	140885	II
Ethylbenzene	100414	I
Ethyl chloride (Chloroethane)	75003	IV
Ethyl chloroacetate	105395	II
Ethylamine	75047	V
Ethylaniline (N-)	103695	III

Ethylaniline (o-)	578541	III	
Ethylcellulose	9004573	V	
Ethylcyanoacetate	105566	V	
Ethylene carbonate	96491	I	
Ethylene dibromide (Dibromoethane)	106934	I	
Ethylene glycol	107211	I	
Ethylene glycol diacetate	111557	I	
Ethylene glycol dibutyl ether	112481	V	
Ethylene glycol diethyl ether (1,2-diethoxyethane).	629141	I	
Ethylene glycol dimethyl ether	110714	I	
Ethylene glycol monoacetate	542596	V	
Ethylene glycol monobutyl ether acetate	112072		I
Ethylene glycol monobutyl ether	111762	I	
Ethylene glycol monoethyl ether acetate	111159		I
Ethylene glycol monoethyl ether	110805	I	
Ethylene glycol monohexyl ether	112254	V	
Ethylene glycol monomethyl ether acetate	110496	I	
Ethylene glycol monomethyl ether	109864	I	
Ethylene glycol monooctyl ether	002	V	
Ethylene glycol monophenyl ether	122996	I	
Ethylene glycol monopropyl ether	2807309	I	
Ethylene oxide	75218	I	
Ethylenediamine	107153	II	
Ethylenediamine tetraacetic acid	60004	V	
Ethylenimine (Aziridine)	151564	II	
Ethylhexyl acrylate (2-isomer)	103117	II	
Fluoranthene	206440	V	
Formaldehyde	50000	I	
Formamide	75127	II	
Formic acid	64186	II	
Fumaric acid	110178	I	
Glutaraldehyde	111308	IV	
Glyceraldehyde	367475	V	
Glycerol	56815	II	
Glycine	56406	II	
Glyoxal	107222	II	
Hexachlorobenzene	118741	II	

TABLE 1 TO SUBPART F - SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY CHEMICALS (Continued)-

Chemical name[a]	CAS No.[b]	Group
Hexachlorobutadiene	87683	II
Hexachloroethane	67721	II
Hexadiene (1,4-)	592450	II
Hexamethylene- tetramine	100970	I
Hexane	110543	V
Hexanetriol (1,2,6-)	106694	IV
Hydroquinone	123319	I

Hydroxyadipaldehyde	141311	V
Isobutyl acrylate	106638	V
Isobutylene	115117	V
Isophorone	78591	IV
Isophorone nitrile	0017	V
Isophthalic acid	121915	III
Isopropylphenol	25168063	III
Linear alkylbenzene	—[d]	I
Maleic anhydride	108316	I
Maleic hydrazide	123331	I
Malic acid	6915157	I
Metanilic acid	121471	I
Methacrylic acid	79414	V
Methanol	67561	IV
Methionine	63683	I
Methyl acetate	79209	IV
Methyl acrylate	96333	V
Methyl bromide (Bromomethane)	74839	IV
Methyl chloride (Chloromethane)	74873	IV
Methyl ethyl ketone (2-butanone)	78933	V
Methyl formate	107313	II
Methyl hydrazine	60344	IV
Methyl isobutyl carbinol	108112	IV
Methyl isobutyl ketone (Hexone)	108101	IV
Methyl isocyanate	624839	IV
Methyl mercaptan	74931	IV
Methyl methacrylate	80626	IV
Methyl phenyl carbinol	98851	II
Methyl tert-butyl ether	1634044	V
Methylamine	74895	IV
Methylaniline (N-)	100618	III
Methylcyclohexane	108872	III
Methylcyclohexanol	25639423	V
Methylcyclohexanone	1331222	III
Methylene chloride (Dichloromethane)	75092	I
Methylene dianiline (4,4'-isomer)	101779	I
Methylene diphenyl diisocyanate (4,4'-) (MDI)	101688	III

TABLE 1 TO SUBPART F - SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY CHEMICALS (Continued)-

Chemical name[a]	CAS No.[b]	Group
Methylionones (a-)	79696	V
Methylpentynol	77758	V
Methylstyrene (a-)	98839	I
Naphthalene	91203	IV
Naphthalene sulfonic acid (a-)	85472	IV
Naphthalene sulfonic acid (b-)	120183	IV
Naphthol (a-)	90153	IV
Naphthol (b-)	135193	IV

Naphtholsulfonic acid (1-)	567180	V
Naphthylamine sulfonic acid (1,4-)	84866	V
Naphthylamine sulfonic acid (2,1-)	81163	V
Naphthylamine (1-)	134327	V
Naphthylamine (2-)	91598	V
Nitroaniline (m-)	99092	II
Nitroaniline (o-)	88744	I
Nitroanisole (o-)	91236	III
Nitroanisole (p-)	100174	III
Nitrobenzene	98953	I
Nitronaphthalene (1-)	86577	IV
Nitrophenol (p-)	100027	III
Nitrophenol (o-)	88755	III
Nitropropane (2-)	79469	II
Nitrotoluene (all isomers)	1321126	III
Nitrotoluene (o-)	88722	III
Nitrotoluene (m-)	99081	III
Nitrotoluene (p-)	99990	III
Nitroxylene	25168041	V
Nonylbenzene (branched)	1081772	V
Nonylphenol	25154523	V
Octene-1	111660	I
Octylphenol	27193288	III
Paraformaldehyde	30525894	I
Paraldehyde	123637	II
Pentachlorophenol	87865	III
Pentaerythritol	115775	I
Peracetic acid	79210	II
Perchloromethyl mercaptan	594423	IV
Phenanthrene	85018	V
Phenetidine (p-)	156434	III
Phenol	108952	III
Phenolphthalein	77098	III
Phenolsulfonic acids (all isomers)	1333397	III
Phenyl anthranilic acid (all isomers)	91407	III
Phenylenediamine (p-)	106503	I

TABLE 1 TO SUBPART F - SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY CHEMICALS (Continued)-

Chemical name[a]	CAS No.[b]	Group
Phloroglucinol	108736	III
Phosgene	75445	IV
Phthalic acid	88993	III
Phthalic anhydride	85449	III
Phthalimide	85416	III
Phthalonitrile	91156	III
Picoline (b-)	108996	II
Piperazine	110850	I
Propiolactone (beta-)	57578	I

Propionaldehyde	123386	IV
Propionic acid	79094	I
Propylene carbonate	108327	V
Propylene dichloride (1,2-dichloropropane)	78875	IV
Propylene glycol	57556	I
Propylene glycol monomethyl ether	107982	I
Propylene oxide	75569	I
Pyrene	129000	V
Pyridine	110861	II
p-tert-Butyl toluene	98511	III
Quinone	106514	III
Resorcinol	108463	I
Salicylic acid	69727	III
Sodium methoxide	124414	IV
Sodium phenate	139026	III
Stilbene	588590	III
Styrene	100425	I
Succinic acid	110156	I
Succinonitrile	110612	I
Sulfanilic acid	121573	III
Sulfolane	126330	II
Tartaric acid	526830	I
Terephthalic acid	100210	II
Tetrabromophthalic anhydride	632791	III
Tetrachlorobenzene (1,2,4,5-)	95943	I
Tetrachloroethane (1,1,2,2-)	79345	II
Tetrachloroethylene (Perchloroethylene)	127184	I
Tetrachlorophthalic-anhydride	117088	III
Tetraethyl lead	78002	IV
Tetraethylene glycol	112607	I
Tetraethylene-pentamine	112572	V
Tetrahydrofuran	109999	I
Tetrahydronapthalene	119642	IV
Tetrahydrophthalic anhydride	85438	II
Tetramethylene-diamine	110601	II

TABLE 1 TO SUBPART F - SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY CHEMICALS (Continued)-

Chemical name[a]	CAS No.[b]	Group
Tetramethylethylenediamine	110189	V
Tetramethyllead	75741	V
Toluene	108883	I
Toluene 2,4 diamine	95807	II
Toluene 2,4 diisocyanate	584849	II
Toluene diisocyanates (mixture)	26471625	II
Toluene sulfonic acids	104154	III
Toluenesulfonyl chloride	98599	III
Toluidine (o-)	95534	II
Trichloroaniline-(2,4,6-)	634935	III

Trichlorobenzene (1,2,3-) ..... 87616 V
Trichlorobenzene (1,2,4-) ..... 120821 I
Trichloroethane (1,1,1-).....71556 II
Trichloroethane (1,1,2-) (Vinyl tri-chloride).79005 II
Trichloroethylene ..... 79016 I
Trichlorofluoromethane ..... 75694 I
Trichlorophenol (2,4,5-). 95954 I
(1,1,2-) Trichloro (1,2,2-) trifluoroethane.76131 I
Triethanolamine ..... 102716 I
Triethylamine ..... 121448 IV
Triethylene glycol ..... 112276 I
Triethylene glycol dimethyl ether. .....112492 I
Triethylene glycol monoethyl ether ... ..112505 V
Triethylene glycol monomethyl ether ...112356 I
Trimethylamine ..... 75503 IV
Trimethylcyclohexanol ..... 933482 IV
Trimethylcyclo-hexanone..... 2408379 IV
Trimethylcyclo-hexylamine..... 34216347 V
Trimethylolpropane ..... 77996 I
Trimethylpentane (2,2,4-) ..... 540841 V
Tripropylene glycol ..... 24800440 V
Vinyl acetate ..... 108054 II
Vinyl chloride (Chloroethylene) ..... 75014 I
Vinyl toluene ..... 25013154 III
Vinylcyclohexene (4-) ..... 100403 II
Vinylidene chloride (1,1-dichloroethylene).75354 II
Vinyl(N-)-pyrrolidone(2-) ..... 88120 V
Xanthates ..... 140896 V
Xylene sulfonic acid ..... 25321419 III
Xylenes (NOS) c ..... 1330207 I
Xylene (m-) ..... 108383 I
Xylene (o-) ..... 95476 I
Xylene (p-) ..... 106423 I
Xylenols (Mixed) ..... 1300716 V

TABLE 1 TO SUBPART F - SYNTHETIC ORGANIC CHEMICAL MANUFACTURING INDUSTRY CHEMICALS (Continued)-

Chemical name[a] CAS No.[b] Group

Xylidene ..... 1300738 III

[a] Isomer means all structural arrangements for the same number of atoms of each element and does not mean salts, esters, or derivatives.
[b] CAS Number = Chemical Abstract Service number.
[c] NOS = not otherwise specified.
[d] No CAS number assigned.

TABLE 2 TO SUPBART F - ORGANIC HAZARDOUS AIR POLLUTANTS

Chemical name [a,b]	CAS No.[c]
Acenaphthene	83329
Acetaldehyde	75070
Acetamide	60355
Acetonitrile	75058
Acetophenone	98862
Acrolein	107028
Acrylamide	79061
Acrylic acid	79107
Acrylonitrile	107131
Alizarin	72480
Allyl chloride	107051
Aniline	62533
Anisidine (o-)	90040
Anthracene	120127
Anthraquinone	84651
Benzene	71432
Benzotrichloride	98077
Benzyl chloride	100447
Biphenyl	92524
Bis(chloromethyl)ether	542881
Bromoform	75252
Bromonaphthalene	27497514
Butadiene (1,3-)	106990
Carbon disulfide	75150
Carbon tetrachloride	56235
Chloroacetic acid	79118
Chloroacetophenone (2-)	532274
Chlorobenzene	108907
2–Chloro-,1,3-butadiene (Chloroprene)	126998
Chloroform	67663

TABLE 2 TO SUPBART F - ORGANIC HAZARDOUS AIR POLLUTANTS (cont'd)

Chemical name [a,b]	CAS No.[c]
Chloronaphthalene	25586430
Chrysene	218019
Cresols and cresylic acids (mixed)	1319773
Cresol and cresylic acid (o-)	95487
Cresol and cresylic acid (m-)	108394
Cresol and cresylic acid (p-)	106445
Cumene	98828
Dichlorobenzene (p-)	106467
Dichlorobenzidine (3,3'-)	91941
Dichloroethane (1,2-) (Ethylene dichloride)(EDC)	107062
Dichloroethylether (Bis(2-chloroethyl)ether)	111444
Dichloropropene (1,3-)	542756

Diethanolamine (2,2'-Iminodiethanol) 111422
Dimethylaniline (N,N-) 121697
Diethyl sulfate 64675
Dimethylbenzidine (3,3'-) 119937
Dimethylformamide (N,N-) 68122
Dimethylhydrazine (1,1-) 58147
Dimethylphthalate 131113
Dimethylsulfate 77781
Dinitrophenol (2,4-) 51285
Dinitrotoluene (2,4-) 121142
Dioxane (1,4-) (1,4–Diethyleneoxide) 123911
1,2–Diphenylhydrazine 122667
Epichlorohydrin (1–Chloro-2,3-epoxypropane) 106898
Ethyl acrylate 140885
Ethylbenzene 100414
Ethyl chloride (Chloroethane) 75003
Ethylene dibromide (Dibromoethane) 106934
Ethylene glycol 107211
Ethylene oxide 75218
Ethylidene dichloride (1,1–Dichloroethane) 75343
Fluoranthene 206440
Formaldehyde 50000
Glycol ethers [d] .
Hexachlorobenzene 118741
Hexachlorobutadiene 87683
Hexachloroethane 67721
Hexane 110543
Hydroquinone 123319
Isophorone 78591
Maleic anhydride 108316
Methanol 67561
Methylbromide (Bromomethane) 74839
Methylchloride (Chloromethane) 74873

TABLE 2 TO SUPBART F - ORGANIC HAZARDOUS AIR POLLUTANTS (cont'd)

Chemical name [a,b]	CAS No.[c]
Methyl ethyl ketone (2–Butanone)	78933
Methyl hydrazine	60344
Methyl isobutyl ketone (Hexone)	108101
Methyl isocyanate	624839
Methyl methacrylate	80626
Methyl tert-butyl ether	1634044
Methylene chloride (Dichloromethane)	75092
Methylene diphenyl diisocyanate (4,4'-) (MDI)	101688
Methylenedianiline (4,4'-)	101779
Naphthalene	91203
Naphthalene sulfonic acid (a)	85472
Naphthalene sulfonic acid (ϑ)	120183
Naphthol (a)	90153

Naphthol (9) 135193
Naphtholsulfonic acid (1-) 567180
Naphthylamine sulfonic acid (1,4-) 84866
Naphthylamine sulfonic acid (2,1-) 81163
Naphthylamine (1-) 134327
Naphthylamine (2-) 91598
Nitronaphthalene (1-) 86577
Nitrobenzene 98953
Nitrophenol (p-) 100027
Nitropropane (2-) 79469
Phenanthrene 85018
Phenol 108952
Phenylenediamine (p-) 106503
Phosgene 75445
Phthalic anhydride 85449
Propiolactone (beta-) 57578
Propionaldehyde 123386
Propylene dichloride (1,2–Dichloropropane) 78875
Propylene oxide 75569
Pyrene 129000
Quinone 106514
Styrene 100425
Tetrachloroethane (1,1,2,2-) 79345
Tetrachloroethylene (Perchloroethylene) 127184
Tetrahydronaphthalene 119642
Toluene 108883
Toluene diamine (2,4-) 95807
Toluene diisocyanate (2,4-) 584849
Toluidine (o-) 95534
Trichlorobenzene (1,2,4-) 120821
Trichloroethane (1,1,1-) (Methyl chloroform) 71556
Trichloroethane (1,1,2-) (Vinyl trichloride) 79005

TABLE 2 TO SUPBART F - ORGANIC HAZARDOUS AIR POLLUTANTS (cont'd)

Chemical name [a,b]	CAS No.[c]
Trichloroethylene	79016
Trichlorophenol (2,4,5-)	95954
Triethylamine	121448
Trimethylpentane (2,2,4-)	540841
Vinyl acetate	108054
Vinyl chloride (Chloroethylene)	75014
Vinylidene chloride (1,1–Dichloroethylene)	75354
Xylenes (NOS)	1330207
Xylene (m-)	108383
Xylene (o-)	95476
Xylene (p-)	106423

[a] For all Listings above containing the word ''Compounds,'' the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance

that contains the named chemical (i.e., antimony, arsenic) as part of that chemical's infrastructure.
[b] Isomer means all structural arrangements for the same number of atoms of each element and does not mean salts, esters, or derivatives.
[c] CAS No. = Chemical Abstract Service number.
[d] Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol
R(OCH2CH2)n-OR
where:

n = 1, 2, or 3;

R = alkyl or aryl groups; and R' = R, H or groups which, when removed, yield glycol ethers with the structure: R-(OCH2CH2)n-OH

Polymers are excluded from the glycol category.

Table 3- General Provisions Applicability to Subparts F, G, and H to Subpart F- Please refer to Appendix to Subpart F

TABLE 4. TO SUBPART F. - ORGANIC HAZARDOUS AIR POLLUTANTS SUBJECT TO COOLING TOWER MONITORING REQUIREMENTS IN § 63.104

Chemical name	CAS Number[a]
Acetaldehyde	75070
Acetonitrile	75058
Acetophenone	98862
Acrolein	107028
Acrylonitrile	107131
Allyl chloride	107051
Aniline	62533
Anisidine (o-)	90040
Benzene	71432
Benzyl chloride	100447
Biphenyl	92524
Bromoform	75252

TABLE 4. TO SUBPART F. - ORGANIC HAZARDOUS AIR POLLUTANTS SUBJECT TO COOLING TOWER MONITORING REQUIREMENTS IN § 63.104 (cont'd)

Chemical name	CAS Number[a]
Butadiene (1,3-)	106990
Carbon disulfide	75150
Carbon tetrachloride	56235
Chloroacetophenone (2-)	532274
Chlorobenzene	108907
2–Chloro-1,3-butadiene (Chloroprene)	126998
Chloroform	67663
Cresol and cresylic acid (o-)	95487
Cresol and cresylic acid (m-)	108394
Cresol and cresylic acid (p-)	106445

Cumene 98828
Dichlorobenzene (p-) 106467
Dichlorobenzidine (3,3'-) 91941
Dichloroethane (1,2-) (Ethylene dichloride)(EDC).107062
Dichloroethyl ether (Bis(2-chloroethyl)ether) 111444
Dichloropropene (1,3-) 542756
Diethylene glycol diethyl ether 112367
Diethylene glycol dimethyl ether 111966
Diethyl sulfate 64675
Dimethylaniline (N,N-) 121697
Dimethylhydrazine (1,1-) 57147
Dimethyl phthalate 131113
Dimethyl sulfate 77781
Dinitrophenol (2,4-) 51285
Dinitrotoluene (2,4-) 121142
Dioxane (1,4-) (1,4-Diethyleneoxide) 123911
Epichlorohydrin (1-Chloro-2,3-epoxypropane) 106898
Ethyl acrylate 140885
Ethylbenzene 100414
Ethyl chloride (Chloroethane) 75003
Ethylene dibromide (Dibromoethane) 106934
Ethylene glycol dimethyl ether 110714
Ethylene glycol monobutyl ether 111762
Ethylene glycol monobutyl ether acetate 112072
Ethylene glycol monoethyl ether acetate 111159
Ethylene glycol monoethyl ether 110805
Ethylene glycol monomethyl ether 109864
Ethylene glycol monomethyl ether acetate 110496
Ethylene glycol monopropyl ether 2807309
Ethylene oxide 75218
Ethylidene dichloride (1,1-Dichloroethane) 75343
Formaldehyde 50000
Hexachlorobenzene 118741
Hexachlorobutadiene 87683

TABLE 4. TO SUBPART F. - ORGANIC HAZARDOUS AIR POLLUTANTS SUBJECT TO COOLING TOWER MONITORING REQUIREMENTS IN § 63.104 (cont'd)

Chemical name CAS Number[a]

Hexachloroethane 67721
Hexane 110543
Isophorone 78591
Methanol 67561
Methyl bromide (Bromomethane) 74839
Methyl chloride (Chloromethane) 74873
Methyl ethyl ketone (2–Butanone) 78933
Methyl hydrazine 60344
Methyl isobutyl ketone (Hexone) 108101
Methyl methacrylate 80626
Methyl tert-butyl ether 1634044

Methylene chloride (Dichloromethane) 75092
Methylenedianiline (4,4'-) 101779
Naphthalene 91203
Nitrobenzene 98953
Nitropropane (2-) 79469
Phenol 108952
Phenylenediamine (p-) 106503
Phosgene 75445
Propionaldehyde 123386
Propylene dichloride (1,2-Dichloropropane) 78875
Propylene oxide 75569
Quinone 106514
Styrene 100425
Tetrachloroethane (1,1,2,2-) 79345
Tetrachloroethylene (Perchloroethylene) 127184
Toluene 108883
Toluidine (o-) 95534
Trichlorobenzene (1,2,4-) 120821
Trichloroethane (1,1,1-) (Methyl chloroform) 71556
Trichloroethane (1,1,2-) (Vinyl trichloride) 79005
Trichloroethylene 79016
Trichlorophenol (2,4,5-) 95954
Triethylamine 121448
Trimethylpentane (2,2,4-) 540841
Vinyl acetate 108054
Vinyl chloride (chloroethylene) 75014
Vinylidene chloride (1,1-Dichloroethylene) 75354
Xylene (m-) 108383
Xylene (o-) 95476
Xylene (p-) 106423

[a] CAS Number = Chemical Abstract Service number.

Appendix to Subpart F- General Provisions to Subpart F, G, and H to Subpart F

§ 63.1 Applicability.

(a) *General.*

(1) Terms used throughout this part are defined in § 63.2 or in the Clean Air Act (Act) as amended in 1990, except that individual subparts of this part may include specific definitions in addition to or that supersede definitions in § 63.2. **Overlap clarified in Sec. 63.101, 63.111, 63.161.**

(2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in 40 CFR part 61. The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of enactment of the

Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.

(3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act (section 111, part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard. **Sec. 63.110 and 63.160(b) of subparts G and H identify which standards are overridden.**

(4) **Subpart F specifies applicability of each paragraph in subpart A to Subparts F, G, and H.**

(5) [Reserved]

(6) **[Reserved]**

(7) [Reserved]

(8) [Reserved]

(9) [Reserved]

(10) **Subpart F, G, and H specify calendar or operating day.**

(11) **Subpart F Sec. 63.103(d) specifies acceptable methods for submitting reports.**

(12) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in § 63.9(i).

(13) [Reserved]

(14) [Reserved]

(b) *Initial applicability determination for this part.*

(1) **Subpart F specifies applicability**

(2) [Reserved]

(3) **[Reserved]**

(c) *Applicability of this part after a relevant standard has been set under this part.*

(1) Subpart F specifies applicability

(2) Area Sources are not subject to subparts F, G, and H.

(3) [Reserved]

(4) [Reserved]

(5) **Subpart G and H specify applicable notification requirements**

(d) [Reserved]

(e) **Subparts F, G, and H established before permit program.**

§ 63.2 Definitions.

Subpart F Sec. 63.101(a) specifies those subpart A definitions that apply to the HON, Subpart F definition of "source" is equivalent to subpart A definition of "affected source."

The terms used in this part are defined in the Act or in this section as follows:

Act means the Clean Air Act (42 U.S.C. 7401 et seq., as amended by Pub. L. 101–549, 104 Stat. 2399).

Actual emissions is defined in subpart D of this part for the purpose of granting a compliance extension for an early reduction of hazardous air pollutants.

Administrator means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).

Affected source, for the purposes of this part, means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112 of the Act. Each relevant standard will define the "affected source," as defined in this paragraph unless a different definition is warranted based on a published justification as to why this definition would result in significant administrative, practical, or implementation problems and why the different definition would resolve those problems. The term "affected source," as used in this part, is separate and distinct from any other use of that term in EPA regulations such as those implementing title IV of the Act. Affected source may be defined differently for part 63 than affected facility and stationary source in parts 60 and 61, respectively. This definition of "affected source," and the procedures for adopting an alternative definition of "affected source," shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002.

Alternative emission limitation means conditions established pursuant to sections 112(i)(5) or 112(i)(6) of the Act by the Administrator or by a State with an approved permit program.

Alternative emission standard means an alternative means of emission limitation that, after notice and opportunity for public comment, has been demonstrated by an owner or operator to the Administrator's satisfaction to achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such pollutant achieved under a relevant design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act.

Alternative test method means any method of sampling and analyzing for an air pollutant that is not a test method in this chapter and that has been demonstrated to the Administrator's satisfaction, using Method 301 in Appendix A of this part, to produce results adequate for the Administrator's determination that it may be used in place of a test method specified in this part.

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to title V of the Act (42 U.S.C. 7661).

Area source means any stationary source of hazardous air pollutants that is not a major source as defined in this part.

Commenced means, with respect to construction or reconstruction of an affected source, that an owner or operator has undertaken a continuous program of construction or reconstruction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or reconstruction.

Compliance date means the date by which an affected source is required to be in compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established by the Administrator (or a State with an approved permit program) pursuant to section 112 of the Act.

Compliance schedule means:

(1) In the case of an affected source that is in compliance with all applicable requirements established under this part, a statement that the source will continue to comply with such requirements; or

(2) In the case of an affected source that is required to comply with applicable requirements by a future date, a statement that the source will meet such requirements on a timely basis and, if required by an applicable requirement, a detailed schedule of the dates by which each step toward compliance will be reached; or

(3) In the case of an affected source not in compliance with all applicable requirements established under this part, a schedule of remedial measures, including an enforceable sequence of actions or operations with milestones and a schedule for the submission of certified progress reports, where applicable, leading to compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established pursuant to section 112 of the Act for which the affected source is not in compliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction non-compliance with, the applicable requirements on which it is based.

Construction means the on-site fabrication, erection, or installation of an affected source. Construction does not include the removal of all equipment comprising an affected source from an existing location and reinstallation of such equipment at a new location. The owner or operator of an existing affected source that is relocated may elect not to reinstall minor ancillary equipment including, but not limited to, piping, ductwork, and valves. However, removal and reinstallation of an affected source will be construed as reconstruction if it satisfies the criteria for reconstruction as defined in this section. The costs of replacing minor ancillary equipment must be considered in determining whether the existing affected source is reconstructed.

Continuous emission monitoring system (CEMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of emissions.

Continuous monitoring system (CMS) is a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by the regulation.

Continuous opacity monitoring system (COMS) means a continuous monitoring system that measures the opacity of emissions.

Continuous parameter monitoring system means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Effective date means:

(1) With regard to an emission standard established under this part, the date of promulgation in the FEDERAL REGISTER of such standard; or

(2) With regard to an alternative emission limitation or equivalent emission limitation determined by the Administrator (or a State with an approved permit program), the date that the alternative emission limitation or equivalent emission limitation becomes effective according to the provisions of this part.

Emission standard means a national standard, limitation, prohibition, or other regulation promulgated in a subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act.

Emissions averaging is a way to comply with the emission limitations specified in a relevant standard, whereby an affected source, if allowed under a subpart of this part, may create emission credits by reducing emissions from specific points to a level below that required by the relevant standard, and those credits are used to offset emissions from points that are not controlled to the level required by the relevant standard.

EPA means the United States Environmental Protection Agency.

Equivalent emission limitation means any maximum achievable control technology emission limitation or requirements which are applicable to a major source of hazardous air pollutants and are adopted by the Administrator (or a State with an approved permit program) on a case-by-case basis, pursuant to section 112(g) or (j) of the Act.

Excess emissions and continuous monitoring system performance report is a report that must be submitted periodically by an affected source in order to provide data on its compliance with relevant emission limits, operating parameters, and the performance of its continuous parameter monitoring systems.

Existing source means any affected source that is not a new source.

Federally enforceable means all limitations and conditions that are enforceable by the Administrator and citizens under the Act or that are enforceable under other statutes administered by the Administrator. Examples of federally enforceable limitations and conditions include, but are not limited to:

(1) Emission standards, alternative emission standards, alternative emission limitations, and equivalent emission limitations established pursuant to section 112 of the Act as amended in 1990;

(2) New source performance standards established pursuant to section 111 of the Act, and emission standards established pursuant to section 112 of the Act before it was amended in 1990;

(3) All terms and conditions in a title V permit, including any provisions that limit a source's potential to emit, unless expressly designated as not federally enforceable;

(4) Limitations and conditions that are part of an approved State Implementation Plan (SIP) or a Federal Implementation Plan (FIP);

(5) Limitations and conditions that are part of a Federal construction permit issued under 40 CFR 52.21 or any construction permit issued under regulations approved by the EPA in accordance with 40 CFR part 51;

(6) Limitations and conditions that are part of an operating permit where the permit and the permitting program pursuant to which it was issued meet all of the following criteria:

(i) The operating permit program has been submitted to and approved by EPA into a State implementation plan (SIP) under section 110 of the CAA;

(ii) The SIP imposes a legal obligation that operating permit holders adhere to the terms and limitations of such permits and provides that permits which do not conform to the operating permit program requirements and the requirements of EPA's underlying regulations may be deemed not "federally enforceable" by EPA;

(iii) The operating permit program requires that all emission limitations, controls, and other requirements imposed by such permits will be at least as stringent as any other applicable limitations and requirements contained in the SIP or enforceable under the SIP, and that the program may not issue permits that waive, or make less stringent, any limitations or requirements contained in or issued pursuant to the SIP, or that are otherwise "federally enforceable";

(iv) The limitations, controls, and requirements in the permit in question are permanent, quantifiable, and otherwise enforceable as a practical matter; and

(v) The permit in question was issued only after adequate and timely notice and opportunity for comment for EPA and the public.

(7) Limitations and conditions in a State rule or program that has been approved by the EPA under subpart E of this part for the purposes of implementing and enforcing section 112; and

(8) Individual consent agreements that the EPA has legal authority to create.

Fixed capital cost means the capital needed to provide all the depreciable components of an existing source.

Fugitive emissions means those emissions from a stationary source that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Under

section 112 of the Act, all fugitive emissions are to be considered in determining whether a stationary source is a major source.

Hazardous air pollutant means any air pollutant listed in or pursuant to section 112(b) of the Act.

Issuance of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Monitoring means the collection and use of measurement data or other information to control the operation of a process or pollution control device or to verify a work practice standard relative to assuring compliance with applicable requirements. Monitoring is composed of four elements:

(1) Indicator(s) of performance -- the parameter or parameters you measure or observe for demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates, and recorded findings of inspection of work practice activities, materials tracking, or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking), or an interdependency between two or among more than two variables.

(2) Measurement techniques -- the means by which you gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include continuous emission monitoring systems, continuous opacity monitoring systems, continuous parametric monitoring systems, and manual inspections that include making records of process conditions or work practices.

(3) Monitoring frequency -- the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems, and at least once per operating day (or week, month, etc.) for work practice or design inspections.

(4) Averaging time -- the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of

the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, and an instantaneous alarm.

New affected source means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory that is subject to a section 112(d) or other relevant standard for new sources. This definition of "new affected source," and the criteria to be utilized in implementing it, shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002. Each relevant standard will define the term "new affected source," which will be the same as the "affected source" unless a different collection is warranted based on consideration of factors including:

(1) Emission reduction impacts of controlling individual sources versus groups of sources;

(2) Cost effectiveness of controlling individual equipment;

(3) Flexibility to accommodate common control strategies;

(4) Cost/benefits of emissions averaging;

(5) Incentives for pollution prevention;

(6) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices);

(7) Feasibility and cost of monitoring; and

(8) Other relevant factors.

New source means any affected source the construction or reconstruction of which is commenced after the Administrator first proposes a relevant emission standard under this part establishing an emission standard applicable to such source.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. For continuous opacity monitoring systems, opacity means the fraction of incident light that is attenuated by an optical medium.

Owner or operator means any person who owns, leases, operates, controls, or supervises a stationary source..

Performance audit means a procedure to analyze blind samples, the content of which is known by the Administrator, simultaneously with the analysis of performance test samples in order to provide a measure of test data quality.

Performance evaluation means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

Permit modification means a change to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permit program means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

Permit revision means any permit modification or administrative permit amendment to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permitting authority means:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

Reconstruction means the replacement of components of an affected or a previously unaffected stationary source to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and

(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

Regulation promulgation schedule means the schedule for the promulgation of emission standards under this part, established by the Administrator pursuant to section 112(e) of the Act and published in the FEDERAL REGISTER.

Relevant standard means:

(1) An emission standard;

(2) An alternative emission standard;

(3) An alternative emission limitation; or

(4) An equivalent emission limitation established pursuant to section 112 of the Act that applies to the collection of equipment, activities, or both regulated by such standard or limitation. A relevant standard may include or consist of a design, equipment, work practice, or operational requirement, or other measure, process, method, system, or technique (including prohibition of emissions) that the Administrator (or a State) establishes for new or existing sources to which such standard or limitation applies. Every relevant standard established pursuant to section 112 of the Act includes subpart A of this part, as provided by § 63.1(a)(4), and all applicable appendices of this part or of other parts of this chapter that are referenced in that standard.

Responsible official means one of the following:

(1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representative is approved in advance by the Administrator.

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.

(3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).

(4) For affected sources (as defined in this part) applying for or subject to a title V permit: ‘‘responsible official’’ shall have the same meaning as defined in part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever is applicable.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this part.

Shutdown means the cessation of operation of an affected source or portion of an affected source for any purpose.

Six-minute period means, with respect to opacity determinations, any one of the 10 equal parts of a 1-hour period.

Standard conditions means a temperature of 293 ^{o}K (68° F) and a pressure of 101.3 kilopascals (29.92 in. Hg).

Startup means the setting in operation of an affected source for any purpose.

State means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement:

(1) The provisions of this part and/or

(2) the permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant.

Test method means the validated procedure for sampling, preparing, and analyzing for an air pollutant specified in a relevant standard as the performance test procedure. The test method may include methods described in an appendix of this chapter, test methods incorporated by reference in this part, or methods validated for an application through procedures in Method 301 of appendix A of this part.

Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

Visible emission means the observation of an emission of opacity or optical density above the threshold of vision.

Working day means any day on which Federal Government offices (or State government offices for a State that has obtained delegation under section 112(l)) are open for normal business. Saturdays, Sundays, and official Federal (or where delegated, State) holidays are not working days.

§ 63.3 Units and abbreviations.

Units of Measure are spelled out in subparts F, G, and H.

§ 63.4 Prohibited activities and circumvention.

(a) *Prohibited activities*.

(1) No owner or operator subject to the provisions of this part must operate any affected source in violation of the requirements of this part. Affected sources subject to and in compliance with either an extension of compliance or an exemption from compliance are not in violation of the requirements of this part. An extension of compliance can be granted by the Administrator under this part; by a State with an approved permit program; or by the President under section 112(i)(4) of the Act.

(2) No owner or operator subject to the provisions of this part shall fail to keep records, notify, report, or revise reports as required under this part.

(3) [Reserved]

(4) [Reserved]
(5) [Reserved]

(b) *Circumvention.* No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to

(1) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere;

(2) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions; and

(3) [Reserved]

(c) *Severability.* Notwithstanding any requirement incorporated into a title V permit obtained by an owner or operator subject to the provisions of this part, the provisions of this part are federally enforceable.

§ 63.5 Preconstruction review and notification requirements.

(a) *Applicability.*

(1) This section implements the preconstruction review requirements of section 112(i)(1) for sources subject to a relevant emission standard that has been promulgated in this part. In addition, this section includes other requirements for constructed and reconstructed stationary sources that are or become subject to a relevant promulgated emission standard. **Except the terms "source" and "stationary source" in Sec. 63.5(a)(1) should be interpreted as having the same meaning as "affected source".**

(2) After the effective date of a relevant standard promulgated under this part, the requirements in this section apply to owners or operators who construct a new source or reconstruct a source after the proposal date of that standard. New or reconstructed sources that start up before the standard's effective date are not subject to the preconstruction review requirements specified in paragraphs (b)(3), (d), and (e) of this section.

(b) *Requirements for existing, newly constructed, and reconstructed sources*.

(1) A new affected source for which construction commences after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates. An affected source for which reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source. **Except Sec. 63.100(l) defines when construction or reconstruction is subject to standards for new sources.**

(2) [Reserved]

(3) After the effective date of any relevant standard promulgated by the Administrator under this part, no person may, without obtaining written approval in advance from the Administrator in accordance with the procedures specified in paragraphs (d) and (e) of this section, do any of the following:

(i) Construct a new affected source that is major-emitting and subject to such standard;

(ii) Reconstruct an affected source that is major-emitting and subject to such standard; or

(iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.

(4) After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in § 63.9(b). **Except the cross reference to Sec. 63.9(b) is limited to 63.9(b)(4) and (5). Subpart F overrides 63.9(b)(1) and (3).**

(5) [Reserved]

(6) After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source. **Except Sec. 63.100(l) defines when construction or reconstruction is subject to standards for new sources.**

(c) [Reserved]

(d) *Application for approval of construction or reconstruction*. The provisions of this paragraph implement section 112(i)(1) of the Act.

(1) *General application requirements.*

(i) **For subpart F, see Sec. 63.151(b)(2)(ii) and (2)(iii) for the applicability and timing of this submittal; for subpart H, see Sec. 63.182(b)(2)(ii) and (b)(2)(iii) for applicability and timing of this submittal.**

(ii) A separate application shall be submitted for each construction or reconstruction. Each application for approval of construction or reconstruction shall include at a minimum:

(A) The applicant's name and address;

(B) A notification of intention to construct a new major affected source or make any physical or operational change to a major affected source that may meet or has been determined to meet the criteria for a reconstruction, as defined in § 63.2 or in the relevant standard;

(C) The address (i.e., physical location) or proposed address of the source;

(D) An identification of the relevant standard that is the basis of the application;

(E) The expected date of the beginning of actual construction or reconstruction;

(F) The expected completion date of the construction or reconstruction;

(G) [Reserved]

(H) **[Reserved]**

(I) [Reserved]

(J) Other information as specified in paragraphs (d)(2) and (d)(3) of this section.

(iii) **Subpart G requires submittal of the Notification of Compliance Status in Sec. 63.152(b); subpart H specifies requirements in Sec. 63.182(c).**

(2) *Application for approval of construction.* Each application for approval of construction must include, in addition to the information required in paragraph (d)(1)(ii) of this

section, technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including an identification of each type of emission point for each type of hazardous air pollutant that is emitted (or could reasonably be anticipated to be emitted) and a description of the planned air pollution control system (equipment or method) for each emission point. The description of the equipment to be used for the control of emissions must include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions must include an estimated control efficiency (percent) for that method. Such technical information must include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations.

(3) *Application for approval of reconstruction*. **[Not applicable for subpart H, except Sec. 63.5(d)(3)(ii) does not apply to subpart G.** Each application for approval of reconstruction shall include, in addition to the information required in paragraph (d)(1)(ii) of this section -

(i) A brief description of the affected source and the components that are to be replaced;

(ii) A description of present and proposed emission control systems (i.e., equipment or methods). The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations;

(iii) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source;

(iv) The estimated life of the affected source after the replacements; and

(v) A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.

(vi) If in the application for approval of reconstruction the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or other requirements, the owner or operator need not submit the information required in paragraphs (d)(3)(iii) through (d)(3)(v) of this section.

(4) *Additional information*. The Administrator may request additional relevant information after the submittal of an application for approval of construction or reconstruction.

(e) *Approval of construction or reconstruction.*

(1) (i) If the Administrator determines that, if properly constructed, or reconstructed, and operated, a new or existing source for which an application under paragraph (d) of this section was submitted will not cause emissions in violation of the relevant standard(s) and any other federally enforceable requirements, the Administrator will approve the construction or reconstruction.

(ii) In addition, in the case of reconstruction, the Administrator's determination under this paragraph will be based on:

(A) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new source;

(B) The estimated life of the source after the re-placements compared to the life of a comparable entirely new source;

(C) The extent to which the components being replaced cause or contribute to the emissions from the source; and

(D) Any economic or technical limitations on compliance with relevant standards that are inherent in the proposed replacements.

(2) (i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of construction or reconstruction within 60 calendar days after receipt of sufficient information to evaluate an application submitted under paragraph (d) of this section. The 60-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(3) Before denying any application for approval of construction or reconstruction, the Administrator will notify the applicant of the Administrator's intention to issue the denial together with - (i) Notice of the information and findings on which the intended denial is based; and

(ii) Notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator to enable further action on the application.

(4) A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 calendar days of presentation of additional information or arguments (if the application is complete), or within 60 calendar days after the final date specified for presentation if no presentation is made.

(5) Neither the submission of an application for approval nor the Administrator's approval of construction or reconstruction shall -

(i) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or (ii) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(f) *Approval of construction or reconstruction based on prior State preconstruction review.*

(1) Preconstruction review procedures that a State utilizes for other purposes may also be utilized for purposes of this section if the procedures are substantially equivalent to those specified in this section. The Administrator will approve an application for construction or reconstruction specified in paragraphs (b)(3) and (d) of this section if the owner or operator of a new affected source or reconstructed affected source, who is subject to such requirement meets the following conditions:

(i) The owner or operator of the new affected source or reconstructed affected source has undergone a preconstruction review and approval process in the State in which the source is (or would be) located and has received a federally enforceable construction permit that contains a finding that the source will meet the relevant promulgated emission standard, if the source is properly built and operated.

(ii) Provide a statement from the State or other evidence (such as State regulations) that it considered the factors specified in paragraph (e)(1) of this section.

(2) The owner or operator must submit to the Administrator the request for approval of construction or reconstruction under this paragraph (f)(2) no later than the application deadline specified in paragraph (d)(1) of this section (see also § 63.9(b)(2)). The owner or operator must include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in paragraph (e) of this section. The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction under this paragraph (f)(2). **Except the cross-reference to Sec. 63.5(d)(1) is changed to Sec. 63.151(b)(2)(ii) of subpart G and to Sec. 63.182(b)(2)(ii) of subpart H. The cross-reference to Sec. 63.5(b)(2) does not apply.**

§ 63.6 Compliance with standards and maintenance requirements.

(a) *Applicability.*

(1) The requirements in this section apply to the owner or operator of affected sources for which any relevant standard has been established pursuant to section 112 of the Act and the applicability of such requirements is set out in accordance with § 63.1(a)(4) unless --

(i) The Administrator (or a State with an approved permit program) has granted an extension of compliance consistent with paragraph (i) of this section; or

(ii) The President has granted an exemption from compliance with any relevant standard in accordance with section 112(i)(4) of the Act.

(2) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source, such source shall be subject to the relevant emission standard or other requirement.

(b) *Compliance dates for new and reconstructed sources*.

(1) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source for which construction or reconstruction commences after proposal of a relevant standard that has an initial startup before the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard not later than the standard's effective date.

(2) **[Reserved]**

(3) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established under this part pursuant to section 112(d), 112(f), or 112(h) of the Act but before the effective date (that is, promulgation) of such standard shall comply with the relevant emission standard not later than the date 3 years after the effective date if:

(i) The promulgated standard (that is, the relevant standard) is more stringent than the proposed standard; for purposes of this paragraph, a finding that controls or compliance methods are "more stringent" must include control technologies or performance criteria and compliance or compliance assurance methods that are different but are substantially equivalent to those required by the promulgated rule, as determined by the Administrator (or his or her authorized representative); and

(ii) The owner or operator complies with the standard as proposed during the 3-year period immediately after the effective date.

(4) **May apply when standards are proposed under Section 112(f) of the Clean Air Act.**

(5) **Subparts G and H include notification requirements.**

(6) [Reserved]

(7) **[Reserved]**

(c) *Compliance dates for existing sources*.

(1) **Subpart F specifies the compliance dates for subparts G and H.**

(2) **[Reserved]**

(3)–(4) [Reserved]

(5) Except as provided in paragraph (b)(7) of this section, the owner or operator of an area source that increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source shall be subject to relevant standards for existing sources. Such sources must comply by the date specified in the standards for existing area sources that become major sources. If no such compliance date is specified in the standards, the source shall have a period of time to comply with the relevant emission standard that is equivalent to the compliance period specified in the relevant standard for existing sources in existence at the time the standard becomes effective.

(d) [Reserved]

(e) *Operation and maintenance requirements.* **Except as otherwise specified for individual paragraphs. Does not apply to Group 2 emission points unless they are included in an emissions average.**

(1) (i) **This addressed by Sec. 63.102(a)(4).**

(ii) Malfunctions must be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2) [Reserved]

(3) *Startup, shutdown, and malfunction plan.*

(i)The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard. –**For subpart H, the startup, shutdown, and malfunction plan requirement of Sec. 63.6(e)(3)(i) is limited to control devices subject to the provisions of subpart H and is optional for other equipment subject to subpart H. The startup, shutdown and malfunction plan may include written procedures that identify conditions that justify a delay of repair.**

(A) **This addressed by Sec. 63.102(a)(4).**

(B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and

(C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(ii) During periods of startup, shutdown, and malfunction, the owner or operator of an affected source must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (e)(3)(i) of this section.

(iii) **Recordkeeping and reporting are specified in Sec. 63.103(c)(2) of subpart F and Sec 63.152(d)(1) of subpart G.**

(iv) **Recordkeeping and reporting are specified in Sec. 63.103(c)(2) of subpart F and Sec 63.152(d)(1) of subpart G.**

(v) **Record retention requirements are specified in Sec. 63.103(c).**

(vi) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Administrator.

(vii) Based on the results of a determination made under paragraph (e)(1)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

(A) Does not address a startup, shutdown, or malfunction event that has occurred;

(B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by paragraph (e)(1)(i) of this section; **Except the plan must provide for operation in compliance with Sec. 63.102(a)(4).**

(C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or

(D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in § 63.2.

(viii) The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by § 63.10(d)(5). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice

requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

(ix) The title V permit for an affected source must require that the owner or operator adopt a startup, shutdown, and malfunction plan which conforms to the provisions of this part, and that the owner or operator operate and maintain the source in accordance with the procedures specified in the current startup, shutdown, and malfunction plan. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under part 70 or part 71 of this chapter. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act.

(f) *Compliance with nonopacity emission standards* -

(1) *Applicability*. **Sec. 63.102(a) for subpart F specifies when the standard applies.**

(2) *Methods for determining compliance*.

(i) The Administrator will determine compliance with nonopacity emission standards in this part based on the results of performance tests conducted according to the procedures in § 63.7, unless otherwise specified in an applicable subpart of this part.

(ii) The Administrator will determine compliance with nonopacity emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in § 63.6(e) and applicable subparts of this part. **Sec. 63.152(c)(2) of subpart G specifies the use of monitoring data in determining compliance with subpart G. [Not applicable for subpart H]**

(iii) If an affected source conducts performance testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if -

(A) The performance test was conducted within a reasonable amount of time before an initial performance test is required to be conducted under the relevant standard;

(B) The performance test was conducted under representative operating conditions for the source;

(C) The performance test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in § 63.7(e) of this subpart; and

(D) **[Reserved]**

(iv) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by review of records, inspection of the source, and other procedures specified in applicable subparts of this part.

(v) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, as specified in paragraph (e) of this section and applicable subparts of this part.

(3) *Finding of compliance*. The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard, as specified in paragraphs (f)(1) and (2) of this section, upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable), and information available to the Administrator pursuant to paragraph (e)(1)(i) of this section.

(g) *Use of an alternative nonopacity emission standard*.

Procedures specified in Sec. 63.102(b) of Subpart F.

(h) *Compliance with opacity and visible emission standards* -
[Reserved]

(i) *Extension of compliance with emission standards.*

(1) Until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph, the owner or operator of an affected source subject to the requirements of this section shall comply with all applicable requirements of this part.

(2) *Extension of compliance for early reductions and other reductions*

(i) *Early reductions*. Pursuant to section 112(i)(5) of the Act, if the owner or operator of an existing source demonstrates that the source has achieved a reduction in emissions of hazardous air pollutants in accordance with the provisions of subpart D of this part, the Administrator (or the State with an approved permit program) will grant the owner or operator an extension of compliance with specific requirements of this part, as specified in subpart D.

(ii) *Other reductions*. Pursuant to section 112(i)(6) of the Act, if the owner or operator of an existing source has installed best available control technology (BACT) (as defined in section 169(3) of the Act) or technology required to meet a lowest achievable emission rate (LAER) (as defined in section 171 of the Act) prior to the promulgation of an emission standard in this part applicable to such source and the same pollutant (or stream of pollutants) controlled pursuant to the BACT or LAER installation, the Administrator will grant the owner or operator an extension of compliance with such emission standard that will apply until the date 5 years after the date on which such installation was achieved, as determined by the Administrator.

(3) *Request for extension of compliance*. For **subpart G, Sec. 63.151(a)(6) specifies procedures; for subpart H, Sec. 63.182(a)(6)(i) specifies procedures.**

(4) (i) (A) The owner or operator of an existing source who is unable to comply with a relevant standard established under this part pursuant to section 112(d) of the Act may request that the Administrator (or a State, when the State has an approved part 70 permit program and the source is required to obtain a part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) grant an extension allowing the source up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. An additional extension of up to 3 years may be added for mining waste operations, if the 1-year extension of compliance is insufficient to dry and cover mining waste in order to reduce emissions of any hazardous air pollutant. The owner or operator of an affected source who has requested an extension of compliance under this paragraph and who is otherwise required to obtain a title V permit shall apply for such permit or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph will be incorporated into the affected source's title V permit according to the provisions of part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) **Dates are specified in Sec. 63.151(a)(6)(i) of subpart G and Sec. 63.182(a)(6)(i) of subpart H.**

(C) An owner or operator may submit a compliance extension request after the date specified in paragraph (i)(4)(i)(B) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in paragraph (i)(6)(i) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first

learned of the problems. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(ii) **[Reserved]**

(5) The owner or operator of an existing source that has installed BACT or technology required to meet LAER [as specified in paragraph (i)(2)(ii) of this section] prior to the promulgation of a relevant emission standard in this part may request that the Administrator grant an extension allowing the source 5 years from the date on which such installation was achieved, as determined by the Administrator, to comply with the standard. Any request for an extension of compliance with a relevant standard under this paragraph shall be submitted in writing to the Administrator not later than 120 days after the promulgation date of the standard. The Administrator may grant such an extension if he or she finds that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(6) (i) The request for a compliance extension under paragraph (i)(4) of this section shall include the following information:

(A) A description of the controls to be installed to comply with the standard;

(B) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(*1*) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated; and

(*2*) The date by which final compliance is to be achieved;

(C) [Reserved]

(D) [Reserved]

(ii) The request for a compliance extension under paragraph (i)(5) of this section shall include all information needed to demonstrate to the Administrator's satisfaction that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(7) Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(8) *Approval of request for extension of compliance*. Paragraphs (i)(9) through (i)(14) of this section concern approval of an extension of compliance requested under paragraphs (i)(4) through (i)(6) of this section.

(9) Based on the information provided in any request made under paragraphs (i)(4) through (i)(6) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with an emission standard, as specified in paragraphs (i)(4) and (i)(5) of this section.

(10) The extension will be in writing and will -

(i) Identify each affected source covered by the extension;

(ii) Specify the termination date of the extension;

(iii) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(iv) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests); and

(v) (A) Under paragraph (i)(4), specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period; or

(B) Under paragraph (i)(5), specify any additional conditions that the Administrator deems necessary to assure the proper operation and maintenance of the installed controls during the extension period.

(11) The owner or operator of an existing source that has been granted an extension of compliance under paragraph (i)(10) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached. The contents of the progress reports and the dates by which they shall be submitted will be specified in the written extension of compliance granted under paragraph (i)(10) of this section.

(12) (i) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(i) or (i)(5) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with -

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(iv) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(13) (i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(ii) of this section. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 15 calendar days after receipt of the original application and within 15 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 15 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator will notify the owner or operator in writing of the Administrator's intention to issue the denial, together with -

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator before further action on the request.

(iv) A final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(14) The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (i)(10)(iii) or (iv) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(i) Notice of the reason for termination; and

(ii) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(iii) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(15) [Reserved]

(16) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the Act.

(j) *Exemption from compliance with emission standards*. The President may exempt any stationary source from compliance with any relevant standard established pursuant to section 112 of the Act for a period of not more than 2 years if the President determines that the technology to implement such standard is not available and that it is in the national security interests of the United States to do so. An exemption under this paragraph may be extended for 1 or more additional periods, each period not to exceed 2 years.

§ 63.7 Performance testing requirements.

(a) *Applicability and performance test dates.*

(1) **Subparts F, G, and H specify required testing and compliance demonstration procedures.**

(2) **For Subpart G, test results must be submitted in the Notification of Compliance Status due 150 days after compliance date, as specified in Sec. 63.152(b); for subpart H, all test results subject to reporting are reported in periodic reports.**

(3) The Administrator may require an owner or operator to conduct performance tests at the affected source at any other time when the action is authorized by section 114 of the Act.

(b) *Notification of performance test.*

[Reserved]

(c) *Quality assurance program*.

[Reserved]

(d) *Performance testing facilities*. If required to do performance testing, the owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source, shall provide performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such source. This includes:

(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures;

(2) Safe sampling platform(s);

(3) Safe access to sampling platform(s);

(4) Utilities for sampling and testing equipment; and

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

(e) *Conduct of performance tests*.

(1) Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected source. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the level of the relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant standard unless otherwise specified in the relevant standard or a determination of noncompliance is made under § 63.6(e). Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(2) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this section, in each relevant standard, and, if required, in applicable appendices of parts 51, 60, 61, and 63 of this chapter unless the Administrator -

(i) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology (see definition in § 63.90(a)). Such changes may be approved in conjunction with approval of the site-specific test plan (see paragraph (c) of this section); or

(ii) Approves the use of an intermediate or major change or alternative to a test method (see definitions in § 63.90(a)), the results of which the Administrator has determined to be adequate for indicating whether a specific affected source is in compliance; or

(iii) Approves shorter sampling times or smaller sample volumes when necessitated by process variables or other factors; or

(iv) Waives the requirement for performance tests because the owner or operator of an affected source has demonstrated by other means to the Administrator's satisfaction that the affected source is in compliance with the relevant standard.

(3) **Subparts F, G, and H specify applicable methods and provide alternatives.**

(4) Nothing in paragraphs (e)(1) through (e)(3) of this section shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(f) *Use of an alternative test method* -

Subparts F, G, and H specify test methods and procedures.

(g) *Data analysis, recordkeeping, and reporting.*

Performance test reporting specified in Sec. 63.152(b); for subpart G; Not applicable to subpart H because no performance test required by subpart H.

(h) *Waiver of performance tests*.

(1) Until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) Request to waive a performance test. **Sec. 63.103(b)(5) of subpart F specifies provisions for requests to waive performance tests.**

(4) Approval of request to waive performance test. **[Reserved]**

(5) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.8 Monitoring requirements.

(a) *Applicability.*

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) **[Reserved]**

(3) [Reserved]

(4) Additional monitoring requirements for control devices used to comply with provisions in relevant standards of this part are specified in § 63.11.

(b) *Conduct of monitoring.*

(1) Monitoring shall be conducted as set forth in this section and the relevant standard(s) unless the Administrator -

(i) Specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures (see § 63.90(a) for definition); or

(ii) Approves the use of an intermediate or major change or alternative to any monitoring requirements or procedures (see § 63.90(a) for definition).

(iii) Owners or operators with flares subject to § 63.11(b) are not subject to the requirements of this section unless otherwise specified in the relevant standard.

(2) **Subparts G and H specify locations to conduct monitoring.**

(3) When more than one CMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CMS. However, when one CMS is used as a backup to another CMS, the owner or operator shall report the results from the CMS used to meet the monitoring requirements of this part. If both such CMS are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CMS for the relevant compliance period.

(c) Operation and maintenance of continuous monitoring systems.

(1) The owner or operator of an affected source shall maintain and operate each CMS as specified in this section, or in a relevant standard, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of an affected source must maintain and operate each CMS as specified in § 63.6(e)(1).

(ii) **For subpart G, submit as part of periodic report required by Sec. 63.152 ©; for subpart H, retain as required by Sec. 63.181(g)(2)(ii).**

(iii) The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan for CMS as specified in § 63.6(e)(3).

(2) (i) All CMS must be installed such that representative measures of emissions or process parameters from the affected source are obtained. In addition, CEMS must be located according to procedures contained in the applicable performance specification(s).

(ii) Unless the individual subpart states otherwise, the owner or operator must ensure the read out (that portion of the CMS that provides a visual display or record), or other indication of operation, from any CMS required for compliance with the emission standard is readily accessible on site for operational control or inspection by the operator of the equipment.

(3) All CMS shall be installed, operational, and the data verified as specified in the relevant standard either prior to or in conjunction with conducting performance tests under § 63.7. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(4) **Subpart G specifies monitoring frequency by kind of emission point and control technology used (e.g. Sec. 63.111, Sec. 63.120(d)(2) and Sec. 63.152(f)); subpart H does not require use of continuous monitoring systems.**

(5)-(8) [Reserved]

(d) *Quality control program.*

[Reserved]

(e) *Performance evaluation of continuous monitoring systems* -

[Reserved]

(f) *Use of an alternative monitoring method* -

(1) *General*. Until permission to use an alternative monitoring procedure (minor, intermediate, or major changes; see definition in § 63.90(a)) has been granted by the Administrator under this paragraph (f)(1), the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this part including, but not limited to, the following:

(i) Alternative monitoring requirements when installation of a CMS specified by a relevant standard would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases;

(ii) Alternative monitoring requirements when the affected source is infrequently operated;

(iii) Alternative monitoring requirements to accommodate CEMS that require additional measurements to correct for stack moisture conditions;

(iv) Alternative locations for installing CMS when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;

(v) Alternate methods for converting pollutant concentration measurements to units of the relevant standard;

(vi) Alternate procedures for performing daily checks of zero (low-level) and high-level drift that do not involve use of high-level gases or test cells;

(vii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified by any relevant standard;

(viii) Alternative CMS that do not meet the design or performance requirements in this part, but adequately demonstrate a definite and consistent relationship between their measurements and the measurements of opacity by a system complying with the requirements as specified in the relevant standard. The Administrator may require that such demonstration be performed for each affected source; or

(ix) Alternative monitoring requirements when the effluent from a single affected source or the combined effluent from two or more affected sources is released to the atmosphere through more than one point.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section or in the relevant standard. If the results of the specified and alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4) (i) *Request to use alternative monitoring procedure.* **Timeframe for submitting request specified in Sec. 63.151(f) or (g) of subpart G; not applicable to subpart H because subpart h specifies acceptable alternative methods.**

(ii) The application must contain a description of the proposed alternative monitoring system which addresses the four elements contained in the definition of monitoring in § 63.2 and a performance evaluation test plan, if required, as specified in paragraph (e)(3) of this section. In addition, the application must include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) **[Reserved]**

(iv) Application for minor changes to monitoring procedures, as specified in paragraph (b)(1) of this section, may be made in the site-specific performance evaluation plan.

(5) *Approval of request to use alternative monitoring procedure.*

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. If a request for a minor change is made in conjunction with site-specific performance evaluation plan, then approval of the plan will constitute approval of the minor change. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with --

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) **[Reserved]**

(iii) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (f)(5)(i) of this section, the owner or operator of such

source shall continue to use the alternative monitoring method until he or she receives approval from the Administrator to use another monitoring method as allowed by § 63.8(f).

(6) Alternative to the relative accuracy test. **Subparts G and H do not require continuous emission monitoring.**

(g) *Reduction of monitoring data.* **Data reduction procedures specified in Sec. 63.152(f) and (g) of subpart G; not applicable to subpart H.**

§ 63.9 Notification requirements.

(a) *Applicability and general information.*

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a notice that contains all the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

(4) (i) Before a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each notification submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any notifications at its discretion.

(b) *Initial notifications.*

(1) **Specified in Sec. 63.151(b)(2) of Subpart G; in Sec. 63.182(b) of subpart H.**

(2) **Initial Notification provisions are specified in Sec. 63.151(b) of Subpart G; in Sec. 63.182(b) of subpart H.**

(3) [Reserved]

(4) **Except that the notification in Sec. 63.9(b)(4)(i) shall be submitted at the time specified in Sec. 63.151(b)(2)(ii) of subpart G; in Sec. 63.182(b)(2) of subpart H.** The owner or operator of a new or reconstructed major affected source for which an application for approval of construction or reconstruction is required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such that the source becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i); and

(ii) [Reserved]

(iii) [Reserved]

(iv) [Reserved]; and

(v) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(5) **Except that the notification in Sec. 63.9(b)(5) shall be submitted at the time specified in Sec. 63.151(b)(2)(ii) of subpart G; in Sec. 63.182(b)(2) of subpart H.** The owner or operator of a new or reconstructed affected source for which an application for approval of construction or reconstruction is not required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new affected source, reconstruct an affected source, or reconstruct a source such that the source becomes an affected source, and

(ii) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(iii) Unless the owner or operator has requested and received prior permission from the Administrator to submit less than the information in § 63.5(d), the notification must include the information required on the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i).

(c) *Request for extension of compliance*. If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with § 63.6(i)(5) of this subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in § 63.6(i)(4) through § 63.6(i)(6).

(d) *Notification that source is subject to special compliance requirements*. An owner or operator of a new source that is subject to special compliance requirements as specified in § 63.6(b)(3) and § 63.6(b)(4) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in paragraph (b) of this section for new sources that are not subject to the special provisions.

(e) *Notification of performance test*. **[Reserved]**

(f) *Notification of opacity and visible emission observations*. **[Reserved]**

(g) *Additional notification requirements for sources with continuous monitoring systems*.
[Reserved]

(h) *Notification of compliance status.*

Sec. 63.152(b) of subpart G and 63.182(c) of subpart H specify Notification of Compliance Status requirements.

(i) *Adjustment to time periods or postmark deadlines for submittal and review of required communications.*

(1) (i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (i)(2) and (i)(3) of this section, the owner or operator of an affected source remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (i)(2) and (i)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

(j) *Change in information already provided*. **[Reserved]**

§ 63.10 Recordkeeping and reporting requirements.

(a) *Applicability and general information*.

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a report that contains all the information required in a report listed in this section, an owner or operator may send the Administrator a copy of the report sent to the
State to satisfy the requirements of this section for that report.

(4) (i) Before a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each report submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any reports at its discretion.

(5) If an owner or operator of an affected source in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such source under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. For each relevant standard established pursuant to section 112 of the Act, the

allowance in the previous sentence applies in each State beginning 1 year after the affected source's compliance date for that standard. Procedures governing the implementation of this provision are specified in § 63.9(i).

(6) If an owner or operator supervises one or more stationary sources affected by more than one standard established pursuant to section 112 of the Act, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required for each source shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the latest compliance date for any relevant standard established pursuant to section 112 of the Act for any such affected source(s). Procedures governing the implementation of this provision are specified in § 63.9(i).

(7) If an owner or operator supervises one or more stationary sources affected by standards established pursuant to section 112 of the Act (as amended November 15, 1990) and standards set under part 60, part 61, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required by each relevant (i.e., applicable) standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the relevant section 112 standard, or 1 year after the stationary source is required to be in compliance with the applicable part 60 or part 61 standard, whichever is latest. Procedures governing the implementation of this provision are specified in § 63.9(i).

(b) *General recordkeeping requirements*.

(1) **Sec. 63.103(c) of subpart F specifies record retention requirements.**

(2) **Sec. 63.103(c) of subpart F specifies required records.**

(3) *Recordkeeping requirement for applicability determinations.* **[Reserved]**

(c) *Additional recordkeeping requirements for sources with continuous monitoring systems*.

[Reserved]

(d) *General reporting requirements*.

(1) **[Reserved]**

(2) *Reporting results of performance tests*. **Sec. 152.(b) of subpart G specifies record retention requirements.**

(3) *Reporting results of opacity or visible emission observations*. **[Reserved]**

(4) *Progress reports*. The owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under § 63.6(i) shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

(5) (i) Periodic startup, shutdown, and malfunction reports. **Except that reports required by Sec. 63.10(d)(5) shall be submitted at the time specified in Sec. 63.152(d) of subpart G and in Sec. 63.182(d) in Subpart H.** If actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (see Sec. 63.6(e)(3)), the owner or operator shall state such information in a startup, shutdown, and malfunction report. Such a report shall identify any instance where any action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the affected source's startup, shutdown, and malfunction plan, but the source does not exceed any applicable emission limitation in the relevant emission standard. Such a report shall also include the number, duration,

and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually (or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit). The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in paragraph (e)(3) of this section.

(ii) Immediate startup, shutdown, and malfunction reports. Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under paragraph (d)(5)(i) of this section, any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this paragraph (d)(5)(ii) shall consist of a telephone call (or facsimile (FAX) transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred. Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph (d)(5)(ii) are specified in Sec. 63.9(i).

(e) *Additional reporting requirements for sources with continuous monitoring systems* -
[Reserved]

(f) *Waiver of recordkeeping or reporting requirements.*

(1) Until a waiver of a recordkeeping or reporting requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Recordkeeping or reporting requirements may be waived upon written application to the Administrator if, in the Administrator's judgment, the affected source is achieving the relevant standard(s), or the source is operating under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) If an application for a waiver of record-keeping or reporting is made, the application shall accompany the request for an extension of compliance under § 63.6(i), any required compliance progress report or compliance status report required under this part (such as under § 63.6(i) and § 63.9(h)) or in the source's title V permit, or an excess emissions and continuous monitoring system performance report required under paragraph (e) of this section, whichever is applicable. The application shall include whatever information the owner or operator considers useful to convince the Administrator that a waiver of recordkeeping or reporting is warranted.

(4) The Administrator will approve or deny a request for a waiver of recordkeeping or reporting requirements under this paragraph when he/she -

(i) Approves or denies an extension of compliance; or

(ii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iii) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) A waiver of any recordkeeping or reporting requirement granted under this paragraph may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator.

(6) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.11 Control device requirements.

(a) *Applicability*. The applicability of this section is set out in Sec. 63.1(a)(4).

(b) Flares.

(1) Owners or operators using flares to comply with the provisions of this part shall monitor these control devices to assure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators using flares shall monitor these control devices.

(2) Flares shall be steam-assisted, air-assisted, or non-assisted.

(3) Flares shall be operated at all times when emissions may be vented to them.

(4) Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Test Method 22 in appendix A of part 60 of this chapter shall be used to determine the compliance of flares with the visible emission provisions of this part. The observation period is 2 hours and shall be used according to Method 22.

(5) Flares shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(6) An owner/operator has the choice of adhering to the heat content specifications in paragraph (b)(6)(ii) of this section, and the maximum tip velocity specifications in paragraph

(b)(7) or (b)(8) of this section, or adhering to the requirements in paragraph (b)(6)(i) of this section.

(i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity V_{max}, as determined by the following equation:

$$V_{max} = (X_{H2} - K_1) * K_2$$

Where:

V_{max} = Maximum permitted velocity, m/sec.

K_1 = Constant, 6.0 volume-percent hydrogen.

K_2 = Constant, 3.9 (m/sec)/volume-percent hydrogen.

X_{H2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 63.14).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(7)(i) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

Where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

K = Constant = 1.740×10^{-7} (1/ppmv)(g-mole/scm)(MJ/kcal); where the standard temperature for (g-mole/scm) is 20 °C.

C_i = Concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946–77 or 90 (Reapproved 1994) (incorporated by reference as specified in § 63.14).

H_i = Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809-95. (incorporated by reference as specified in § 63.14) if published values are not available or cannot be calculated.

n = Number of sample components.

(7) (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60 of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, less than the velocity V_{max}, as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, V_{max}, for flares complying with this paragraph shall be determined by the following equation:

$$Log_{10}(V_{max})=(H_T+28.8)/31.7$$

Where:
V_{max} = Maximum permitted velocity, m/sec.
28.8 = Constant.
31.7 = Constant.
H_T = The net heating value as determined in paragraph (b)(6) of this section.

(8) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max}. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation:

$$V_{max} = 8.71 + 0.708(H_T)$$

Where:
V_{max} = Maximum permitted velocity, m/sec.
8.71 = Constant.
0.708 = Constant.
H_T = The net heating value as determined in paragraph (b)(6)(ii) of this section.

§ 63.12 State authority and delegations.

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from -

(1) Adopting and enforcing any standard, limitation, prohibition, or other regulation applicable to an affected source subject to the requirements of this part, provided that such standard, limitation, prohibition, or regulation is not less stringent than any requirement applicable to such source established under this part;

(2) Requiring the owner or operator of an affected source to obtain permits, licenses, or approvals prior to initiating construction, reconstruction, modification, or operation of such source; or

(3) Requiring emission reductions in excess of those specified in subpart D of this part as a condition for granting the extension of compliance authorized by section 112(i)(5) of the Act.

(b) (1) Section 112(l) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards and other requirements pursuant to section 112 for stationary sources located in that State. Because of the unique nature of radioactive material, delegation of authority to implement and enforce standards that control radionuclides may require separate approval.

(2) Subpart E of this part establishes procedures consistent with section 112(l) for the approval of State rules or programs to implement and enforce applicable Federal rules promulgated under the authority of section 112. Subpart E also establishes procedures for the review and withdrawal of section 112 implementation and enforcement authorities granted through a section 112(l) approval.

(c) All information required to be submitted to the EPA under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act, provided that each specific delegation may exempt sources from a certain Federal or State reporting requirement. The Administrator may permit all or some of the information to be submitted to the appropriate State agency only, instead of to the EPA and the State agency.

§ 63.13 Addresses of State air pollution control agencies and EPA Regional Offices.

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted to the appropriate Regional Office of the U.S. Environmental Protection Agency indicated as follows:

EPA Region IV; Director; Air, Pesticides and Toxics, Management Division; Atlanta Federal Center, 61 Forsyth Street; Atlanta, GA 30303.

(b) All information required to be submitted to the Administrator under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act. The owner or operator of an affected source may contact the appropriate EPA Regional Office for the mailing addresses for those States whose delegation requests have been approved.

(c) If any State requires a submittal that contains all the information required in an application, notification, request, report, statement, or other communication required in this part, an owner or operator may send the appropriate Regional Office of the EPA a copy of that submittal to satisfy the requirements of this part for that communication.

§ 63.14 Incorporations by reference.

§ 63.14 Incorporations by reference.

(a) The materials listed in this section are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the Federal Register. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC, at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC, and at the EPA Library (MD-35), U.S. EPA, Research Triangle Park, North Carolina.

(b) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post

Office Box C700, West Conshohocken, PA 19428-2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

(1) ASTM D523-89, Standard Test Method for Specular Gloss, IBR approved for § 63.782.

(2) ASTM D1193-77, 91, Standard Specification for Reagent Water, IBR approved for Appendix A: Method 306, Sections 7.1.1 and 7.4.2.

(3) ASTM D1331-89, Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface Active Agents, IBR approved for Appendix A: Method 306B, Sections 6.2, 11.1, and 12.2.2.

(4) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for § 63.788, Appendix A.

(5) ASTM D1946-77, 90, 94, Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for § 63.11(b)(6).

(6) ASTM D2369-93, 95, Standard Test Method for Volatile Content of Coatings, IBR approved for § 63.788, Appendix A.

(7) ASTM D2382-76, 88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for § 63.11(b)(6).

(8) ASTM D2879-83, 96, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for § 63.111 of Subpart G.

(9) ASTM D3257-93, Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography, IBR approved for § 63.786(b).

(10) ASTM 3695-88, Standard Test Method for Volatile Alcohols in Water by Direct Aqueous-Injection Gas Chromatography, IBR approved for § 63.365(e)(1) of Subpart O.

(11) ASTM D3792-91, Standard Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for § 63.788, Appendix A.

(12) ASTM D3912-80, Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(13) ASTM D4017-90, 96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for § 63.788, Appendix A.

(14) ASTM D4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(15) ASTM D4256-89, 94, Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(16) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for § 63.11(b)(6).

(17) ASTM E180-93, Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals, IBR approved for § 63.786(b).

(18) ASTM E260-91, 96, General Practice for Packed Column Gas Chromatography, IBR approved for §§ 63.750(b)(2) and 63.786(b)(5).

(19) Reserved

(20) Reserved

(21) ASTM D2099-00, Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Maeser Water Penetration Tester, IBR approved for § 63.5350.

(24) ASTM D2697-86(1998) (Reapproved 1998), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, IBR approved for §§63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(25) ASTM D6093-97, Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, IBR approved for §§63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(26) ASTM D1475-98, Standard Test Method for Density of Liquid Coatings, Inks, and Related Products, IBR approved for §§ 63.4141(b)(3) and 63.4141(c).

(27) ASTM D 6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide and Oxygen concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process heaters Using Portable Analyzers, IBR approved for Sec. 63.9307(c)(2).

(28) [Reserved]

(29) ASTM D6420-99, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, IBR approved for §§ 63.5799 and 63.5850.

(c) The materials listed below are available for purchase from the American Petroleum Institute (API), 1220 L Street, NW., Washington, DC 20005.

(1) API Publication 2517, Evaporative Loss from External Floating-Roof Tanks, Third Edition, February 1989, IBR approved for § 63.111 of subpart G of this part.

(2) API Publication 2518, Evaporative Loss from Fixed-roof Tanks, Second Edition, October 1991, IBR approved for § 63.150(g)(3)(i)(C) of subpart G of this part.

(3) API Manual of Petroleum Measurement Specifications (MPMS) Chapter 19.2, Evaporative Loss From Floating-Roof Tanks (formerly API Publications 2517 and 2519), First Edition, April 1997, IBR approved for § 63.1251 of subpart GGG of this part.

(d) *State and Local Requirements.* The materials listed below are available at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC.

(1) *California Regulatory Requirements Applicable to the Air Toxics Program,* January 5, 1999, IBR approved for § 63.99(a)(5)(ii) of subpart E of this part.

(2) New Jersey's *Toxic Catastrophe Prevention Act Program,* (July 20, 1998), Incorporation By Reference approved for § 63.99 (a)(30)(i) of subpart E of this part.

(3) (i) Letter of June 7, 1999 to the U.S. Environmental Protection Agency Region 3 from the Delaware Department of Natural Resources and Environmental Control requesting formal full delegation to take over primary responsibility for implementation and enforcement of the Chemical Accident Prevention Program under Section 112(r) of the Clean Air Act Amendments of 1990.

(ii) Delaware Department of Natural Resources and Environmental Control, Division of Air and Waste Management, Accidental Release Prevention Regulation, sections 1 through 5 and sections 7 through 14, effective January 11, 1999, IBR approved for § 63.99(a)(8)(i) of subpart E of this part.

(iii) State of Delaware Regulations Governing the Control of Air Pollution (October 2000), IBR approved for § 63.99(a)(8)(ii)-(v) of subpart E of this part.

(e) The materials listed below are available for purchase from the National Institute of Standards and Technology, Springfield, VA 22161, (800) 553-6847.

(1) Handbook 44, Specificiations, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998, IBR approved for § 63.1303(e)(3).

(2) [Reserved]

(f) The following material is available from the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), P. O. Box 133318, Research Triangle Park, NC 27709-

3318 or at http://www.ncasi.org: NCASI Method DI/MEOH-94.02, Methanol in Process Liquids GC/FID (Gas Chromatography/Flame Ionization Detection), August 1998, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for § 63.457(c)(3)(ii) of subpart S of this part.

(g) The materials listed below are available for purchase from AOAC International, Customer Services, Suite 400, 2200 Wilson Boulevard, Arlington, Virginia, 22201-3301, Telephone (703) 522-3032, Fax (703) 522-5468.

(1) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(2) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(3) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(4) AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample Solution, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(5) AOAC Official Method 929.01 Sampling of Solid Fertilizers, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(6) AOAC Official Method 929.02 Preparation of Fertilizer Sample, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(7) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(h) The materials listed below are available for purchase from The Association of Florida Phosphate Chemists, P.O. Box 1645, Bartow, Florida, 33830, Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists, Seventh Edition 1991, IBR.

(1) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(2) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus -- P2O5 or Ca3(PO4)2, Method A-Volumetric Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(3) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method B -- Gravimetric Quimociac Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(4) Section IX, Methods of Analysis For Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method C -- Spectrophotometric Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(5) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method A -- Volumetric Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(6) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method B -- Gravimetric Quimociac Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(7) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method C --

Spectrophotometric Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(i) The following materials are available for purchase from at least one of the following addresses: ASME International, Orders/Inquiries, P.O. Box 2900, Fairfield, NJ 07007-2900; or Global Engineering Documents, Sales Department, 15 Inverness Way East, Englewood, CO 80112.

(1) ASME standard number QHO-1-1994, ``Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators," IBR approved for Sec. 63.1206(c)(6)(iii).

(2) ASME standard number QHO-1a-1996 Addenda to QHO-1-1994, ``Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators," IBR approved for Sec. 63.1206(c)(6)(iii).

(3) ANSI/ASME PTC 19.10-1981, ``Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]," IBR approved for Sec. Sec. 63.865(b), 63.3360(e)(1)(iii), 63.4166(a)(3), 63.4362(a)(3), 63.4766(a)(3), 63.4965(a)(3), 63.5160(d)(1)(iii), 63.9307(c)(2), and 63.9323(a)(3).

(j) [Reserved]

(k) The following material may be obtained from U.S. EPA, Office of Solid Waste (5305W), 1200 Pennsylvania Avenue, NW., Washington, DC 20460:

(1) Method 9071B, ``n-Hexane Extractable Material(HEM) for Sludge, Sediment, and Solid Samples," (Revision 2, April 1998) as published in EPA Publication SW-846: ``Test Methods for Evaluating Solid Waste, Physical/Chemical Methods." The incorporation by reference of Method 9071B is approved for Section 63.7824(e) of Subpart FFFFF of this part.

§ 63.15 Availability of information and confidentiality.

(a) *Availability of information*.

(1) With the exception of information protected through part 2 of this chapter, all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), notification of compliance status, excess emissions and continuous monitoring systems performance report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.

(2) The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.

(b) *Confidentiality*.

(1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.

(2) The contents of a title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a title V permit may be entitled to protection from disclosure.

{Last updated 6/25/03}

Subpart G - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) for Process Vents, Storage Vessels, Transfer Operations, and Wastewater

Sec.

§ 63.112 Emission standard;
§ 63.113 Process vent provisions;
§ 63.114 Process vent provisions - monitoring requirements;
§ 63.115 Process vent provisions - methods and procedures for process vent group determination;
§ 63.116 Process vent provisions - performance test methods and procedures to determine compliance;
§ 63.117 Process vent provisions - reporting and recordkeeping requirements for group and TRE determinations and performance tests;
§ 63.118 Process vent provisions - Periodic reporting and recordkeeping requirements;
§ 63.119 Storage vessel provisions - reference control technology;
§ 63.120 Storage vessel provisions - procedures to determine compliance;
§ 63.121 Storage vessel provisions - alternative means of emission limitation;
§ 63.122 Storage vessel provisions - reporting;
§ 63.123 Storage vessel provisions - recordkeeping;
§ 63.126 Transfer operations provisions - reference control technology;
§ 63.127 Transfer operations provisions - monitoring requirements;
§ 63.128 Transfer operations provisions - test methods and procedures;
§ 63.129 Transfer operations provisions - reporting and recordkeeping for performance tests and Notification of Compliance Status;
§ 63.130 Transfer operations provisions - periodic recordkeeping and reporting;
§ 63.132 Process wastewater provisions - general;
§ 63.133 Process wastewater provisions - wastewater tanks;
§ 63.134 Process wastewater provisions - surface impoundments;
§ 63.135 Process wastewater provisions - containers;
§ 63.136 Process wastewater provisions - individual drain systems;
§ 63.137 Process wastewater provisions - oil-water separators;
§ 63.138 Process wastewater provisions - Performance standards for treatment processes managing Group 1 wastewater streams and/or residuals removed from Group 1 wastewater streams;
§ 63.139 Process wastewater provisions - control devices;
§ 63.140 Process wastewater provisions - delay of repair;
§ 63.143 Process wastewater provisions - inspections and monitoring of operations;
§ 63.144 Process wastewater provisions - test methods and procedures for determining applicability and Group 1/Group 2 determinations (determining which wastewater streams require control);
§ 63.145 Process wastewater provisions - test methods and procedures to determine compliance;
§ 63.146 Process wastewater provisions - reporting;
§ 63.147 Process wastewater provisions - recordkeeping;
§ 63.148 Leak inspection provisions;
§ 63.150 Emissions averaging provisions;
§ 63.151 Initial notification and implementation plan;
§ 63.152 General recordkeeping and continuous records.
§ 63.153 Implementation and enforcement.

The “APPENDIX TO SUBPART G – TABLES, FIGURES AND ATTACHMENTS” begins on page 151 of this document.}

§ 63.110 Applicability.

(a) This subpart applies to all process vents, storage vessels, transfer racks, wastewater streams, and in-process equipment subject to § 63.149 within a source subject to subpart F of this part.

(b) *Overlap with other regulations for storage vessels*.

(1) After the compliance dates specified in § 63.100 of subpart F of this part, a Group 1 or Group 2 storage vessel that is also subject to the provisions of 40 CFR part 60, subpart Kb is required to comply only with the provisions of this subpart.

(2) After the compliance dates specified in § 63.100 of subpart F of this part, a Group 1 storage vessel that is also subject to the provisions of 40 CFR part 61, subpart Y is required to comply only with the provisions of this subpart.

(3) After the compliance dates specified in § 63.100 of subpart F of this part, a Group 2 storage vessel that is also subject to the provisions of 40 CFR part 61, subpart Y is required to comply only with the provisions of 40 CFR part 61, subpart Y. The recordkeeping and reporting requirements of 40 CFR part 61, subpart Y will be accepted as compliance with the recordkeeping and reporting requirements of this subpart.

(c) *Overlap with other regulations for transfer racks*.

(1) After the compliance dates specified in § 63.100 of subpart F of this part, a Group 1 transfer rack that is also subject to the provisions of 40 CFR part 61, subpart BB is required to comply only with the provisions of this subpart.

(2) After the compliance dates specified in § 63.100 of subpart F of this part, a Group 2 transfer rack that is also subject to the provisions of 40 CFR part 61, subpart BB is required to comply with the provisions of either paragraph (c)(2)(i) or (c)(2)(ii) of this subpart.

(i) If the transfer rack is subject to the control requirements specified in § 61.302 of 40 CFR part 61, subpart BB, then the transfer rack is required to comply with the control requirements of § 61.302 of 40 CFR part 61, subpart BB. The owner or operator may elect to comply with either the associated testing, monitoring, reporting, and recordkeeping requirements of 40 CFR part 61, subpart BB or with the testing, monitoring, recordkeeping, and reporting requirements specified in this subpart for Group 1 transfer racks. The owner or operator shall indicate this decision in either the Notification of Compliance Status specified in § 63.152(b) of this subpart or in an operating permit application or amendment.

(ii) If the transfer rack is subject only to reporting and recordkeeping requirements under 40 CFR part 61, subpart BB, then the transfer rack is required to comply only with the reporting and recordkeeping requirements specified in this subpart for Group 2 transfer racks and is exempt from the reporting and recordkeeping requirements in 40 CFR part 61, subpart BB.

(d) *Overlap with other regulations for process vents*.

(1) After the compliance dates specified in § 63.100 of subpart F of this part, a Group 1 process vent that is also subject to the provisions of 40 CFR part 60, subpart III is required to comply only with the provisions of this subpart.

(2) After the compliance dates specified in § 63.100 of subpart F of this part, the owner or operator of a Group 2 process vent that is also subject to the provisions of 40 CFR part 60, subpart III shall determine requirements according to paragraphs (d)(2)(i) and (d)(2)(ii) of this section.

(i) If the Group 2 process vent has a TRE value less than 1 as determined by the procedures in 40 CFR part 60, subpart III, the process vent is required to comply with the provisions in paragraphs (d)(2)(i)(A) through (d)(2)(i)(C) of this section.

(A) The provisions in both this subpart and in 40 CFR part 60, subpart III for applicability determination and the associated recordkeeping and reporting;

(B) The provisions in both this subpart and in 40 CFR part 60, subpart III for process changes and recalculation of the TRE index value and the associated recordkeeping and reporting; and

(C) The control requirements in § 60.612 of 40 CFR part 60, subpart III. The owner or operator may elect to comply with either the associated testing, monitoring, reporting, and recordkeeping requirements of 40 CFR part 60, subpart III or with the testing, monitoring, reporting, and recordkeeping requirements specified in this subpart for Group 1 process vents. The owner or operator shall indicate this decision in either the Notification of Compliance Status specified in § 63.152(b) of this subpart or in an operating permit application
or amendment.

(ii) If the Group 2 process vent has a TRE value greater than or equal to 1 as determined by the procedures in 40 CFR part 60, subpart III, the process vent is required to comply only with the provisions specified in paragraphs (d)(2)(ii)(A) through (d)(2)(ii)(D) of this section.

(A) The provisions in both this subpart and in 40 CFR part 60, subpart III for applicability determination and the associated recordkeeping and reporting;

(B) The provisions in both this subpart and in 40 CFR part 60, subpart III for process changes and recalculation of the TRE index value and the associated recordkeeping and reporting;

(C) If the provisions of both this subpart and 40 CFR part 60, subpart III require continuous monitoring of recovery device operating parameters, the process vent is required to comply only with the provisions that are specified in this subpart for continuous monitoring of recovery device operating parameters and the associated testing, reporting, and recordkeeping.

(D) If only the provisions of 40 CFR part 60, subpart III require continuous monitoring of recovery device operating parameters, the process vent is required to comply only with the provisions that are specified in 40 CFR part 60, subpart III for continuous monitoring of recovery device operating parameters and the associated testing, reporting, and recordkeeping.

(3) After the compliance dates specified in 63.100 of subpart F of this part, if an owner or operator of a process vent subject to this subpart that is also subject to the provisions of 40 CFR part 60, subpart III elects to control the process vent to the levels required in § 63.113 (a)(1) or (a)(2) of this subpart without calculating the TRE index value for the vent according to the procedures specified in § 63.115(d) of this subpart then the owner or operator shall comply with the testing, monitoring, reporting, and recordkeeping provisions of this subpart and shall be exempt from the testing, monitoring, reporting, and recordkeeping provisions of 40 CFR part 60, subpart III.

(4) After the compliance dates specified in § 63.100 of subpart F of this part, a Group 1 process vent that is also subject to the provisions of 40 CFR part 60, subpart NNN is required to comply only with the provisions of this subpart.

(5) After the compliance dates specified in § 63.100 of subpart F of this part, the owner or operator of a Group 2 process vent that is also subject to the provisions of 40 CFR part 60, subpart NNN shall determine requirements according to paragraphs (d)(5)(i) and (d)(5)(ii) of this section.

(i) If the Group 2 process vent has a TRE value less than 1 as determined by the procedures in 40 CFR part 60, subpart NNN, the process vent is required to comply with the provisions in paragraphs (d)(5)(i)(A) through (d)(5)(i)(C) of this section.

(A) The provisions in both this subpart and in 40 CFR part 60, subpart NNN for applicability determination and the associated recordkeeping and reporting;

(B) The provisions in both this subpart and in 40 CFR part 60, subpart NNN for process changes and recalculation of the TRE index value and the associated recordkeeping and reporting; and

(C) The control requirements in § 60.662 of 40 CFR part 60, subpart NNN. The owner or operator may elect to comply with either the associated testing, monitoring, reporting, and recordkeeping requirements of 40 CFR part 60, subpart NNN or with the testing, monitoring, reporting, and recordkeeping requirements specified in this subpart for Group 1 process vents. The owner or operator shall indicate this decision in either the Notification of Compliance Status specified in § 63.152(b) of this subpart or in an operating permit application or amendment.

(ii) If the Group 2 process vent has a TRE value greater than or equal to 1 as determined by the procedures in 40 CFR part 60, subpart NNN, the process vent is required to comply only with the provisions specified in paragraphs (d)(5)(ii)(A) through (d)(5)(ii)(D) of this section.

(A) The provisions in both this subpart and in 40 CFR part 60, subpart NNN for applicability determination and the associated recordkeeping and reporting;

(B) The provisions in both this subpart and in 40 CFR part 60, subpart NNN for process changes and recalculation of the TRE index value and the associated recordkeeping and reporting;

(C) If the provisions of both this subpart and 40 CFR part 60, subpart NNN require continuous monitoring of recovery device operating parameters, the process vent is required to comply only with the provisions that are specified in this subpart for continuous monitoring of recovery device operating parameters and the associated testing, reporting, and recordkeeping.

(D) If only the provisions of 40 CFR part 60, subpart NNN require continuous monitoring of recovery device operating parameters, the process vent is required to comply only with the provisions that are specified in 40 CFR part 60, subpart NNN for continuous monitoring of recovery device operating parameters and the associated testing, reporting, and recordkeeping.

(6) After the compliance dates specified in § 63.100 of subpart F of this part, if an owner or operator of a process vent subject to this subpart that is also subject to the provisions of 40 CFR part 60, subpart NNN elects to control the process vent to the levels required in § 63.113(a)(1) or (a)(2) of this subpart without calculating the TRE index value for the vent according to the procedures specified in § 63.115(d) of this subpart then the owner or operator shall comply with the testing, monitoring, reporting, and recordkeeping provisions of this subpart and shall be exempt from the testing, monitoring, reporting, and recordkeeping provisions of 40 CFR part 60, subpart NNN.

(7) After the compliance dates specified in § 63.100 of subpart F of this part, a Group 1 process vent that is also subject to the provisions of 40 CFR part 60, subpart RRR is required to comply only with the provisions of this subpart.

(8) After the compliance dates specified in § 63.100 of subpart F of this part, the owner or operator of a Group 2 process vent that is also subject to the provisions of 40 CFR part 60, sub-part RRR shall determine requirements according to paragraphs (d)(8)(i) and (d)(8)(ii) of this section.

(i) If the Group 2 process vent has a TRE value less than 1 as determined by the procedures in 40 CFR part 60, subpart RRR, the process vent is required to comply with the provisions in paragraphs (d)(8)(i)(A) through (d)(8)(i)(C) of this section.

(A) The provisions in both this subpart and in 40 CFR part 60, subpart RRR for applicability determination and the associated recordkeeping and reporting;

(B) The provisions in both this subpart and in 40 CFR part 60, subpart RRR for process changes and recalculation of the TRE index value and the associated recordkeeping and reporting; and

(C) The control requirements in § 60.702 of 40 CFR part 60, subpart RRR. The owner or operator may elect to comply with either the associated testing, monitoring, reporting, and recordkeeping requirements of 40 CFR part 60, subpart RRR or with the testing, monitoring, reporting, and record-keeping requirements specified in this subpart for Group 1 process vents. The owner or operator shall indicate this decision in either the Notification of Compliance Status specified in § 63.152(b) of this subpart or in an operating permit application or amendment.

(ii) If the Group 2 process vent has a TRE value greater than or equal to 1 as determined by the procedures in 40 CFR part 60, subpart RRR, the process vent is required to comply only with the provisions specified in paragraphs (d)(8)(ii)(A) through (d)(8)(ii)(D) of this section.

(A) The provisions in both this subpart and in 40 CFR part 60, subpart RRR for applicability de-termination and the associated recordkeeping and reporting;

(B) The provisions in both this subpart and in 40 CFR part 60, subpart RRR for process changes and recalculation of the TRE index value and the associated recordkeeping and reporting;

(C) If the provisions of both this subpart and 40 CFR part 60, subpart RRR require continuous monitoring of recovery device operating parameters, the process vent is required to comply only with the provisions that are specified in this sub-part for continuous monitoring of recovery device operating parameters and the associated testing, re-porting, and recordkeeping.

(D) If only the provisions of 40 CFR part 60, subpart RRR require continuous monitoring of recovery device operating parameters, the process vent is required to comply only with the provisions that are specified in 40 CFR part 60, subpart RRR for continuous monitoring of recovery device operating parameters and the associated testing, re-porting, and recordkeeping.

(9) After the compliance dates specified in § 63.100 of subpart F of this part, if an owner or operator of a process vent subject to this subpart that is also subject to the provisions of 40 CFR part 60, subpart RRR elects to control the process vent to the levels required in § 63.113(a)(1) or (a)(2) of this subpart without calculating the TRE index value for the vent according to the procedures specified in § 63.115(d) of this subpart then the owner or operator shall comply with the testing, monitoring, reporting, and recordkeeping pro-visions of this subpart and shall be exempt from the testing, monitoring, reporting, and record-keeping provisions of 40 CFR part 60, subpart RRR.

(10) As an alternative to the requirements of paragraphs (d)(2), (d)(3), (d)(5), (d)(6), (d)(8), and/or (d)(9) of this section as applicable, if a chemical manufacturing process unit has equipment subject to the provisions of this subpart and equipment subject to the provisions of 40 CFR part 60, subpart III, NNN, or RRR, the owner or operator may elect to apply this subpart to all such equipment in the chemical manufacturing process unit. If the owner or operator elects this method of compliance, all total organic compounds minus methane and ethane, in such equipment shall be considered for purposes of applicability and compliance with this subpart, as if they were organic hazardous air pollutants. Compliance with the provisions of this subpart, in the manner described in this paragraph, shall be deemed to constitute compliance with 40 CFR part 60, subpart III, NNN, or RRR, as applicable.

(e) *Overlap with other regulations for wastewater*.

(1) After the compliance dates specified in § 63.100 of subpart F of this part, the owner or operator of a Group 1 or Group 2 wastewater stream that is also subject to the provisions of 40 CFR part 61, subpart FF is required to comply with the provisions of both this subpart and 40 CFR part 61, subpart FF. Alternatively, the owner or operator may elect to comply with the provisions of paragraphs (e)(1)(i) and (e)(1)(ii) of this section, which shall constitute compliance with the provisions of 40 CFR part 61, subpart FF.

(i) Comply with the provisions of this subpart; and

(ii) For any Group 2 wastewater stream or organic stream whose benzene emissions are subject to control through the use of one or more treatment processes or waste management units under the provisions of 40 CFR part 61, subpart FF on or after December 31, 1992, comply with the requirements of this subpart for Group 1 wastewater streams.

(2) After the compliance dates specified in § 63.100 of subpart F of this part, the owner or operator of any Group 1 or Group 2 wastewater stream that is also subject to provisions in 40 CFR parts 260 through 272 shall comply with the requirements of either paragraph (e)(2)(i) or (e)(2)(ii) of this section.

(i) For each Group 1 or Group 2 wastewater stream, the owner or operator shall comply with the more stringent control requirements (e.g., waste management units, numerical treatment standards, etc.) and the more stringent testing, monitoring, recordkeeping, and reporting requirements that overlap between the provisions of this subpart and the provisions of 40 CFR parts 260 through 272. The owner or operator shall keep a record of the information used to determine which requirements were the most stringent and shall submit this information if requested by the Administrator; or

(ii) The owner or operator shall submit, no later than four months before the applicable compliance date specified in § 63.100 of subpart F of this part, a request for a case-by-case determination of requirements. The request shall include the information specified in paragraphs (e)(2)(ii)(A) and (e)(2)(ii)(B) of this section.

(A) Identification of the wastewater streams that are subject to this subpart and to provisions in 40 CFR parts 260 through 272, determination of the Group 1/Group 2 status of those streams, determination of whether or not those streams are listed or exhibit a characteristic as specified in 40 CFR part 261, and determination of whether the waste management unit is subject to permitting under 40 CFR part 270.

(B) Identification of the specific control requirements (e.g., waste management units, numerical treatment standards, etc.) and testing, monitoring, recordkeeping, and reporting requirements that overlap between the provisions of this subpart and the provisions of 40 CFR parts 260 through 272.

(f) *Overlap with the Vinyl Chloride NESHAP*.

(1) After the compliance dates specified in § 63.100 of subpart F of this part, the owner or operator of any Group 1 process vent that is also subject to the provisions of 40 CFR part 61, sub-part F shall comply only with the provisions of this subpart.

(2) After the compliance dates specified in § 63.100 of subpart F of this part, the owner or operator of any Group 2 process vent that is also subject to the provisions of 40 CFR part 61, subpart F shall comply with the provisions specified in either paragraph (f)(2)(i) or (f)(2)(ii) of this subpart.

(i) If the process vent is already controlled by a combustion device meeting the requirements of 40 CFR part 61, subpart F, then the owner or operator shall comply with either the associated testing, monitoring, reporting, and recordkeeping pro-visions for Group 1 process vents in this subpart or the testing, monitoring, reporting, and record-keeping provisions of 40 CFR part 61, subpart F. The owner or operator shall indicate this decision in either the Notification of Compliance Status specified in § 63.152(b) of this subpart or in an operating permit application or amendment.

(ii) If the process vent is not already controlled by a combustion device, then the owner or operator shall comply with the provisions of both this subpart and 40 CFR part 61, subpart F.

(3) After the compliance dates specified in § 63.100 of subpart F of this part, if an owner or operator of a process vent subject to this subpart that is also subject to the provisions of 40 CFR part 61, subpart F elects to control the process vent to the levels required in § 63.113(a)(1) or (a)(2) of this subpart without calculating the TRE index value for the vent according to the procedures specified in § 63.115(d) of this subpart then the owner or operator shall comply with the testing, monitoring, reporting, and recordkeeping pro-visions of this subpart and shall be exempt from the testing, monitoring, reporting, and recordkeeping provisions of 40 CFR part 61, subpart F.

(4) After the compliance dates specified in § 63.100 of subpart F of this part, the owner or operator of a Group 1 or Group 2 wastewater stream that is also subject to the provisions of 40 CFR part 61, subpart F shall comply with the pro-visions of either paragraph (f)(4)(i) or (f)(4)(ii) of this section.

(i) The owner or operator shall comply with the provisions of both this subpart and 40 CFR part 61, subpart F or

(ii) The owner or operator may submit, no later than four months before the applicable compliance date specified in § 63.100 of subpart F of this part, information demonstrating how compliance with 40 CFR Part 61, subpart F will also ensure compliance with this subpart. The information shall include a description of the testing, monitoring, reporting, and recordkeeping that will be performed.

(g) *Rules stayed for reconsideration*. Notwithstanding any other provision of this subpart, the effectiveness of subpart G is stayed from October 24, 1994, to April 24, 1995, only as applied to those sources for which the owner or operator makes a representation in writing to the Administrator that the resolution of the area source definition issues could have an effect on the compliance status of the source with respect to subpart G.

(h) *Overlap with other regulations for monitoring, recordkeeping, or reporting with respect to combustion devices, recovery devices, or recapture devices.* After the compliance dates specified in § 63.100 of subpart F of this part, if any combustion device, recovery device, or recapture device subject to this subpart is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart AA or CC, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart AA or CC and the owner

or operator complies with the periodic reporting requirements under 40 CFR part 264, subpart AA or CC that would apply to the device if the facility had final-permitted status, the owner or operator may elect to comply either with the monitoring, recordkeeping, and reporting requirements of this subpart, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR part 264 and/or 265, as described in this paragraph, which shall constitute compliance with the monitoring, recordkeeping, and reporting requirements of this subpart. The owner or operator shall identify which option has been selected in the Notification of Compliance Status required by § 63.152(b).

(i) Alternative means of compliance

(1) Option to comply with part 65. Owners or operators of CMPU that are subject to Sec. 63.100 may choose to comply with the provisions of 40 CFR part 65 for all Group 1 and Group 2 process vents, Group 1 storage vessels, Group 1 transfer operations, and equipment that are subject to Sec. 63.100, that are part of the CMPU. Other provisions applying to owners or operators who choose to comply with 40 CFR part 65 are provided in 40 CFR 65.1. Group 1 and Group 2 wastewater streams, Group 2 transfer operations, Group 2 storage vessels, and in-process streams are not eligible to comply with 40 CFR part 65 and must continue to comply with the requirements of this subpart and subpart F of this part.

(i) For Group 1 and Group 2 process vents, 40 CFR part 65, subpart D, satisfies the requirements of Secs. 63.102, 63.103, 63.112 through 63.118, 63.148, 63.151, and 63.152.

(ii) For Group 1 storage vessels, 40 CFR part 65, subpart C, satisfies the requirements of Secs. 63.102, 63.103, 63.112, 63.119 through 63.123, 63.148, 63.151, and 63.152.

(iii) For Group 1 transfer racks, 40 CFR part 65, subpart E, satisfies the requirements of Secs. 63.102, 63.103, 63.112, 63.126 through 63.130, 63.148, 63.151, and 63.152.

(iv) For equipment, comply with Sec. 65.160(g).

(2) Part 63, subpart A. Owners or operators who choose to comply with 40 CFR part 65 must also comply with the applicable general provisions of this part 63 listed in table 1A of this subpart. All sections and paragraphs of subpart A of this part that are not mentioned in table 1A of this subpart do not apply to owners or operators who choose to comply with 40 CFR part 65, except that provisions required to be met prior to implementing 40 CFR part 65 still apply. Owners and operators who choose to comply with a subpart of 40 CFR part 65 must comply with 40 CFR part 65, subpart A.

§ 63.111 Definitions.

All terms used in this subpart shall have the meaning given them in the Act, in subpart F of this part, and in this section, as follows.

Air oxidation reactor means a device or vessel in which air, or a combination of air and oxygen, is used as an oxygen source in combination with one or more organic reactants to produce one or more organic compounds. Air oxidation reactor includes the product separator and any associated vacuum pump or steam jet.

Automated monitoring and recording system means any means of measuring values of monitored parameters and creating a hard copy or computer record of the measured values that does not require manual reading of monitoring instruments and manual transcription of data values. Automated monitoring and recording systems include, but are not limited to, computerized systems and strip charts.

Annual average concentration, as used in the wastewater provisions, means the flow-weighted annual average concentration, as determined according to the procedures specified in § 63.144(b) of this subpart.

Annual average flow rate, as used in the wastewater provisions, means the annual average flow rate, as determined according to the procedures specified in § 63.144(c).

Batch operation means a noncontinuous operation in which a discrete quantity or batch of feed is charged into a unit operation within a chemical manufacturing process unit and distilled or reacted at one time. Batch operation includes noncontinuous operations in which the equipment is fed intermittently or

discontinuously. Addition of raw material and withdrawal of product do not occur simultaneously in a batch operation. After each batch operation, the equipment is generally emptied before a fresh batch is started.

Boiler means any enclosed combustion device that extracts useful energy in the form of steam and is not an incinerator. Boiler also means any industrial furnace as defined in 40 CFR 260.10.

By compound means by individual stream components, not carbon equivalents.

Car-seal means a seal that is placed on a device that is used to change the position of a valve (e.g., from opened to closed) in such a way that the position of the valve cannot be changed without breaking the seal.

Chemical Manufacturing Process Unit means the equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product. A chemical manufacturing process unit consists of more than one unit operation. For the purpose of this subpart, chemical manufacturing process unit includes air oxidation reactors and their associated product separators and recovery devices; reactors and their associated product separators and recovery devices; distillation units and their associated distillate receivers and recovery devices; associated unit operations; associated recovery devices; and any feed, intermediate and product storage vessels, product transfer racks, and connected ducts and piping. A chemical manufacturing process unit includes pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, and control devices or systems. A chemical manufacturing process unit is identified by its primary product.

Closed biological treatment process means a tank or surface impoundment where biological treatment occurs and air emissions from the treatment process are routed to either a control device by means of a closed vent system or to a fuel gas system by means of hard-piping. The tank or surface impoundment has a fixed roof, as defined in § 63.111 of this subpart, or a floating flexible membrane cover that meets the requirements specified in § 63.134 of this subpart.

Closed-vent system means a system that is not open to the atmosphere and is composed of piping, ductwork, connections, and, if necessary, flow inducing devices that transport gas or vapor from an emission point to a control device.

Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of organic hazardous air pollutant emissions.

Container, as used in the wastewater provisions, means any portable waste management unit that has a capacity greater than or equal to 0.1 m 3 in which a material is stored, transported, treated, or otherwise handled. Examples of containers are drums, barrels, tank trucks, barges, dumpsters, tank cars, dump trucks, and ships.

Continuous record means documentation, either in hard copy or computer readable form, of data values measured at least once every 15 minutes and recorded at the frequency specified in § 63.152(f) or § 63.152(g) of this subpart.

Continuous recorder means a data recording device that either records an instantaneous data value at least once every 15 minutes or records 15-minute or more frequent block average values.

Continuous seal means a seal that forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the floating roof. A continuous seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

Continuous vapor processing system means a vapor processing system that treats total organic compound vapors collected from tank trucks or railcars on a demand basis without intermediate accumulation in a vapor holder.

Control device means any combustion device, recovery device, or recapture device. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, incinerators, flares, boilers, and process heaters. For process vents, recapture devices are considered control devices but recovery devices are not considered control devices, and for a steam stripper, a primary condenser is not considered a control device.

Cover, as used in the wastewater provisions, means a device or system which is placed on or over a waste management unit containing wastewater or residuals so that the entire surface area is enclosed to minimize air emissions. A cover may have openings necessary for operation, inspection, and maintenance of the waste management unit such as access hatches, sampling ports, and gauge wells provided that each opening is closed when not in use. Examples of covers include a fixed roof installed on a wastewater tank, a lid installed on a container, and an air-supported enclosure installed over a waste management unit.

Distillate receiver means overhead receivers, overhead accumulators, reflux drums, and condenser(s) including ejector-condenser(s) associated with a distillation unit.

Distillation unit means a device or vessel in which one or more feed streams are separated into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and the vapor phases by vaporization and condensation as they approach equilibrium within the distillation unit. Distillation unit includes the distillate receiver, reboiler, and any associated vacuum pump or steam jet.

Duct work means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Enhanced biological treatment system or *enhanced biological treatment process* means an aerated, thoroughly mixed treatment unit(s) that contains biomass suspended in water followed by a clarifier that removes biomass from the treated water and recycles recovered biomass to the aeration unit. The mixed liquor volatile suspended solids (biomass) is greater than 1 kilogram per cubic meter homogeneously distributed throughout each aeration unit. The biomass is suspended and aerated in the water of the aeration unit(s) by either submerged air flow or mechanical agitation. A thoroughly mixed treatment unit is a unit that is designed and operated to approach or achieve uniform biomass distribution and organic compound concentration throughout the aeration unit by quickly dispersing the recycled biomass and wastewater entering the unit.

External floating roof means a pontoon-type or double-deck-type cover that rests on the liquid surface in a storage vessel or waste management unit with no fixed roof.

Fill or filling means the introduction of organic hazardous air pollutant into a storage vessel or the introduction of a wastewater stream or residual into a waste management unit, but not necessarily to complete capacity.

First attempt at repair means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere.

Fixed roof means a cover that is mounted on a waste management unit or storage vessel in a stationary manner and that does not move with fluctuations in liquid level.

Flame zone means the portion of the combustion chamber in a boiler or process heater occupied by the flame envelope.

Floating roof means a cover consisting of a double deck, pontoon single deck, internal floating cover or covered floating roof, which rests upon and is supported by the liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and waste management unit or storage vessel wall.

Flow indicator means a device which indicates whether gas flow is, or whether the valve position would allow gas flow to be, present in a line.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices, or in-process combustion equipment such as furnaces and gas turbines, either singly or in combination.

Group 1 process vent means a process vent for which the vent stream flow rate is greater than or equal to 0.005 standard cubic meter per minute, the total organic HAP concentration is greater than or equal

to 50 parts per million by volume, and the total resource effectiveness index value, calculated according to § 63.115, is less than or equal to 1.0.

Group 2 process vent means a process vent for which the vent stream flow rate is less than 0.005 standard cubic meter per minute, the total organic HAP concentration is less than 50 parts per million by volume or the total resource effectiveness index value, calculated according to § 63.115, is greater than 1.0.

Group 1 storage vessel means a storage vessel that meets the criteria for design storage capacity and stored-liquid maximum true vapor pressure specified in table 5 of this subpart for storage vessels at existing sources, and in table 6 of this subpart for storage vessels at new sources.

Group 2 storage vessel means a storage vessel that does not meet the definition of a Group 1 storage vessel.

Group 1 transfer rack means a transfer rack that annually loads greater than or equal to 0.65 mil-lion liter of liquid products that contain organic hazardous air pollutants with a rack weighted average vapor pressure greater than or equal to 10.3 kilopascals.

Group 2 transfer rack means a transfer rack that does not meet the definition of Group 1 transfer rack.

Group 1 wastewater stream means a wastewater stream consisting of process wastewater as defined in § 63.101 of subpart F at an existing or new source that meets the criteria for Group 1 status in § 63.132(c) of this subpart for Table 9 compounds and/or a wastewater stream consisting of process wastewater at a new source that meets the criteria for Group 1 status in § 63.132(d) of this subpart for Table 8 compounds.

Group 2 wastewater stream means any process wastewater stream that does not meet the definition of a Group 1 wastewater stream.

Halogenated vent stream or *halogenated stream* means a vent stream from a process vent or transfer operation determined to have a mass emission rate of halogen atoms contained in organic compounds of 0.45 kilograms per hour or greater determined by the procedures presented in § 63.115(d)(2)(v) of this subpart.

Halogens and *hydrogen halides* means hydrogen chloride (HCl), chlorine (Cl_2), hydrogen bromide (HBr), bromine (Br_2), and hydrogen fluoride (HF).

Hard-piping means pipe or tubing that is manufactured and properly installed using good engineering judgment and standards such as American National Standards Institute (ANSI) B31–3.

Incinerator means an enclosed combustion device that is used for destroying organic compounds. Auxiliary fuel may be used to heat waste gas to combustion temperatures. Any energy recovery section present is not physically formed into one manufactured or assembled unit with the combustion section; rather, the energy recovery section is a separate section following the combustion section and the two are joined by ducts or connections carrying flue gas. The above energy recovery section limitation does not apply to an energy recovery section used solely to preheat the incoming vent stream or combustion air.

Individual drain system means the stationary system used to convey wastewater streams or residuals to a waste management unit or to discharge or disposal. The term includes hard-piping, all process drains and junction boxes, together with their associated sewer lines and other junction boxes, manholes, sumps, and lift stations, conveying wastewater streams or residuals. A segregated stormwater sewer system, which is a drain and collection system designed and operated for the sole purpose of collecting rainfall runoff at a facility, and which is segregated from all other individual drain systems, is excluded from this definition.

Intermittent vapor processing system means a vapor processing system that employs an intermediate vapor holder to accumulate total organic compound vapors collected from tank trucks or railcars, and treats the accumulated vapors only during automatically controlled cycles.

Internal floating roof means a cover that rests or floats on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel or waste management unit that has a permanently affixed roof.

Junction box means a manhole or access point to a wastewater sewer line or a lift station.

Liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel or waste management unit and the floating roof. The seal is mounted continuously around the circumference of the vessel or unit.

Loading cycle means the time period from the beginning of filling a tank truck or railcar until flow to the control device ceases, as measured by the flow indicator.

Loading rack means a single system used to fill tank trucks and railcars at a single geographic site. Loading equipment and operations that are physically separate (i.e., do not share common piping, valves, and other equipment) are considered to be separate loading racks.

Maximum true vapor pressure means the equilibrium partial pressure exerted by the total organic HAPs in the stored or transferred liquid at the temperature equal to the highest calendar-month average of the liquid storage or transfer temperature for liquids stored or transferred above or below the ambient temperature or at the local maximum monthly average temperature as reported by the National Weather Service for liquids stored or transferred at the ambient temperature, as determined:

(1) In accordance with methods described in American Petroleum Institute Publication 2517, Evaporative Loss From External Floating-Roof Tanks (incorporated by reference as specified in § 63.14 of subpart A of this part); or

(2) As obtained from standard reference texts; or

(3) As determined by the American Society for Testing and Materials Method D2879–83 (incorporated by reference as specified in § 63.14 of subpart A of this part); or

(4) Any other method approved by the Administrator.

Metallic shoe seal or *mechanical shoe seal* means metal sheets that are held vertically against the wall of the storage vessel by springs, weighted levers, or other mechanisms and connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

Non-automated monitoring and recording system means manual reading of values measured by monitoring instruments and manual transcription of those values to create a record. Non-automated systems do not include strip charts.

Oil-water separator or *organic-water separator* means a waste management unit, generally a tank used to separate oil or organics from water. An oil-water or organic-water separator consists of not only the separation unit but also the forebay and other separator basins, skimmers, weirs, grit chambers, sludge hoppers, and bar screens that are located directly after the individual drain system and prior to additional treatment units such as an air flotation unit, clarifier, or biological treatment unit. Examples of an oil-water or organic-water separator include, but are not limited to, an American Petroleum Institute separator, parallel-plate interceptor, and corrugated-plate interceptor with the associated ancillary equipment.

Open biological treatment process means a biological treatment process that is not a closed biological treatment process as defined in this section.

Operating permit means a permit required by 40 CFR part 70 or part 71.

Organic hazardous air pollutant or *organic HAP* means any of the chemicals listed in table 2 of subpart F of this part.

Organic monitoring device means a unit of equipment used to indicate the concentration level of organic compounds exiting a recovery device based on a detection principle such as infra-red, photoionization, or thermal conductivity.

Point of determination means each point where process wastewater exits the chemical manufacturing process unit.

Note to definition for *point of determination*: The regulation allows determination of the characteristics of a wastewater stream (1) at the point of determination or (2) downstream of the point of determination if corrections are made for changes in flow rate and annual average concentrations of Table 8 or Table 9 compounds as determined in § 63.144 of this subpart. Such changes include losses by air emissions; reduction of annual average concentration or changes in flow rate by mixing with other water or wastewater streams; and reduction in flow rate or annual average concentration by treating or otherwise handling the wastewater stream to remove or destroy hazardous air pollutants.

Point of transfer means:

(1) If the transfer is to an off-site location for control, the point where the conveyance crosses the property line; or

(2) If the transfer is to an on-site location not owned or operated by the owner or operator of the source, the point where the conveyance enters the operation or equipment of the transferee.

Primary fuel means the fuel that provides the principal heat input to the device. To be considered primary, the fuel must be able to sustain operation without the addition of other fuels.

Process heater means a device that transfers heat liberated by burning fuel directly to process streams or to heat transfer liquids other than water.

Process unit has the same meaning as *chemical manufacturing process unit* as defined in this section

Process wastewater stream means a stream that contains process wastewater as defined in § 63.101 of subpart F of this part.

Product separator means phase separators, flash drums, knock-out drums, decanters, degassers, and condenser(s) including ejector-condenser(s) associated with a reactor or an air oxidation reactor.

Product tank, as used in the wastewater provisions, means a stationary unit that is designed to contain an accumulation of materials that are fed to or produced by a process unit, and is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. This term has the same meaning as a product storage vessel.

Product tank drawdown means any material or mixture of materials discharged from a product tank for the purpose of removing water or other contaminants from the product tank.

Rack-weighted average partial pressure means the throughput weighted average of the average maximum true vapor pressure of liquids containing organic HAP transferred at a transfer rack. The rack-weighted average partial pressure shall be calculated using the equation below:

Where:

P = Rack-weighted average partial pressure, kilopascals.

$$P = \frac{\sum P_i G_i}{\sum G_i}$$

P_i = Individual HAP maximum true vapor pressure, kilopascals, = X_i*P, where X_i is the mole fraction of compound i in the liquid.

G_i = Yearly volume of each liquid that contains organic HAP that is transferred at the rack, liters.

i = Each liquid that contains HAP that is transferred at the rack.

Reactor means a device or vessel in which one or more chemicals or reactants, other than air, are combined or decomposed in such a way that their molecular structures are altered and one or more new organic compounds are formed. Reactor includes the product separator and any associated vacuum pump or steam jet.

Recapture device means an individual unit of equipment capable of and used for the purpose of recovering chemicals, but not normally for use, reuse, or sale. For example, a recapture device may recover chemicals primarily for disposal. Recapture devices include, but are not limited to, absorbers, carbon adsorbers, and condensors.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse or for sale for fuel value, use, or reuse. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. For purposes of the monitoring, recordkeeping, and reporting requirements of this subpart, recapture devices are considered recovery devices.

Reference control technology for process vents means a combustion device or recapture device used to reduce organic hazardous air pollutant emissions by 98 percent, or to an outlet concentration of 20 parts per million by volume.

Reference control technology for storage vessels means an internal floating roof meeting the specifications of § 63.119(b) of this subpart, an external floating roof meeting the specifications of §

63.119(c) of this subpart, an external floating roof converted to an internal floating roof meeting the specifications of § 63.119(d) of this subpart, or a closed-vent system to a control device achieving 95-percent reduction in organic HAP emissions. For purposes of emissions averaging, these four technologies are considered equivalent.

Reference control technology for transfer racks means a combustion device, recapture device, or recovery device used to reduce organic hazardous air pollutants emissions by 98 percent, or to an outlet concentration of 20 parts per million by volume; or a vapor balancing system.

Reference control technology for wastewater means the use of:

(1) Controls specified in § 63.133 through § 63.137;

(2) A steam stripper meeting the specifications of § 63.138(g) of this subpart or any of the other alternative control measures specified in § 63.138 (b), (c), (e), (f), (g), or (h) of this subpart; and

(3) A control device to reduce by 95 percent (or to an outlet concentration of 20 parts per million by volume for combustion devices or for noncombustion devices controlling air emissions from waste management units other than surface impoundments or containers) the organic hazardous air pollutants emissions in the vapor streams vented from wastewater tanks, oil-water separators, containers, surface impoundments, individual drain systems, and treatment processes (including the design steam stripper) managing wastewater.

Relief valve means a valve used only to release an unplanned, nonroutine discharge. A relief valve discharge can result from an operator error, a malfunction such as a power failure or equipment failure, or other unexpected cause that requires immediate venting of gas from process equipment in order to avoid safety hazards or equipment damage.

Residual means any liquid or solid material containing Table 9 compounds that is removed from a wastewater stream by a waste management unit or treatment process that does not destroy organics (nondestructive unit). Examples of residuals from nondestructive wastewater management units are: the organic layer and bottom residue removed by a decanter or organic-water separator and the overheads from a steam stripper or air stripper. Examples of materials which are not residuals are: Silt; mud; leaves; bottoms from a steam stripper or air stripper; and sludges, ash, or other materials removed from wastewater being treated by destructive devices such as biological treatment units and incinerators.

Secondary fuel means a fuel fired through a burner other than the primary fuel burner that provides supplementary heat in addition to the heat provided by the primary fuel.

Sewer line means a lateral, trunk line, branch line, or other conduit including, but not limited to, grates, trenches, etc., used to convey wastewater streams or residuals to a downstream waste management unit.

Simultaneous loading means, for a shared control device, loading of organic HAP materials from more than one transfer arm at the same time such that the beginning and ending times of loading cycles coincide or overlap and there is no interruption in vapor flow to the shared control device.

Single-seal system means a floating roof having one continuous seal that completely covers the space between the wall of the storage vessel and the edge of the floating roof. This seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal.

Specific gravity monitoring device means a unit of equipment used to monitor specific gravity and having a minimum accuracy of ±0.02 specific gravity units.

Steam jet ejector means a steam nozzle which discharges a high-velocity jet across a suction chamber that is connected to the equipment to be evacuated.

Surface impoundment means a waste management unit which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or waste containing free liquids. A surface impoundment is used for the purpose of treating, storing, or disposing of wastewater or residuals, and is not an injection well. Examples of surface impoundments are equalization, settling, and aeration pits, ponds, and lagoons.

Surge control vessel means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within a chemical manufacturing process unit when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.

Table 8 compound means a compound listed in table 8 of this subpart.

Table 9 compound means a compound listed in table 9 of this subpart.

Temperature monitoring device means a unit of equipment used to monitor temperature and having a minimum accuracy of (a) ±1 percent of the temperature being monitored expressed in degrees Celsius (°C), or (b) ±0.5 degrees Celsius (°C), whichever is greater.

The 33/50 program means a voluntary pollution prevention initiative established and administered by the EPA to encourage emissions reductions of 17 chemicals emitted in large volumes by industrial facilities. The EPA Document Number 741–K–92–001 provides more information about the 33/50 program.

Total organic compounds or *TOC*, as used in the process vents provisions, means those compounds measured according to the procedures of Method 18 of 40 CFR part 60, appendix A.

Total resource effectiveness index value or *TRE index value* means a measure of the supplemental total resource requirement per unit reduction of organic HAP associated with a process vent stream, based on vent stream flow rate, emission rate of organic HAP, net heating value, and corrosion properties (whether or not the vent stream contains halogenated compounds), as quantified by the equations given under § 63.115 of this subpart.

Treatment process means a specific technique that removes or destroys the organics in a wastewater or residual stream such as a steam stripping unit, thin-film evaporation unit, waste incinerator, biological treatment unit, or any other process applied to wastewater streams or residuals to comply with § 63.138 of this subpart. Most treatment processes are conducted in tanks. Treatment processes are a subset of waste management units.

Vapor collection system, as used in the transfer provisions, means the equipment used to collect and transport organic HAP vapors displaced during the loading of tank trucks or railcars. This does not include the vapor collection system that is part of any tank truck or railcar vapor collection manifold system.

Vapor-mounted seal means a continuous seal that completely covers the annular space between the wall of the storage vessel or waste management unit and the edge of the floating roof and is mounted such that there is a vapor space between the stored liquid and the bottom of the seal.

Vent stream, as used in the process vent provisions, means the gas stream flowing through the process vent.

Waste management unit means the equipment, structure(s), and/or device(s) used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include: Wastewater tanks, surface impoundments, individual drain systems, biological wastewater treatment units. Examples of equipment that may be waste management units include containers, air flotation units, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. If such equipment is used for recovery, then it is part of a chemical manufacturing process unit and is not a waste management unit.

Wastewater stream means a stream that contains only wastewater as defined in § 63.101 of subpart F of this part.

Wastewater tank means a stationary waste management unit that is designed to contain an accumulation of wastewater or residuals and is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. Wastewater tanks used for flow equalization are included in this definition.

Water seal controls means a seal pot, p-leg trap, or other type of trap filled with water (e.g., flooded sewers that maintain water levels adequate to prevent air flow through the system) that creates a water barrier between the sewer line and the atmosphere. The water level of the seal must be maintained in the vertical leg of a drain in order to be considered a water seal.

§ 63.112 Emission standard.

(a) The owner or operator of an existing source subject to the requirements of this subpart shall control emissions of organic HAPs to the level represented by the following equation:

$$E_A = 0.02\sum EPV_1 + \sum EPV_2 + 0.05\sum ES_1 + \sum ES_2 + 0.02\sum ETR_1 + \sum ETR_2 + \sum EWW_{1C} + \sum EWW_2$$

where:
E_A = Emission rate, megagrams per year, allowed for the source.
$0.02\Sigma EPV_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 process vents, as defined in § 63.111 of this subpart.
ΣEPV_2 = Sum of the emissions, megagrams per year, from all Group 2 process vents as defined in § 63.111 of this subpart.
$0.05\Sigma ES_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 storage vessels, as defined in § 63.111 of this subpart.
ΣES_2 = Sum of the emissions, megagrams per year, from all Group 2 storage vessels, as defined in § 63.111 of this subpart.
$0.02\Sigma ETR_1$ = Sum of the residual emissions, megagrams per year, from all Group 1 transfer racks, as defined in § 63.111 of this subpart.
ΣETR_2 = Sum of the emissions, megagrams per year, from all Group 2 transfer racks, as defined in § 63.111 of this subpart.
ΣEWW_{1C} = Sum of the residual emissions from all Group 1 wastewater streams, as defined in § 63.111 of this subpart. This term is calculated for each Group 1 stream according to the equation for EWW_{1C} in § 63.150(g)(5)(i) of this subpart.
ΣEWW_2 = Sum of emissions from all Group 2 wastewater streams, as defined in § 63.111 of this subpart.
The emissions level represented by this equation is dependent on the collection of emission points in the source. The level is not fixed and can change as the emissions from each emission point change or as the number of emission points in the source changes.

(b) The owner or operator of a new source subject to the requirements of this subpart shall control emissions of organic HAPs to the level represented by the equation in paragraph (a) of this section.

(c) The owner or operator of an existing source shall demonstrate compliance with the emission standard in paragraph (a) of this section by following the procedures specified in paragraph (e) of this section for all emission points, or by following the emissions averaging compliance approach specified in paragraph (f) of this section for some emission points and the procedures specified in paragraph (e) of this section for all other emission points within the source.

(d) The owner or operator of a new source shall demonstrate compliance with the emission standard in paragraph (b) of this section only by following the procedures in paragraph (e) of this section. The owner or operator of a new source may not use the emissions averaging compliance approach.

(e) The owner or operator of an existing or new source may comply with the process vent provisions in §§ 63.113 through 63.118 of this subpart, the storage vessel provisions in §§ 63.119 through 63.123 of this subpart, the transfer operation provisions in §§ 63.126 through 63.130 of this subpart, the wastewater provisions in §§ 63.131 through 63.147 of this subpart, the leak inspection provisions in § 63.148, and the provisions in § 63.149 of this subpart.

(1) The owner or operator using this compliance approach shall also comply with the requirements of § 63.151 and § 63.152 of this subpart, as applicable.

(2) The owner or operator using this compliance approach is not required to calculate the annual emission rate specified in paragraph (a) of this section.

(3) When emissions of different kinds (e.g., emissions from process vents, transfer operations, storage vessels, process wastewater, and/or in-process equipment subject to § 63.149 of this subpart) are combined, and at least one of the emission streams would be classified as Group 1 in the absence of combination with other emission streams, the owner or operator shall comply with the requirements of either paragraph (e)(3)(i) or paragraph (e)(3)(ii) of this section.

(i) Comply with the applicable requirements of this subpart for each kind of emissions in the stream (e.g., the requirements in §§ 63.113 through 63.118 of this subpart G for process vents, and the requirements of §§ 63.126 through 63.130 for transfer operations); or

(ii) Comply with the first set of requirements identified in paragraphs (e)(3)(ii)(A) through (e)(3)(ii)(E) of this section which applies to any individual emission stream that is included in the combined stream, where either that emission stream would be classified as Group 1 in the absence of combination with other emission streams, or the owner chooses to consider that emission stream to be Group 1 for purposes of this paragraph. Compliance with the first applicable set of requirements identified in paragraphs (e)(3)(ii)(A) through (e)(3)(ii)(E) of this section constitutes compliance with all other requirements in paragraphs (e)(3)(ii)(A) through (e)(3)(ii)(E) of this section applicable to other types of emissions in the combined stream.

(A) The requirements of this subpart for Group 1 process vents, including applicable monitoring, recordkeeping, and reporting;

(B) The requirements of this subpart for Group 1 transfer racks, including applicable monitoring, recordkeeping, and reporting;

(C) The requirements of § 63.119(e) for control of emission from Group 1 storage vessels, including monitoring, recordkeeping, and reporting;

(D) The requirements of § 63.139 for control devices used to control emissions from waste management units, including applicable monitoring, recordkeeping, and reporting; or

(E) The requirements of § 63.139 for closed vent systems for control of emissions from in-process equipment subject to § 63.149, including applicable monitoring, recordkeeping, and reporting.

(f) The owner or operator of an existing source may elect to control some of the emission points within the source to different levels than specified under §§ 63.113 through 63.148 of this subpart by using an emissions averaging compliance approach as long as the overall emissions for the source do not exceed the emission level specified in paragraph (a) of this section. The owner or operator using emissions averaging must meet the requirements in paragraphs (f)(1) and (f)(2) of this section.

(1) Calculate emission debits and credits for those emission points involved in the emissions average as specified in § 63.150 of this subpart; and

(2) Comply with the requirements of § 63.151 and § 63.152 of this subpart, as applicable.

(g) A State may restrict the owner or operator of an existing source to using only the procedures in paragraph (e) of this section to comply with the emission standard in paragraph (a) of this section.

(h) Where the provisions of this subpart require a performance test, waiver of that requirement shall be addressed only as provided in § 63.103(b)(5) of subpart F of this part.

§ 63.113 Process vent provisions.

(a) The owner or operator of a Group 1 process vent as defined in this subpart shall comply with the requirements of paragraph (a)(1), (2), or (3) of this section. The owner or operator who transfers a gas stream that has the characteristics specified in § 63.107 (b) through (h) or meets the criteria specified in § 63.107(i)

to an off-site location or an on-site location not owned or operated by the owner or operator of the source for disposal shall comply with the requirements of paragraph (i) of this section.

(1) Reduce emissions of organic HAP using a flare.

(i) The flare shall comply with the requirements of § 63.11(b) of subpart A of this part.

(ii) Halogenated vent streams, as defined in § 63.111 of this subpart, shall not be vented to a flare.

(2) Reduce emissions of total organic hazardous air pollutants by 98 weight-percent or to a concentration of 20 parts per million by volume, whichever is less stringent. For combustion devices, the emission reduction or concentration shall be calculated on a dry basis, corrected to 3-percent oxygen, and compliance can be determined by measuring either organic hazardous air pollutants or total organic carbon using the procedures in § 63.116 of this subpart.

(i) Compliance with paragraph (a)(2) of this section may be achieved by using any combination or combustion, recovery, and/or recapture devices, except that a recovery device may not be used to comply with paragraph (a)(2) of this section by reducing emission of total organic hazardous air pollutants by 98 weight-percent, except as provided in paragraph (a)(2)(ii) of this section.

(ii) An owner or operator may use a recovery device, alone or in combination with one or more combustion or recapture devices, to reduce emissions of total organic hazardous air pollutants by 98 weight-percent if all the conditions of paragraphs (a)(2)(ii)(A) through (a)(2)(ii)(D) of this section are met.

(A) The recovery device (and any combustion device or recapture device which operates in combination with the recovery device to reduce emissions of total organic hazardous air pollutants by 98 weight-percent) was installed before the date of proposal of the subpart of the part 63 that makes this subpart G applicable to process vents in the chemical manufacturing process unit.

(B) The recovery device that will be used to reduce emissions of total organic hazardous air pollutants by 98 weight-percent is the last recovery device before emission to the atmosphere.

(C) The recovery device, alone or in combination with one or more combustion or recapture devices, is capable of reducing emissions of total organic hazardous air pollutants by 98 weight-percent, but is not capable of reliably reducing emission of total organic hazardous air pollutants to a concentration of 20 part per million by volume.

(D) If the owner or operator disposed of the recovered material, the recovery device would comply with the requirements of this subpart for recapture devices.

(3) Achieve and maintain a TRE index value greater than 1.0 at the outlet of the final recovery device, or prior to release of the vent stream to the atmosphere if no recovery device is present. If the TRE index value is greater than 1.0, the process vent shall comply with the provisions for a Group 2 process vent specified in either paragraph (d) or (e) of this section, whichever is applicable.

(b) If a boiler or process heater is used to comply with the percent reduction requirement or concentration limit specified in paragraph (a)(2) of this section, then the vent stream shall be introduced into the flame zone of such a device.

(c) Halogenated vent streams that are combusted shall be controlled according to paragraph (c)(1) or (c)(2) of this section.

(1) If a combustion device is used to comply with paragraph (a)(2) of this section for a halogenated vent stream, then the gas stream exiting the combustion device shall be conveyed to halogen reduction device, such as a scrubber, before it is discharged to the atmosphere.

(i) Except as provided in paragraph (c)(1)(ii) of this section, the halogen reduction device shall reduce overall emissions of hydrogen halides and halogens, as defined in § 63.111 of this subpart, by 99 percent or shall reduce the outlet mass of total hydrogen halides and halogens to less than 0.45 kilogram per hour, whichever is less stringent.

(ii) If a scrubber or other halogen reduction device was installed prior to December 31, 1992, the control device shall reduce overall emissions of hydrogen halides and halogens, as defined in § 63.111 of

this subpart, by 95 percent or shall reduce the outlet mass of total hydrogen halides and halogens to less than 0.45 kilograms per hour, whichever is less stringent.

(2) A halogen reduction device, such as a scrubber, or other technique may be used to reduce the vent stream halogen atom mass emission rate to less than 0.45 kilogram per hour prior to any combustion control device, and thus make the vent stream nonhalogenated; the vent stream must comply with the requirements of paragraph (a)(1) or (a)(2) of this section.

(d) The owner or operator of a Group 2 process vent having a flow rate greater than or equal to 0.005 standard cubic meter per minute, a HAP concentration greater than or equal to 50 parts per million by volume, and a TRE index value greater than 1.0 but less than or equal to 4.0 shall maintain a TRE index value greater than 1.0 and shall comply with the monitoring of recovery device parameters in § 63.114(b) or (c) of this subpart, the TRE index calculations of § 63.115 of this subpart, and the applicable reporting and recordkeeping provisions of §§ 63.117 and 63.118 of this subpart. Such owner or operator is not subject to any other provisions of §§ 63.114 through 63.118 of this subpart.

(e) The owner or operator of a Group 2 process vent with a TRE index value greater than 4.0 shall maintain a TRE index value greater than 4.0, comply with the provisions for calculation of TRE index in § 63.115 and the reporting and recordkeeping provisions in § 63.117(b) and § 63.118(c) and (h), and is not subject to monitoring or any other provisions of §§ 63.114 through 63.118.

(f) The owner or operator of a Group 2 process vent with a flow rate less than 0.005 standard cubic meter per minute shall maintain a flow rate less than 0.005 standard cubic meter per minute; comply with the Group determination procedures in § 63.115 (a), (b), and (e) of this subpart; and the reporting and recordkeeping requirements in § 63.117(c) of this subpart, § 63.118(d) of this sub-part, and § 63.118(i) of this subpart; and is not subject to monitoring or any other provisions of §§ 63.114 through 63.118 of this subpart.

(g) The owner or operator of a Group 2 process vent with a total organic HAP concentration less than 50 parts per million by volume shall maintain a total organic HAP concentration less than 50 parts per million by volume; comply with the Group determination procedures in § 63.115 (a), (c), and (e); the reporting and recordkeeping requirements in § 63.117(d) and § 63.118(e) and (j); and is not subject to monitoring or any other provisions of §§ 63.114 through 63.118.

(h) The owner or operator of a process vent complying with paragraph (a)(1) or (a)(2) of this section is not required to perform the group determination described in § 63.115 of this subpart.

(i) Off-site control or on-site control not owned or operated by the source.
This paragraph (i) applies to gas streams that have the characteristics specified in § 63.107(b) through (h) or meet the criteria specified in § 63.107(i); that are transferred for disposal to an on-site control device (or other compliance equipment) not owned or operated by the owner or operator of the source generating the gas stream, or to an off-site control device or other compliance equipment; and that have the characteristics (e.g., flow rate, total organic HAP concentration, or TRE index value) of a Group 1 process vent, determined at the point of transfer.

(1) The owner or operator transferring the gas stream shall:

(i) Comply with the provisions specified in § 63.114(d) for each gas stream prior to transfer.

(ii) Notify the transferee that the gas stream contains organic hazardous air pollutants that are to be treated in accordance with the provisions of this subpart. The notice shall be submitted to the transferee initially and whenever there is a change in the required control.

(2) The owner or operator may not transfer the gas stream unless the transferee has submitted to the EPA a written certification that the transferee will manage and treat any gas stream transferred under this paragraph (i) and received from a source subject to the requirements of this subpart in accordance with the

requirements of either §§ 63.113 through 63.118, or § 63.102(b), or subpart D of this part if alternative emission limitations have been granted the transferor in accordance with those provisions. The certifying entity may revoke the written certification by sending a written statement to EPA and the owner or operator giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the regulatory provisions listed in this paragraph (i). Upon expiration of the notice period, the owner or operator may not transfer the gas stream to the transferee. Records retained by the transferee shall be retained in accordance with § 63.103(c).

(3) By providing this written certification to EPA, the certifying entity accepts responsibility for compliance with the regulatory provisions listed in paragraph (i)(2) of this section with respect to any transfer covered by the written certification. Failure to abide by any of those provisions with respect to such transfers may result in enforcement action by EPA against the certifying entity in accordance with the enforcement provisions applicable to violations of these provisions by owners or operators of sources.

(4) Written certifications and revocation statements to EPA from the transferees of such gas streams shall be signed by a responsible official of the certifying entity, provide the name and address of the certifying entity, and be sent to the appropriate EPA Regional Office at the addresses listed in § 63.13. Such written certifications are not transferable by the transferee.

§ 63.114 Process vent provisions—monitoring requirements.

(a) Each owner or operator of a process vent that uses a combustion device to comply with the requirements in § 63.113 (a)(1) or (a)(2) of this subpart, or that uses a recovery device or recapture device to comply with the requirements in § 63.113 (a)(2) of this subpart, shall install monitoring equipment specified in paragraph (a)(1), (a)(2), (a)(3), (a)(4), or (a)(5) of this section, depending on the type of device used. All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturers specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(1) Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required.

(i) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the firebox or in the duct-work immediately downstream of the firebox in a position before any substantial heat exchange occurs.

(ii) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

(2) Where a flare is used, the following monitoring equipment is required: A device (including but not limited to a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting the presence of a pilot flame.

(3) Where a boiler or process heater of less than 44 megawatts design heat input capacity is used, the following monitoring equipment is required: a temperature monitoring device in the firebox equipped with a continuous recorder. This requirement does not apply to gas streams that are introduced with primary fuel or are used as the primary fuel.

(4) Where a scrubber is used with an incinerator, boiler, or process heater in the case of halogenated vent streams, the following monitoring equipment is required for the scrubber.

(i) A pH monitoring device equipped with a continuous recorder shall be installed to monitor the pH of the scrubber effluent.

(ii) A flow meter equipped with a continuous recorder shall be located at the scrubber influent for liquid flow. Gas flow rate shall be determined using one of the procedures specified in paragraphs (a)(4)(ii)(A) through (C) of this section.

(A) The owner or operator may determine gas flow rate using the design blower capacity, with appropriate adjustments for pressure drop.

(B) If the scrubber is subject to rules in 40 CFR parts 264 through 266 that have required a determination of the liquid to gas (L/G) ratio prior to the applicable compliance date for this subpart specified in § 63.100(k), the owner or operator may determine gas flow rate by the method that had been utilized to comply with those rules. A determination that was conducted prior to the compliance date for this subpart may be utilized to comply with this subpart if it is still representative.

(C) The owner or operator may prepare and implement a gas flow rate determination plan that documents an appropriate method which will be used to determine the gas flow rate. The plan shall require determination of gas flow rate by a method which will at least provide a value for either a representative or the highest gas flow rate anticipated in the scrubber during representative operating conditions other than startups, shutdowns, or malfunctions. The plan shall include a description of the methodology to be followed and an explanation of how the selected methodology will reliably determine the gas flow rate, and a description of the records that will be maintained to document the determination of gas flow rate. The owner or operator shall maintain the plan as specified in § 63.103(c).

(5) Where a recovery device or recapture device is used to comply with the requirements of § 63.113(a)(2) of this subpart, the owner or operator shall utilize the appropriate monitoring device identified in paragraph (b), (b)(1), (b)(2), or (b)(3) of this section.

(b) Each owner or operator of a process vent with a TRE index value greater than 1.0 as specified under § 63.113(a)(3) or § 63.113(d) of this subpart that uses one or more recovery devices shall install either an organic monitoring device equipped with a continuous recorder or the monitoring equipment specified in paragraph (b)(1), (b)(2), or (b)(3) of this section, depending on the type of recovery device used. All monitoring equipment shall be installed, calibrated, and maintained according to the manufacturers specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately. Monitoring is not required for process vents with TRE index values greater than 4.0 as specified in § 63.113(e) of this subpart.

(1) Where an absorber is the final recovery device in the recovery system, a scrubbing liquid temperature monitoring device and a specific gravity monitoring device, each equipped with a continuous recorder shall be used;

(2) Where a condenser is the final recovery device in the recovery system, a condenser exit (product side) temperature monitoring device equipped with a continuous recorder shall be used; (3) Where a carbon adsorber is the final recovery device in the recovery system, an integrating regeneration stream flow monitoring device having an accuracy of ±10 percent, capable of recording the total regeneration stream mass or volumetric flow for each regeneration cycle; and a carbon bed temperature monitoring device, capable of recording the carbon bed temperature after each regeneration and within 15 minutes of completing any cooling cycle shall be used.

(c) An owner or operator of a process vent may request approval to monitor parameters other than those listed in paragraph (a) or (b) of this section. The request shall be submitted according to the procedures specified in § 63.151(f) or § 63.152(e) of this subpart. Approval shall be requested if the owner or operator:

(1) Uses a combustion device other than an incinerator, boiler, process heater, or flare; or

(2) Maintains a TRE greater than 1.0 but less than or equal to 4.0 without a recovery device or with a recovery device other than the recovery devices listed in paragraphs (a) and (b) of this section; or

(3) Uses one of the combustion or recovery or recapture devices listed in paragraphs (a) and (b) of this section, but seeks to monitor a parameter other than those specified in paragraphs (a) and (b) of this section.

(d) The owner or operator of a process vent shall comply with paragraph (d)(1) or (2) of this section for any bypass line between the origin of the gas stream (i.e., at an air oxidation reactor, distillation unit, or reactor as identified in § 63.107(b)) and the point where the gas stream reaches the process vent, as described in § 63.107, that could divert the gas stream directly to the atmosphere. Equipment such as low leg drains, high

point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph (d).

(1) Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in § 63.118(a)(3). The flow indicator shall be installed at the entrance to any bypass line that could divert the gas stream to the atmosphere; or

(2) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the non-diverting position and the gas stream is not diverted through the bypass line.

(e) The owner or operator shall establish a range that indicates proper operation of the control or recovery device for each parameter monitored under paragraphs (a), (b), and (c) of this section. In order to establish the range, the information required in § 63.152(b) of this subpart shall be submitted in the Notification of Compliance Status or the operating permit application or amendment. The range may be based upon a prior performance test conducted for determining compliance with a regulation promulgated by the EPA, and the owner or operator is not required to conduct a performance test under § 63.116 of this subpart, if the prior performance test was conducted using the same methods specified in § 63.116 and either no process changes have been made since the test, or the owner or operator can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

§ 63.115 Process vent provisions—methods and procedures for process vent group determination.

(a) For purposes of determining vent stream flow rate, total organic HAP or total organic carbon concentration or TRE index value, as specified under paragraph (b), (c), or (d) of this section, the sampling site shall be after the last recovery device (if any recovery devices are present) but prior to the inlet of any control device that is present and prior to release to the atmosphere.

(1) Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling site.

(2) No traverse site selection method is needed for vents smaller than 0.10 meter in diameter.

(b) To demonstrate that a vent stream flow rate is less than 0.005 standard cubic meter per minute in accordance with the Group 2 process vent definition of this subpart, the owner or operator shall measure flow rate by the following procedures:

(1) The sampling site shall be selected as specified in paragraph (a) of this section.

(2) The gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(c) Each owner or operator seeking to demonstrate that a vent stream has an organic HAP concentration below 50 parts per million by volume in accordance with the Group 2 process vent definition of this subpart shall measure either total organic HAP or TOC concentration using the following procedures:

(1) The sampling site shall be selected as specified in paragraph (a) of this section.

(2) Method 18 or Method 25A of 40 CFR part 60, appendix A shall be used to measure concentration; alternatively, any other method or data that has been validated according to the protocol in Method 301 of appendix A of this part may be used.

(3) Where Method 18 of 40 CFR part 60, appendix A is used, the following procedures shall be used to calculate parts per million by volume concentration:

(i) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

(ii) The concentration of either TOC (minus methane and ethane) or organic HAP shall be calculated according to paragraph (c)(3)(ii)(A) or (c)(3)(ii)(B) of this section as applicable.

(A) The TOC concentration (C_{TOC}) is the sum of the concentrations of the individual components and shall be computed for each run using the following equation:

$$C_{TOC} = \frac{\sum_{i=1}^{x}\left(\sum_{j=1}^{n} C_{ji}\right)}{X}$$

where:

C_{TOC} = Concentration of TOC (minus methane and ethane), dry basis, parts per million by volume.

C_{ji} = Concentration of sample component j of the sample i, dry basis, parts per million by volume.

n = Number of components in the sample.

x = Number of samples in the sample run.

(B) The total organic HAP concentration (C_{HAP}) shall be computed according to the equation in paragraph (c)(3)(ii)(A) of this section except that only the organic HAP species shall be summed. The list of organic HAPs is provided in table 2 of subpart F of this part.

(4) Where Method 25A of 40 CFR part 60, appendix A is used, the following procedures shall be used to calculate parts per million by volume TOC concentration:

(i) Method 25A of 40 CFR part 60, appendix A, shall be used only if a single organic HAP compound is greater than 50 percent of total organic HAP, by volume, in the vent stream.

(ii) The vent stream composition may be determined by either process knowledge, test data collected using an appropriate EPA method or a method or data validated according to the protocol in Method 301 of appendix A of this part. Examples of information that could constitute process knowledge include calculations based on material balances, process stoichiometry, or previous test results provided the results are still relevant to the current vent stream conditions.

(iii) The organic HAP used as the calibration gas for Method 25A of 40 CFR part 60, appendix A shall be the single organic HAP compound present at greater than 50 percent of the total organic HAP by volume.

(iv) The span value for Method 25A of 40 CFR part 60, appendix A shall be 50 parts per million by volume.

(v) Use of Method 25A of 40 CFR part 60, appendix A is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.

(vi) The owner or operator shall demonstrate that the concentration of TOC including methane and ethane measured by Method 25A of 40 CFR part 60, appendix A is below 25 parts per million by volume to be considered a Group 2 vent with an organic HAP concentration below 50 parts per million by volume and to qualify for the low concentration exclusion in § 63.113(g) of this subpart.

(d) To determine the TRE index value, the owner or operator shall conduct a TRE determination and calculate the TRE index value according to the procedures in paragraph (d)(1) or (d)(2) of this section and the TRE equation in paragraph (d)(3) of this section.

(1) Engineering assessment may be used to determine vent stream flow rate, net heating value, TOC emission rate, and total organic HAP emission rate for the representative operating condition expected to yield the lowest TRE index value.

(i) If the TRE value calculated using such engineering assessment and the TRE equation in paragraph (d)(3) of this section is greater than 4.0, then the owner or operator is not required to perform the measurements specified in paragraph (d)(2) of this section.

(ii) If the TRE value calculated using such engineering assessment and the TRE equation in paragraph (d)(3) of this section is less than or equal to 4.0, then the owner or operator is required to perform the measurements specified in paragraph (d)(2) of this section for group determination or consider the process vent a Group 1 vent and comply with the emission reduction specified in § 63.113(a) of this subpart.

(iii) Engineering assessment includes, but is not limited to, the following:

(A) Previous test results provided the tests are representative of current operating practices at the process unit.

(B) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(C) Maximum flow rate, TOC emission rate, organic HAP emission rate, or net heating value limit specified or implied within a permit limit applicable to the process vent.

(D) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(*1*) Use of material balances based on process stoichiometry to estimate maximum organic HAP concentrations,

(*2*) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities,

(*3*) Estimation of TOC or organic HAP concentrations based on saturation conditions,

(*4*) Estimation of maximum expected net heating value based on the stream concentration of each organic compound or, alternatively, as if all TOC in the vent stream were the compound with the highest heating value.

(E) All data, assumptions, and procedures used in the engineering assessment shall be documented.

(2) Except as provided in paragraph (d)(1) of this section, vent stream flow rate, net heating value, TOC emission rate, and total organic HAP emission rate shall be measured and calculated according to the procedures in paragraphs (d)(2)(i) through (v) of this section and used as input to the TRE index value calculation in paragraph (d)(3) of this section.

(i) The vent stream volumetric flow rate (Qs), in standard cubic meters per minute at 20 degrees Celsius, shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate. If the vent stream tested passes through a final steam jet ejector and is not condensed, the stream volumetric flow shall be corrected to 2.3 percent moisture.

(ii) The molar composition of the vent stream, which is used to calculate net heating value, shall be determined using the following methods:

(A) Method 18 of 40 CFR part 60, appendix A to measure the concentration of each organic compound.

(B) American Society for Testing and Materials D1946–77 to measure the concentration of carbon monoxide and hydrogen.

(C) Method 4 of 40 CFR part 60, appendix A to measure the moisture content of the vent stream.

(iii) The net heating value of the vent stream shall be calculated using the following equation:

$$H_T = K_1\left(\sum_{j=1}^{n} C_j H_j\right)\left(1 - B_{ws}\right)$$

where:

H_T = Net heating value of the sample, megaJoule per standard cubic meter, where the net enthalpy per mole of vent stream is based on combustion at 25 °C and 760 millimeters of mercury, but the standard temperature

for determining the volume corresponding to one mole is 20 °C, as in the definition of Q_s (vent stream flow rate).
K_1 = Constant, 1.740 x 10^{-7} (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (megaJoule per kilocalorie), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.
B_{ws} = Water vapor content of the vent stream, proportion by volume; except that if the vent stream passes through a final steam jet and is not condensed, it shall be assumed that B_{ws} = 0.023 in order to correct to 2.3 percent moisture.
C_j = Concentration on a dry basis of compound j in parts per million, as measured for all organic compounds by Method 18 of 40 CFR part 60, appendix A and measured for hydrogen and carbon monoxide by American Society for Testing and Materials D1946–77 as indicated in paragraph (d)(2)(ii) of this section.
H_j = Net heat of combustion of compound j, kilocalorie per gram-mole, based on combustion at 25 °C and 760 millimeters mercury. The heats of combustion of vent stream components shall be determined using American Society for Testing and Materials D2382–76 if published values are not available or cannot be calculated.

(iv) The emission rate of TOC (minus methane and ethane) (E_{TOC}) and the emission rate of total organic HAP (E_{HAP}) in the vent stream shall both be calculated using the following equation:

$$E = K_2 \left[\sum_{j=1}^{n} C_j M_j \right] Q_s$$

where:
E = Emission rate of TOC (minus methane and ethane) or emission rate of total organic HAP in the sample, kilograms per hour.
K_2 = Constant, 2.494x10^{-6} (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram) (minutes/hour), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.
C_j = Concentration on a dry basis of organic compound j in parts per million as measured by Method 18 of 40 CFR part 60, appendix A as indicated in paragraph (d)(2)(ii) of this section. If the TOC emission rate is being calculated, C_j includes all organic compounds measured minus methane and ethane; if the total organic HAP emission rate is being calculated, only organic HAP compounds listed in table 2 in subpart F of this part are included.
M_j = Molecular weight of organic compound j, gram/gram-mole.
Q_s = Vent stream flow rate, dry standard cubic meter per minute, at a temperature of 20 °C.

(v) In order to determine whether a vent stream is halogenated, the mass emission rate of halogen atoms contained in organic compounds shall be calculated.

(A) The vent stream concentration of each organic compound containing halogen atoms (parts per million by volume, by compound) shall be determined based on the following procedures:

(*1*) Process knowledge that no halogen or hydrogen halides are present in the process, or

(*2*) Applicable engineering assessment as discussed in paragraph (d)(1)(iii) of this section, or

(*3*) Concentration of organic compounds containing halogens measured by Method 18 of 40 CFR part 60, appendix A, or

(*4*) Any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of this part.

(B) The following equation shall be used to calculate the mass emission rate of halogen atoms:

$$E = K_2 Q \left(\sum_{j=1}^{n} \sum_{i=1}^{m} C_j \times L_{j,i} \times M_{j,i} \right)$$

where:

E = mass of halogen atoms, dry basis, kilogram per hour.
K_2 = Constant, 2.494×10^{-6} (parts per million)$^{-1}$ (kilogram-mole per standard cubic meter) (minute/hour), where standard temperature is 20 °C.
C_j = Concentration of halogenated compound j in the gas stream, dry basis, parts per million by volume.
M_{ji} = Molecular weight of halogen atom i in compound j of the gas stream, kilogram per kilogram-mole.
L_{ji} = Number of atoms of halogen i in compound j of the gas stream.
Q = Flow rate of gas stream, dry standard cubic meters per minute, determined according to paragraph (d)(1) or (d)(2)(i) of this section.
j = Halogenated compound j in the gas stream.
i = Halogen atom i in compound j of the gas stream.
n = Number of halogenated compounds j in the gas stream.
m = Number of different halogens i in each compound j of the gas stream.

(3) The owner or operator shall calculate the TRE index value of the vent stream using the equations and procedures in this paragraph.

(i) The equation for calculating the TRE index for a vent stream controlled by a flare or incinerator is as follows:

$$TRE = \frac{1}{E_{HAP}} [a + b(Q_s) + c(H_T) + d(E_{TOC})]$$

where:
TRE = TRE index value.
E_{HAP} = Hourly emission rate of total organic HAP, kilograms per hour, as calculated in paragraph (d)(1) or (d)(2)(iv) of this section.
Q_s = Vent stream flow rate, standard cubic meters per minute, at a standard temperature of 20 °C, as calculated in paragraph (d)(1) or (d)(2)(i) of this section.
H_T = Vent stream net heating value, megaJoules per standard cubic meter, as calculated in paragraph (d)(1) or (d)(2)(iii) of this section.
E_{TOC} = Emission rate of TOC (minus methane and ethane), kilograms per hour, as calculated in paragraph (d)(1) or (d)(2)(iv) of this section.
a,b,c,d = Coefficients presented in table 1 of this subpart, selected in accordance with paragraphs (d)(3)(ii) and (iii) of this section.

(ii) The owner or operator of a nonhalogenated vent stream shall calculate the TRE index value based on the use of a flare, a thermal incinerator with 0 percent heat recovery, and a thermal incinerator with 70 percent heat recovery and shall select the lowest TRE index value. The owner or operator shall use the applicable coefficients in table 1 of this subpart for nonhalogenated vent streams located within existing sources and the applicable coefficients in table 2 of this subpart for nonhalogenated vent streams located within new sources.

(iii) The owner or operator of a halogenated vent stream shall calculate the TRE index value based on the use of a thermal incinerator with 0 percent heat recovery, and a scrubber. The owner or operator shall use the applicable coefficients in table 1 of this subpart for halogenated vent streams located within existing sources and the applicable coefficients in table 2 of this subpart for halogenated vent streams located within new sources.

(e) The owner or operator of a Group 2 process vent shall recalculate the TRE index value, flow, or organic hazardous air pollutants concentration for each process vent, as necessary to determine whether the vent is Group 1 or Group 2, whenever process changes are made that could reasonably be expected to change the vent to a Group 1 vent. Examples of process changes include, but are not limited to, changes in production capacity, production rate, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of this paragraph, process changes do not include: Process

upsets; unintentional, temporary process changes; and changes that are within the range on which the original TRE calculation was based.

(1) The TRE index value, flow rate, or organic HAP concentration shall be recalculated based on measurements of vent stream flow rate, TOC, and organic HAP concentrations, and heating values as specified in § 63.115 (a), (b), (c), and (d) of this subpart, as applicable, or on best engineering assessment of the effects of the change. Engineering assessments shall meet the specifications in paragraph (d)(1) of this section.

(2) Where the recalculated TRE index value is less than or equal to 1.0, or less than or equal to 4.0 but greater than 1.0, the recalculated flow rate is greater than or equal to 0.005 standard cubic meter per minute, or the recalculated concentration is greater than or equal to 50 parts per million by volume, the owner or operator shall submit a report as specified in § 63.118 (g), (h), (i), or (j) of this subpart and shall comply with the appropriate provisions in § 63.113 of this subpart by the dates specified in § 63.100 of subpart F of this part.

(f) Notwithstanding any other provisions of this subpart, in any case where a process vent includes one or more gas streams that are not from a source subject to this subpart (hereafter called ‘‘non-HON streams’’ for purposes of this paragraph), and one or more gas streams that meet the criteria in § 63.107(b) through (h) or the criteria in § 63.107(i) (hereafter called ‘‘HON streams’’ for purposes of this paragraph), the owner or operator may elect to comply with paragraphs (f)(1) through (3) of this section.

(1) The owner or operator may determine the characteristics (flow rate, total organic HAP concentration, and TRE index value) for each HON stream, or combination of HON streams, at a representative point as near as practical to, but before, the point at which it is combined with one or more non-HON streams.

(2) If one or more of the HON streams, or combinations of HON streams, has the characteristics (determined at the location specified in paragraph (f)(1) of this section) associated with a Group 1process vent, the combined vent stream is a Group 1 process vent. Except as specified in paragraph (f)(3) of this section, if none of the HON streams, or combinations of HON streams, when determined at the location specified in paragraph (f)(1) of this section, has the characteristics associated with a Group 1 process vent, the combined vent stream is a Group 2 process vent regardless of the TRE index value determined at the location specified in § 63.115(a). If the combined vent stream is a Group 2 process vent as determined by the previous sentence, but one or more of the HON streams, or combinations of HON streams, has a TRE index value greater than 1 but less than or equal to 4, the combined vent stream is a process vent with a TRE index value greater than 1 but less than or equal to 4. In this case, the owner or operator shall monitor the combined vent stream as required by § 63.114(b).

(3) Paragraphs (f)(1) and (2) of this section are not intended to apply instead of any other subpart of this part. If another subpart of this part applies to one or more of the non-HON streams contributing to the combined vent stream, that subpart may impose emission control requirements such as, but not limited to, requiring the combined vent stream to be classified and controlled as a Group 1 process vent.

§ 63.116 Process vent provisions—performance test methods and procedures to determine compliance.

(a) When a flare is used to comply with § 63.113(a)(1), the owner or operator shall comply with paragraphs (a)(1) through (3) of this section. The owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration.

(1) Conduct a visible emission test using the techniques specified in § 63.11(b)(4).

(2) Determine the net heating value of the gas being combusted using the techniques specified in § 63.11(b)(6).

(3) Determine the exit velocity using the techniques specified in either § 63.11(b)(7)(i) (and § 63.11(b)(7)(iii), where applicable) or § 63.11(b)(8), as appropriate.

(b) An owner or operator is not required to conduct a performance test when any control device specified in paragraphs (b)(1) through (b)(5) of this section is used.

(1) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(2) A boiler or process heater into which the gas stream is introduced with the primary fuel or is used as the primary fuel.

(3) A control device for which a performance test was conducted for determining compliance with a regulation promulgated by the EPA and the test was conducted using the same procedures specified in this section and either no process changes have been made since the test, or the owner or operator can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

(4) A boiler or process heater burning hazardous waste for which the owner or operator:

(i) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H, or

(ii) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(5) A hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

(c) Except as provided in paragraphs (a) and (b) of this section, an owner or operator using a control device to comply with the organic HAP concentration limit or percent reduction efficiency requirements in § 63.113(a)(2) of this subpart shall conduct a performance test using the procedures in paragraphs (c)(1) through (c)(4) of this section. The organic HAP concentration and percent reduction may be measured as either total organic HAP or as TOC minus methane and ethane according to the procedures specified.

(1) Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling sites.

(i) For determination of compliance with the 98 percent reduction of total organic HAP requirement of § 63.113(a)(2) of this subpart, sampling sites shall be located at the inlet of the control device as specified in paragraphs (c)(1)(i)(A) and (c)(1)(i)(B) of this section, and at the outlet of the control device.

(A) The control device inlet sampling site shall be located after the final product recovery device.

(B) If a vent stream is introduced with the combustion air or as a secondary fuel into a boiler or process heater with a design capacity less than 44 megawatts, selection of the location of the inlet sampling sites shall ensure the measurement of total organic HAP or TOC (minus methane and ethane) concentrations in all vent streams and primary and secondary fuels introduced into the boiler or process heater.

(ii) For determination of compliance with the 20 parts per million by volume total organic HAP limit in § 63.113(a)(2) of this subpart, the sampling site shall be located at the outlet of the control device.

(2) The gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

(3) To determine compliance with the 20 parts per million by volume total organic HAP limit in § 63.113(a)(2) of this subpart, the owner or operator shall use Method 18 of 40 CFR part 60, appendix A to measure either TOC minus methane and ethane or total organic HAP. Alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of this part, may be used. The following procedures shall be used to calculate parts per million by volume concentration, corrected to 3 percent oxygen:

(i) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

(ii) The concentration of either TOC (minus methane or ethane) or total organic HAP shall be calculated according to paragraph (c)(3)(ii)(A) or (c)(3)(ii)(B) of this section.

(A) The TOC concentration (C_{TOC}) is the sum of the concentrations of the individual components and shall be computed for each run using the following equation:

$$C_{TOC} = \sum_{i=1}^{x} \frac{\sum_{j=1}^{n} C_{ji}}{x}$$

where:

C_{TOC} = Concentration of TOC (minus methane and ethane), dry basis, parts per million by volume.

C_{ji} = Concentration of sample components j of sample i, dry basis, parts per million by volume.

n = Number of components in the sample.

x = Number of samples in the sample run.

(B) The total organic HAP concentration (C_{HAP}) shall be computed according to the equation in paragraph (c)(3)(ii)(A) of this section except that only the organic HAP species shall be summed. The list of organic HAPs is provided in table 2 of subpart F of this part.

(iii) The concentration of TOC or total organic HAP shall be corrected to 3 percent oxygen if a combustion device is the control device.

(A) The emission rate correction factor or excess air, integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A shall be used to determine the oxygen concentration ($\%O_{2d}$). The samples shall be taken during the same time that the TOC (minus methane or ethane) or total organic HAP samples are taken.

(B) The concentration corrected to 3 percent oxygen (C_c) shall be computed using the following equation:

$$C_c = C_m \left(\frac{17.9}{20.9 - \%O_{2d}} \right)$$

where:

Cc = Concentration of TOC or organic HAP corrected to 3 percent oxygen, dry basis, parts per million by volume.

Cm = Concentration of TOC (minus methane and ethane) or organic HAP, dry basis, parts per million by volume.

$\%O_{2d}$ = Concentration of oxygen, dry basis, percent by volume.

(4) To determine compliance with the 98 percent reduction requirement of § 63.113(a)(2) of this subpart, the owner or operator shall use Method 18 of 40 CFR part 60, appendix A; alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of this part may be used. The following procedures shall be used to calculate percent reduction efficiency:

(i) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time such as 15 minute intervals during the run.

(ii) The mass rate of either TOC (minus methane and ethane) or total organic HAP (E_i, E_o) shall be computed.

(A) The following equations shall be used:

$$E_i = K_2 \left(\sum_{j=1}^{n} C_{ij} M_{ij} \right) Q_i \qquad E_o = K_2 \left(\sum_{j=1}^{n} C_{oj} M_{oj} \right) Q_o$$

where:
C_{ij}, C_{oj} = Concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, dry basis, parts per million by volume.
E_i, E_o = Mass rate of TOC (minus methane and ethane) or total organic HAP at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.
M_{ij}, M_{oj} = Molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.
Q_i, Q_o = Flow rate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.
K_2 = Constant, 2.494×10^{-6} (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilo-gram/gram) (minute/hour), where standard temperature (gram-mole per standard cubic meter) is 20 °C.

(B) Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by Method 18 of 40 CFR part 60, appendix A are summed using the equation in paragraph (c)(4)(ii)(A) of this section.

(C) Where the mass rate of total organic HAP is being calculated, only the organic HAP species shall be summed using the equation in paragraph (c)(4)(ii)(A) of this section. The list of organic HAPs is provided in table 2 of subpart F of this part.

(iii) The percent reduction in TOC (minus methane and ethane) or total organic HAP shall be calculated as follows:

$$R = \frac{E_i - E_o}{E_i} (100)$$

where:
R = Control efficiency of control device, percent.
E_i = Mass rate of TOC (minus methane and ethane) or total organic HAP at the inlet to the control device as calculated under paragraph (c)(4)(ii) of this section, kilograms TOC per hour or kilograms organic HAP per hour.
E_o = Mass rate of TOC (minus methane and ethane) or total organic HAP at the outlet of the control device, as calculated under paragraph (c)(4)(ii) of this section, kilograms TOC per hour or kilograms organic HAP per hour.

(iv) If the vent stream entering a boiler or process heater with a design capacity less than 44 megawatts is introduced with the combustion air or as a secondary fuel, the weight-percent reduction of total organic HAP or TOC (minus methane and ethane) across the device shall be determined by comparing the TOC (minus methane and ethane) or total organic HAP in all combusted vent streams and primary and secondary fuels with the TOC (minus methane and ethane) or total organic HAP exiting the combustion device, respectively.

(d) An owner or operator using a combustion device followed by a scrubber or other halogen reduction device to control halogenated vent streams in compliance with § 63.113(c)(1) shall conduct a performance test to determine compliance with the control efficiency or emission limits for hydrogen halides and halogens.

(1) For an owner or operator determining compliance with the percent reduction of total hydrogen halides and halogens, sampling sites shall be located at the inlet and outlet of the scrubber or other halogen reduction device used to reduce halogen emissions. For an owner or operator determining compliance with the less than 0.45 kilogram per hour outlet emission limit for total hydrogen halides and halogens, the sampling site shall be located at the outlet of the scrubber or other halogen reduction device and prior to any releases to the atmosphere.

(2) Except as provided in paragraph (d)(5) of this section, Method 26 or Method 26A of 40 CFR part 60, appendix A, shall be used to determine the concentration, in milligrams per dry standard cubic meter, of total hydrogen halides and halogens that may be present in the vent stream. The mass emissions of each

hydrogen halide and halogen compound shall be calculated from the measured concentrations and the gas stream flow rate.

(3) To determine compliance with the percent removal efficiency, the mass emissions for any hydrogen halides and halogens present at the inlet of the scrubber or other halogen reduction device shall be summed together. The mass emissions of the compounds present at the outlet of the scrubber or other halogen reduction device shall be summed together. Percent reduction shall be determined by comparison of the summed inlet and outlet measurements.

(4) To demonstrate compliance with the less than 0.45 kilogram per hour outlet emission limit, the test results must show that the mass emission rate of total hydrogen halides and halogens measured at the outlet of the scrubber or other halogen reduction device is below 0.45 kilogram per hour.

(5) The owner or operator may use any other method to demonstrate compliance if the method or data has been validated according to the applicable procedures of Method 301 of appendix A of this part.

(e) An owner or operator using a scrubber or other halogen reduction device to reduce the vent stream halogen atom mass emission rate to less than 0.45 kilogram per hour prior to a combustion control device in compliance with § 63.113(c)(2) of this subpart shall determine the halogen atom mass emission rate prior to the combustor according to the procedures in § 63.115(d)(2)(v) of this subpart.

§ 63.117 Process vent provisions—reporting and recordkeeping requirements for group and TRE determinations and performance tests.

(a) Each owner or operator subject to the control provisions for Group 1 process vents in § 63.113(a) or the provisions for Group 2 process vents with a TRE index value greater than 1.0 but less than or equal to 4.0 in § 63.113(d) shall:

(1) Keep an up-to-date, readily accessible record of the data specified in paragraphs (a)(4) through (a)(8) of this section, as applicable, and

(2) Include the data in paragraphs (a)(4) through (a)(8) of this section in the Notification of Compliance Status report as specified in § 63.152(b) of this subpart.

(3) If any subsequent TRE determinations or performance tests are conducted after the Notification of Compliance Status has been submitted, report the data in paragraphs (a)(4) through (a)(8) of this section in the next Periodic Report as specified in § 63.152(c) of this subpart.

(4) Record and report the following when using a combustion device to achieve a 98 weight percent reduction in organic HAP or an organic HAP concentration of 20 parts per million by volume, as specified in § 63.113(a)(2) of this subpart:

(i) The parameter monitoring results for incinerators, catalytic incinerators, boilers or process heaters specified in table 3 of this subpart, and averaged over the same time period of the performance testing.

(ii) For an incinerator, the percent reduction of organic HAP or TOC achieved by the incinerator determined as specified in § 63.116(c) of this sub-part, or the concentration of organic HAP or TOC (parts per million by volume, by compound) determined as specified in § 63.116(c) of this subpart at the outlet of the incinerator on a dry basis corrected to 3 percent oxygen.

(iii) For a boiler or process heater, a description of the location at which the vent stream is introduced into the boiler or process heater.

(iv) For a boiler or process heater with a design heat input capacity of less than 44 megawatts and where the vent stream is introduced with combustion air or used as a secondary fuel and is not mixed with the primary fuel, the percent reduction of organic HAP or TOC, or the concentration of organic HAP or TOC (parts per million by volume, by compound) determined as specified in § 63.116(c) at the outlet of the combustion device on a dry basis corrected to 3 percent oxygen.

(5) Record and report the following when using a flare to comply with § 63.113(a)(1) of this sub-part:

(i) Flare design (i.e., steam-assisted, air-assisted, or non-assisted);

(ii) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by § 63.116(a) of this subpart; and

(iii) All periods during the compliance determination when the pilot flame is absent.

(6) Record and report the following when using a scrubber following a combustion device to control a halogenated vent stream:

(i) The percent reduction or scrubber outlet mass emission rate of total hydrogen halides and halogens as specified in § 63.116(d) of this subpart;

(ii) The pH of the scrubber effluent; and

(iii) The scrubber liquid to gas ratio.

(7) Record and report the following when achieving and maintaining a TRE index value greater than 1.0 but less than 4.0 as specified in § 63.113(a)(3) or § 63.113(d) of this subpart:

(i) The parameter monitoring results for absorbers, condensers, or carbon adsorbers, as specified in table 4 of this subpart, and averaged over the same time period of the measurements of vent stream flow rate and concentration used in the TRE determination (both measured while the vent stream is normally routed and constituted), and

(ii) The measurements and calculations performed to determine the TRE index value of the vent stream.

(8) Record and report the halogen concentration in the vent stream determined according to the procedures specified in § 63.115(d)(2)(v) of this subpart.

(b) The owner or operator of a Group 2 process vent with a TRE index greater than 4.0 as specified in § 63.113(e) of this subpart, shall maintain records and submit as part of the Notification of Compliance Status specified in § 63.152 of this subpart, measurements, engineering assessments, and calculations performed to determine the TRE index value of the vent stream. Documentation of engineering assessments shall include all data, assumptions, and procedures used for the engineering assessments, as specified in § 63.115(d)(1) of this subpart.

(c) Each owner or operator who elects to demonstrate that a process vent is a Group 2 process vent based on a flow rate less than 0.005 standard cubic meter per minute must submit to the Administrator the flow rate measurement using methods and procedures specified in § 63.115 (a) and (b) of this subpart with the Notification of Compliance Status specified in § 63.152 of this subpart.

(d) Each owner or operator who elects to demonstrate that a process vent is a Group 2 process vent based on organic HAP or TOC concentration less than 50 parts per million by volume must submit to the Administrator an organic HAP or TOC concentration measurement using the methods and procedures specified in § 63.115 (a) and (c) of this subpart with the Notification of Compliance Status specified in § 63.152 of this subpart.

(e) If an owner or operator uses a control or recovery device other than those listed in tables 3 and 4 of this subpart or requests approval to monitor a parameter other than those specified in tables 3 and 4 of this subpart, the owner or operator shall submit a description of planned reporting and recordkeeping procedures as required under § 63.151(f) or § 63.152(e) of this subpart. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means.

(f) For each parameter monitored according to tables 3 or 4 of this subpart or paragraph (e) of this section, the owner or operator shall establish a range for the parameter that indicates proper operation of the control or recovery device. In order to establish the range, the information required in § 63.152(b) of this subpart shall be submitted in the Notification of Compliance Status or the operating permit application or amendment.

§ 63.118 Process vent provisions—Periodic reporting and recordkeeping requirements.

(a) Each owner or operator using a control device to comply with § 63.113 (a)(1) or (a)(2) of this subpart shall keep the following records up-to-date and readily accessible:

(1) Continuous records of the equipment operating parameters specified to be monitored under § 63.114(a) of this subpart and listed in table 3 of this subpart or specified by the Administrator in accordance with § 63.114(c) and § 63.117(e) of this subpart. For flares, the hourly records and records of pilot flame outages specified in table 3 of this subpart shall be maintained in place of continuous records.

(2) Records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in § 63.152(f). For flares, records of the times and duration of all periods during which all pilot flames are absent shall be kept rather than daily averages.

(3) Hourly records of whether the flow indicator specified under § 63.114(d)(1) was operating and whether a diversion was detected at any time during the hour, as well as records of the times and durations of all periods when the gas stream is diverted to the atmosphere or the monitor is not operating.

(4) Where a seal mechanism is used to comply with § 63.114(d)(2) of this subpart, hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanism has been done, and shall record the duration of all periods when the seal mechanism is broken, the by-pass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken.

(b) Each owner or operator using a product recovery device or other means to achieve and maintain a TRE index value greater than 1.0 but less than 4.0 as specified in § 63.113(a)(3) or § 63.113(d) of this subpart shall keep the following records up-to-date and readily accessible:

(1) Continuous records of the equipment operating parameters specified to be monitored under § 63.114(b) of this subpart and listed in table 4 of this subpart or specified by the Administrator in accordance with § 63.114(c) of this subpart and § 63.114(e) of this subpart and

(2) Records of the daily average value of each continuously monitored parameter for each operating day determined according to the procedures specified in § 63.152(f). If carbon adsorber regeneration stream flow and carbon bed regeneration temperature are monitored, the records specified in table 4 of this subpart shall be kept instead of the daily averages.

(c) Each owner or operator subject to the provisions of this subpart and who elects to demonstrate compliance with the TRE index value greater than 4.0 under § 63.113(e) of this subpart or greater than 1.0 under § 63.113(a)(3) or § 63.113(d) of this subpart shall keep up-to-date, readily accessible records of:

(1) Any process changes as defined in § 63.115(e) of this subpart; and

(2) Any recalculation of the TRE index value pursuant to § 63.115(e) of this subpart.

(d) Each owner or operator who elects to comply by maintaining a flow rate less than 0.005 standard cubic meter per minute under § 63.113(f) of this subpart, shall keep up-to-date, readily accessible records of:

(1) Any process changes as defined in § 63.115(e) of this subpart that increase the vent stream flow rate,

(2) Any recalculation or measurement of the flow rate pursuant to § 63.115(e) of this subpart, and

(3) If the flow rate increases to 0.005 standard cubic meter per minute or greater as a result of the process change, the TRE determination performed according to the procedures of § 63.115(d) of this subpart.

(e) Each owner or operator who elects to comply by maintaining an organic HAP concentration less than 50 parts per million by volume organic HAP concentration under § 63.113(g) of this sub-part shall keep up-to-date, readily accessible records of:

(1) Any process changes as defined in § 63.115(e) that increase the organic HAP concentration of the vent stream,

(2) Any recalculation or measurement of the concentration pursuant to § 63.115(e) of this subpart, and

(3) If the organic HAP concentration increases to 50 parts per million by volume or greater as a result of the process change, the TRE determination performed according to the procedures of § 63.115(d) of this subpart.

(f) Each owner or operator who elects to comply with the requirements of § 63.113 of this subpart shall submit to the Administrator Periodic Reports of the following recorded information according to the schedule in § 63.152 of this subpart.

(1) Reports of daily average values of monitored parameters for all operating days when the daily average values recorded under paragraphs (a) and (b) of this section were outside the ranges established in the Notification of Compliance Status or operating permit.

(2) For Group 1 points, reports of the duration of periods when monitoring data is not collected for each excursion caused by insufficient monitoring data as defined in § 63.152(c)(2)(ii)(A) of this subpart.

(3) Reports of the times and durations of all periods recorded under paragraph (a)(3) of this section when the gas stream is diverted to the atmosphere through a bypass line.

(4) Reports of all periods recorded under paragraph (a)(4) of this section in which the seal mechanism is broken, the bypass line valve position has changed, or the key to unlock the bypass line valve was checked out.

(5) Reports of the times and durations of all periods recorded under paragraph (a)(2)(v) of this section in which all pilot flames of a flare were absent.

(6) Reports of all carbon bed regeneration cycles during which the parameters recorded under paragraph (b)(2)(v) of this section were outside the ranges established in the Notification of Compliance Status or operating permit.

(g) Whenever a process change, as defined in § 63.115(e) of this subpart, is made that causes a Group 2 process vent to become a Group 1 process vent, the owner or operator shall submit a report within 180 calendar days after the process change as specified in § 63.151(j) of this subpart. The report shall include:

(1) A description of the process change;

(2) The results of the recalculation of the flow rate, organic HAP concentration, and TRE index value required under § 63.115(e) of this subpart and recorded under paragraph (c), (d), or (e) of this section; and

(3) A statement that the owner or operator will comply with the provisions of § 63.113 of this subpart for Group 1 process vents by the dates specified in subpart F of this part.

(h) Whenever a process change, as defined in § 63.115(e) of this subpart, is made that causes a Group 2 process vent with a TRE greater than 4.0 to become a Group 2 process vent with a TRE less than 4.0, the owner or operator shall submit a report within 180 calendar days after the process change. The report may be submitted as part of the next periodic report. The report shall include:

(1) A description of the process change,

(2) The results of the recalculation of the TRE index value required under § 63.115(e) of this sub-part and recorded under paragraph (c) of this section, and

(3) A statement that the owner or operator will comply with the requirements specified in § 63.113(d) of this subpart.

(i) Whenever a process change, as defined in § 63.115(e) of this subpart, is made that causes a Group 2 process vent with a flow rate less than 0.005 standard cubic meter per minute to become a Group 2 process vent with a flow rate of 0.005 standard cubic meter per minute or greater and a TRE index value less than or

equal to 4.0, the owner or operator shall submit a report within 180 calendar days after the process change. The report may be submitted as part of the next periodic report. The report shall include:

(1) A description of the process change,

(*2*) The results of the recalculation of the flow rate and the TRE determination required under § 63.115(e) of this subpart and recorded under paragraph (d) of this section, and

(3) A statement that the owner or operator will comply with the requirements specified in § 63.113(d) of this subpart.

(j) Whenever a process change, as defined in § 63.115(e) of this subpart, is made that causes a Group 2 process vent with an organic HAP concentration less than 50 parts per million by volume to become a Group 2 process vent with an organic HAP concentration of 50 parts per million by volume or greater and a TRE index value less than or equal to 4.0, the owner or operator shall submit a report within 180 calendar days after the process change. The report may be submitted as part of the next periodic report. The report shall include:

(1) A description of the process change,

(2) The results of the recalculation of the organic HAP concentration and the TRE determination required under § 63.115(e) of this subpart and recorded under paragraph (e) of this section, and

(3) A statement that the owner or operator will comply with the requirements specified in § 63.113(d) of this subpart.

(k) The owner or operator is not required to submit a report of a process change if one of the conditions listed in paragraph (k)(1), (k)(2), (k)(3), or (k)(4) of this section is met.

(1) The process change does not meet the definition of a process change in § 63.115(e) of this subpart, or

(2) The vent stream flow rate is recalculated according to § 63.115(e) of this subpart and the recalculated value is less than 0.005 standard cubic meter per minute, or

(3) The organic HAP concentration of the vent stream is recalculated according to § 63.115(e) of this subpart and the recalculated value is less than 50 parts per million by volume, or

(4) The TRE index value is recalculated according to § 63.115(e) of this subpart and the recalculated value is greater than 4.0.

§ 63.119 Storage vessel provisions—reference control technology.

(a) For each storage vessel to which this subpart applies, the owner or operator shall comply with the requirements of paragraphs (a)(1), (a)(2), (a)(3), and (a)(4) of this section according to the schedule provisions of § 63.100 of subpart F of this part.

(1) For each Group 1 storage vessel (as defined in table 5 of this subpart for existing sources and table 6 for new sources) storing a liquid for which the maximum true vapor pressure of the total organic hazardous air pollutants in the liquid is less than 76.6 kilopascals, the owner or operator shall reduce hazardous air pollutants emissions to the atmosphere either by operating and maintaining a fixed roof and internal floating roof, an external floating roof, an external floating roof converted to an internal floating roof, or a closed vent system and control device, or routing the emissions to a process or a fuel gas system in accordance with the requirements in paragraph (b), (c), (d), (e), or (f) of this section, or equivalent as provided in § 63.121 of this subpart.

(2) For each Group 1 storage vessel (as defined in table 5 of this subpart for existing sources and table 6 of this subpart for new sources) storing a liquid for which the maximum true vapor pressure of the total organic hazardous air pollutants in the liquid is greater than or equal to 76.6 kilopascals, the owner or operator shall operate and maintain a closed vent system and control device meeting the requirements specified in paragraph (e) of this section, or route the emissions to a process or a fuel gas system as specified in paragraph (f) of this section, or equivalent as provided in § 63.121 of this subpart.

(3) For each Group 2 storage vessel that is not part of an emissions average as described in § 63.150 of this subpart, the owner or operator shall comply with the recordkeeping requirement in § 63.123(a) of this subpart and is not required to comply with any other provisions in §§ 63.119 through 63.123 of this subpart.

(4) For each Group 2 storage vessel that is part of an emissions average, the owner or operator shall comply with the emissions averaging provisions in § 63.150 of this subpart.

(b) The owner or operator who elects to use a fixed roof and an internal floating roof, as defined in § 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) of this section shall comply with the requirements specified in paragraphs (b)(1) through (b)(6) of this section.

NOTE: The intent of paragraphs (b)(1) and (b)(2) of this section is to avoid having a vapor space between the floating roof and the stored liquid for extended periods. Storage vessels may be emptied for purposes such as routine storage vessel maintenance, inspections, petroleum liquid deliveries, or transfer operations. Storage vessels where liquid is left on walls, as bottom clingage, or in pools due to floor irregularity are considered completely empty.

(1) The internal floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the periods specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section.

(i) During the initial fill.

(ii) After the vessel has been completely emptied and degassed.

(iii) When the vessel is completely emptied before being subsequently refilled.

(2) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical.

(3) Each internal floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge. Except as provided in paragraph (b)(3)(iv) of this section, the closure device shall consist of one of the devices listed in paragraph (b)(3)(i), (b)(3)(ii), or (b)(3)(iii) of this section.

(i) A liquid-mounted seal as defined in § 63.111 of this subpart.

(ii) A metallic shoe seal as defined in § 63.111 of this subpart.

(iii) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor- mounted, but both must be continuous seals.

(iv) If the internal floating roof is equipped with a vapor-mounted seal as of December 31, 1992, the requirement for one of the seal options specified in paragraphs (b)(3)(i), (b)(3)(ii), and (b)(3)(iii) of this section does not apply until the earlier of the dates specified in paragraphs (b)(3)(iv)(A) and (b)(3)(iv)(B) of this section.

(A) The next time the storage vessel is emptied and degassed.

(B) No later than 10 years after April 22, 1994.

(4) Automatic bleeder vents are to be closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the roof leg supports.

(5) Except as provided in paragraph (b)(5)(viii) of this section, each internal floating roof shall meet the specifications listed in paragraphs (b)(5)(i) through (b)(5)(vii) of this section.

(i) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface.

(ii) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover or lid. The cover or lid shall be equipped with a gasket.

(iii) Each penetration of the internal floating roof for the purposes of sampling shall be a sample well. Each sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(iv) Each automatic bleeder vent shall be gasketed.

(v) Each rim space vent shall be gasketed.

(vi) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(vii) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(viii) If the internal floating roof does not meet any one of the specifications listed in paragraphs (b)(5)(i) through (b)(5)(vii) of this section as of December 31, 1992, the requirement for meeting those specifications does not apply until the earlier of the dates specified in paragraphs (b)(5)(viii)(A) and (b)(5)(viii)(B) of this section.

(A) The next time the storage vessel is emptied and degassed.

(B) No later than 10 years after April 22, 1994.

(6) Each cover or lid on any opening in the internal floating roof shall be closed (i.e., no visible gaps), except when the cover or lid must be open for access. Covers on each access hatch and each gauge float well shall be bolted or fastened so as to be air-tight when they are closed. Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(c) The owner or operator who elects to use an external floating roof, as defined in § 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) of this section shall comply with the requirements specified in paragraphs (c)(1) through (c)(4) of this section.

(1) Each external floating roof shall be equipped with a closure device between the wall of the storage vessel and the roof edge.

(i) Except as provided in paragraph (c)(1)(iv) of this section, the closure device is to consist of two seals, one above the other. The lower seal is referred to as the primary seal and the upper seal is referred to as the secondary seal.

(ii) Except as provided in paragraph (c)(1)(v) of this section, the primary seal shall be either a metallic shoe seal or a liquid-mounted seal.

(iii) Except during the inspections required by § 63.120(b) of this subpart, both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion.

(iv) If the external floating roof is equipped with a liquid-mounted or metallic shoe primary seal as of December 31, 1992, the requirement for a secondary seal in paragraph (c)(1)(i) of this section does not apply until the earlier of the dates specified in paragraphs (c)(1)(iv)(A) and (c)(1)(iv)(B) of this section.

(A) The next time the storage vessel is emptied and degassed.

(B) No later than 10 years after April 22, 1994.

(v) If the external floating roof is equipped with a vapor-mounted primary seal and a secondary seal as of December 31, 1992, the requirement for a liquid-mounted or metallic shoe primary seal in paragraph (c)(1)(ii) of this section does not apply until the earlier of the dates specified in paragraphs (c)(1)(v)(A) and (c)(1)(v)(B) of this section.

(A) The next time the storage vessel is emptied and degassed.

(B) No later than 10 years after April 22, 1994.

(2) Each external floating roof shall meet the specifications listed in paragraphs (c)(2)(i) through (c)(2)(xii) of this section.

(i) Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in the noncontact external floating roof shall provide a projection below the liquid surface except as provided in paragraph (c)(2)(xii) of this section.

(ii) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof is to be equipped with a gasketed cover, seal or lid which is to be maintained in a closed position (i.e., no visible gap) at all times except when the cover or lid must be open for access. Covers on each access hatch and each gauge float well shall be bolted or fastened so as to be air-tight when they are closed.

(iii) Automatic bleeder vents are to be closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the roof leg supports.

(iv) Rim space vents are to be set to open only when the roof is being floated off the roof leg sup-ports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(v) Automatic bleeder vents and rim space vents are to be gasketed.

(vi) Each roof drain that empties into the stored liquid is to be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(vii) Each unslotted guide pole well shall have a gasketed sliding cover or a flexible fabric sleeve seal.

(viii) Each unslotted guide pole shall have on the end of the pole a gasketed cap which is closed at all times except when gauging the liquid level or taking liquid samples.

(ix) Each slotted guide pole well shall have a gasketed sliding cover or a flexible fabric sleeve seal.

(x) Each slotted guide pole shall have a gasketed float or other device which closes off the liquid surface from the atmosphere.

(xi) Each gauge hatch/sample well shall have a gasketed cover which is closed at all times except when the hatch or well must be open for access.

(xii) If each opening in a noncontact external floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents does not provide a projection below the liquid surface as of December 31, 1992, the requirement for providing these projections below the liquid surface does not apply until the earlier of the dates specified in paragraphs (c)(2)(xii)(A) and (c)(2)(xii)(B) of this section.

(A) The next time the storage vessel is emptied and degassed.

(B) No later than 10 years after April 22, 1994.

NOTE: The intent of paragraphs (c)(3) and (c)(4) of this section is to avoid having a vapor space between the floating roof and the stored liquid for extended periods. Storage vessels may be emptied for purposes such as routine storage vessel maintenance, inspections, petroleum liquid deliveries, or transfer operations. Storage vessels where liquid is left on walls, as bottom clingage, or in pools due to floor irregularity are considered completely empty.

(3) The external floating roof shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the periods specified in paragraphs (c)(3)(i) through (c)(3)(iii) of this section.

(i) During the initial fill.

(ii) After the vessel has been completely emptied and degassed.

(iii) When the vessel is completely emptied before being subsequently refilled.

(4) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical.

(d) The owner or operator who elects to use an external floating roof converted to an internal floating roof (i.e., fixed roof installed above external floating roof) to comply with paragraph (a)(1) of this section shall comply with paragraphs (d)(1) and (d)(2) of this section.

(1) Comply with the requirements for internal floating roof vessels specified in paragraphs (b)(1), (2), and (3) of this section; and

(2) Comply with the requirements for deck fittings that are specified for external floating roof vessels in paragraphs (c)(2)(i) through (c)(2)(xii) of this section.

(e) The owner or operator who elects to use a closed vent system and control device, as defined in § 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) or (a)(2) of this section shall comply with the requirements specified in paragraphs (e)(1) through (e)(5) of this section.

(1) Except as provided in paragraph (e)(2) of this section, the control device shall be designed and operated to reduce inlet emissions of total organic HAP by 95 percent or greater. If a flare is used as the control device, it shall meet the specifications described in the general control device requirements of § 63.11(b) of subpart A of this part.

(2) If the owner or operator can demonstrate that a control device installed on a storage vessel on or before December 31, 1992 is designed to reduce inlet emissions of total organic HAP by greater than or equal to 90 percent but less than 95 percent, then the control device is required to be operated to reduce inlet emissions of total organic HAP by 90 percent or greater.

(3) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraph (e)(1) or (e)(2) of this section, as applicable, shall not exceed 240 hours per year.

(4) The specifications and requirements in paragraphs (e)(1) and (e)(2) of this section for control devices do not apply during periods of planned routine maintenance.

(5) The specifications and requirements in paragraphs (e)(1) and (e)(2) of this section for control devices do not apply during a control system malfunction.

(6) An owner or operator may use a combination of control devices to achieve the required reduction of total organic hazardous air pollutants specified in paragraph (e)(1) of this section. An owner or operator may use a combination of control devices installed on a storage vessel on or before December 31, 1992 to achieve the required reduction of total organic hazardous air pollutants specified in paragraph (e)(2) of this section.

(f) The owner or operator who elects to route emissions to a fuel gas system or to a process, as defined in § 63.111 of this subpart, to comply with the requirements of paragraph (a)(1) or (a)(2) of this section shall comply with the requirements in paragraphs (f)(1) through (f)(3) of this section, as applicable.

(1) If emissions are routed to a fuel gas system, there is no requirement to conduct a performance test or design evaluation. If emissions are routed to a process, the organic hazardous air pollutants in the emissions shall predominantly meet one of, or a combination of, the ends specified in paragraphs (f)(1)(i) through (f)(1)(iv) of this section. The owner or operator shall comply with the compliance demonstration requirements in § 63.120(f).

(i) Recycled and/or consumed in the same manner as a material that fulfills the same function in that process;

(ii) Transformed by chemical reaction into materials that are not organic hazardous air pollutants;

(iii) Incorporated into a product; and/or

(iv) Recovered.

(2) If the emissions are conveyed by a system other than hard-piping, any conveyance system operated under positive pressure shall be subject to the requirements of § 63.148 of this subpart.

(3) The fuel gas system or process shall be operating at all times when organic hazardous air pollutants emissions are routed to it except as provided in § 63.102(a)(1) of subpart F of this part and in paragraphs (f)(3)(i) through (f)(3)(iii) of this section. Whenever the owner or operator by-passes the fuel gas system or process, the owner or operator shall comply with the recordkeeping requirement in § 63.123(h) of this subpart. Bypassing is permitted if the owner or operator complies with one or more of the conditions specified in paragraphs (f)(3)(i) through (f)(3)(iii) of this section.

(i) The liquid level in the storage vessel is not increased;

(ii) The emissions are routed through a closed-vent system to a control device complying with § 63.119(e) of this subpart; or

(iii) The total aggregate amount of time during which the emissions by-pass the fuel gas system or process during the calendar year without being routed to a control device, for all reasons (except start-ups/shutdowns/malfunctions or product changeovers of flexible operation units and periods when the storage vessel has been emptied and degassed), does not exceed 240 hours.

§ 63.120 Storage vessel provisions— procedures to determine compliance.

(a) To demonstrate compliance with § 63.119(b) of this subpart (storage vessel equipped with a fixed roof and internal floating roof) or with § 63.119(d) of this subpart (storage vessel equipped with an external floating roof converted to an internal floating roof), the owner or operator shall comply with the requirements in paragraphs (a)(1) through (a)(7) of this section.

(1) The owner or operator shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), according to the schedule specified in paragraphs (a)(2) and (a)(3) of this section.

(2) For vessels equipped with a single-seal system, the owner or operator shall perform the inspections specified in paragraphs (a)(2)(i) and (a)(2)(ii) of this section.

(i) Visually inspect the internal floating roof and the seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill, or at least once every 12 months after the compliance date specified in § 63.100 of subpart F of this part.

(ii) Visually inspect the internal floating roof, the seal, gaskets, slotted membranes, and sleeve seals (if any) each time the storage vessel is emptied and degassed, and at least once every 10 years after the compliance date specified in § 63.100 of subpart F of this part.

(3) For vessels equipped with a double-seal system as specified in § 63.119(b)(3)(iii) of this subpart, the owner or operator shall perform either the inspection required in paragraph (a)(3)(i) of this section or the inspections required in both paragraphs (a)(3)(ii) and (a)(3)(iii) of this section.

(i) The owner or operator shall visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes, and sleeve seals (if any) each time the storage vessel is emptied and degassed and at least once every 5 years after the compliance date specified in § 63.100 of subpart F of this part; or

(ii) The owner or operator shall visually inspect the internal floating roof and the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill, or at least once every 12 months after the compliance date specified in § 63.100 of subpart F of this part, and

(iii) Visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes, and sleeve seals (if any) each time the vessel is emptied and degassed and at least once every 10 years after the compliance date specified in § 63.100 of subpart F of this part.

(4) If during the inspections required by paragraph (a)(2)(i) or (a)(3)(ii) of this section, the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached; or there are holes or tears in the seal fabric; or there are visible gaps between the seal and the wall of the storage vessel, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 calendar days. If a failure that is detected during inspections required by paragraph (a)(2)(i) or (a)(3)(ii) of this section can-not be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, the owner or operator may utilize up to 2 extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as practical.

(5) Except as provided in paragraph (a)(6) of this section, for all the inspections required by paragraphs (a)(2)(ii), (a)(3)(i), and (a)(3)(iii) of this section, the owner or operator shall notify the Administrator in writing at least 30 calendar days prior to the refilling of each storage vessel to afford the Administrator the opportunity to have an observer present.

(6) If the inspection required by paragraph (a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of this section is not planned and the owner or operator could not have known about the inspection 30 calendar days in advance of refilling the vessel, the owner or operator shall notify the Administrator at least 7 calendar days prior to the refilling of the storage vessel. Notification may be made by telephone and immediately followed by written

 Attachment 2 Attachment 2

documentation demonstrating why the inspection was unplanned. Alternatively, the notification including the written documentation may be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to refilling.

(7) If during the inspections required by paragraph (a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of this section, the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with organic HAP.

(b) To demonstrate compliance with § 63.119(c) of this subpart (storage vessel equipped with an external floating roof), the owner or operator shall comply with the requirements specified in paragraphs (b)(1) through (b)(10) of this section.

(1) Except as provided in paragraph (b)(7) of this section, the owner or operator shall determine the gap areas and maximum gap widths between the primary seal and the wall of the storage vessel, and the secondary seal and the wall of the storage vessel according to the frequency specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section.

(i) For an external floating roof vessel equipped with primary and secondary seals, measurements of gaps between the vessel wall and the primary seal shall be performed during the hydrostatic testing of the vessel or by the compliance date specified in § 63.100 of subpart F of this part, whichever occurs last, and at least once every 5 years thereafter.

(ii) For an external floating roof vessel equipped with a liquid-mounted or metallic shoe primary seal and without a secondary seal as provided for in § 63.119(c)(1)(iv) of this subpart, measurements of gaps between the vessel wall and the primary seal shall be performed by the compliance date specified in § 63.100 of subpart F of this part and at least once per year thereafter, until a secondary seal is installed. When a secondary seal is installed above the primary seal, measurements of gaps between the vessel wall and both the primary and secondary seals shall be performed within 90 calendar days of installation of the secondary seal, and according to the frequency specified in paragraphs (b)(1)(i) and (b)(1)(iii) of this section there-after.

(iii) For an external floating roof vessel equipped with primary and secondary seals, measurements of gaps between the vessel wall and the secondary seal shall be performed by the compliance date specified in § 63.100 of subpart F of this part and at least once per year thereafter.

(iv) If any storage vessel ceases to store organic HAP for a period of 1 year or more, or if the maximum true vapor pressure of the total organic HAPs in the stored liquid falls below the values defining Group 1 storage vessels specified in table 5 or table 6 of this subpart for a period of 1 year or more, measurements of gaps between the vessel wall and the primary seal, and gaps between the vessel wall and the secondary seal shall be per-formed within 90 calendar days of the vessel being refilled with organic HAP.

(2) Except as provided in paragraph (b)(7) of this section, the owner or operator shall determine gap widths and gap areas in the primary and secondary seals (seal gaps) individually by the procedures described in paragraphs (b)(2)(i) through (b)(2)(iii) of this section.

(i) Seal gaps, if any, shall be measured at one or more floating roof levels when the roof is not resting on the roof leg supports.

(ii) Seal gaps, if any, shall be measured around the entire circumference of the vessel in each place where a 0.32 centimeter (1/8 inch) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the storage vessel. The circumferential distance of each such location shall also be measured.

(iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the vessel wall to the seal and multiplying each such width by its respective circumferential distance.

(3) The owner or operator shall add the gap surface area of each gap location for the primary seal and divide the sum by the nominal diameter of the vessel. The accumulated area of gaps between the vessel wall

and the primary seal shall not exceed 212 square centimeters per meter of vessel diameter and the width of any portion of any gap shall not exceed 3.81 centimeters.

(4) The owner or operator shall add the gap surface area of each gap location for the secondary seal and divide the sum by the nominal diameter of the vessel. The accumulated area of gaps between the vessel wall and the secondary seal shall not exceed 21.2 square centimeters per meter of vessel diameter and the width of any portion of any gap shall not exceed 1.27 centimeters. These seal gap requirements may be exceeded during the measurement of primary seal gaps as required by paragraph (b)(1)(i) and (b)(1)(ii) of this section.

(5) The primary seal shall meet the additional requirements specified in paragraphs (b)(5)(i) and (b)(5)(ii) of this section.

(i) Where a metallic shoe seal is in use, one end of the metallic shoe shall extend into the stored liquid and the other end shall extend a minimum vertical distance of 61 centimeters above the stored liquid surface.

(ii) There shall be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.

(6) The secondary seal shall meet the additional requirements specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section.

(i) The secondary seal shall be installed above the primary seal so that it completely covers the space between the roof edge and the vessel wall except as provided in paragraph (b)(4) of this section.

(ii) There shall be no holes, tears, or other openings in the seal or seal fabric.

(7) If the owner or operator determines that it is unsafe to perform the seal gap measurements required in paragraphs (b)(1) and (b)(2) of this section or to inspect the vessel to determine compliance with paragraphs (b)(5) and (b)(6) of this section because the floating roof appears to be structurally unsound and poses an imminent or potential danger to inspecting personnel, the owner or operator shall comply with the requirements in either paragraph (b)(7)(i) or (b)(7)(ii) of this section.

(i) The owner or operator shall measure the seal gaps or inspect the storage vessel no later than 30 calendar days after the determination that the roof is unsafe, or

(ii) The owner or operator shall empty and remove the storage vessel from service no later than 45 calendar days after determining that the roof is unsafe. If the vessel cannot be emptied within 45 calendar days, the owner or operator may utilize up to 2 extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include an explanation of why it was unsafe to perform the inspection or seal gap measurement, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the vessel will be emptied as soon as practical.

(8) The owner or operator shall repair conditions that do not meet requirements listed in paragraphs (b)(3), (b)(4), (b)(5), and (b)(6) of this section (i.e., failures) no later than 45 calendar days after identification, or shall empty and remove the storage vessel from service no later than 45 calendar days after identification. If during seal gap measurements required in paragraph (b)(1) and (b)(2) of this section or during inspections necessary to determine compliance with paragraphs (b)(5) and (b)(6) of this section a failure is detected that cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, the owner or operator may utilize up to 2 extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as practical.

(9) The owner or operator shall notify the Administrator in writing 30 calendar days in advance of any gap measurements required by paragraph (b)(1) or (b)(2) of this section to afford the Administrator the opportunity to have an observer present.

(10) The owner or operator shall visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects; the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has

more than 10 percent open area, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with organic HAP.

(ii) Except as provided in paragraph (b)(10)(iii) of this section, for all the inspections required by paragraph (b)(10) of this section, the owner or operator shall notify the Administrator in writing at least 30 calendar days prior to filling or refilling of each storage vessel with organic HAP to afford the Administrator the opportunity to inspect the storage vessel prior to refilling.

(iii) If the inspection required by paragraph (b)(10) of this section is not planned and the owner or operator could not have known about the inspection 30 calendar days in advance of refilling the vessel with organic HAP, the owner or operator shall notify the Administrator at least 7 calendar days prior to refilling of the storage vessel. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent so that it is received by the Administrator at least 7 calendar days prior to the refilling.

(c) To demonstrate compliance with § 63.119(d) of this subpart (storage vessel equipped with an external floating roof converted to an internal floating roof), the owner or operator shall comply with the requirements of paragraph (a) of this section.

(d) To demonstrate compliance with § 63.119(e) of this subpart (storage vessel equipped with a closed vent system and control device) using a control device other than a flare, the owner or operator shall comply with the requirements in paragraphs (d)(1) through (d)(7) of this section, except as provided in paragraph (d)(8) of this section.

(1) The owner or operator shall either prepare a design evaluation, which includes the information specified in paragraph (d)(1)(i) of this section, or submit the results of a performance test as de-scribed in paragraph (d)(1)(ii) of this section.

(i) The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency during reasonably expected maximum filling rate. This documentation is to include a description of the gas stream which enters the control device, including flow and organic HAP content under varying liquid level conditions, and the information specified in paragraphs (d)(1)(i)(A) through (d)(1)(i)(E) of this section, as applicable.

(A) If the control device receives vapors, gases or liquids, other than fuels, from emission points other than storage vessels subject to this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids, other than fuels, received by the control device.

(B) If an enclosed combustion device with a minimum residence time of 0.5 seconds and a minimum temperature of 760 °C is used to meet the emission reduction requirement specified in § 63.119 (e)(1) or (e)(2), as applicable, documentation that those conditions exist is sufficient to meet the requirements of paragraph (d)(1)(i) of this section.

(C) Except as provided in paragraph (d)(1)(i)(B) of this section, for thermal incinerators, the design evaluation shall include the autoignition temperature of the organic HAP, the flow rate of the organic HAP emission stream, the combustion temperature, and the residence time at the combustion temperature.

(D) For carbon adsorbers, the design evaluation shall include the affinity of the organic HAP vapors for carbon, the amount of carbon in each bed, the number of beds, the humidity of the feed gases, the temperature of the feed gases, the flow rate of the organic HAP emission stream, the desorption schedule, the regeneration stream pressure or temperature, and the flow rate of the re-generation stream. For vacuum desorption, pressure drop shall be included.

(E) For condensers, the design evaluation shall include the final temperature of the organic HAP vapors, the type of condenser, and the design flow rate of the organic HAP emission stream.

(ii) If the control device used to comply with § 63.119(e) of this subpart is also used to comply with § 63.113(a)(2), § 63.126(b)(1), or § 63.139(c) of this subpart, the performance test required by §

63.116(c), § 63.128(a), or § 63.139(d)(1) of this subpart is acceptable to demonstrate compliance with § 63.119(e) of this subpart. The owner or operator is not required to prepare a design evaluation for the control device as described in paragraph (d)(1)(i) of this section, if the performance tests meets the criteria specified in paragraphs (d)(1)(ii)(A) and (d)(1)(ii)(B) of this section.

(A) The performance test demonstrates that the control device achieves greater than or equal to the required control efficiency specified in § 63.119 (e)(1) or (e)(2) of this subpart, as applicable; and

(B) The performance test is submitted as part of the Notification of Compliance Status required by § 63.151(b) of this subpart.

(2) The owner or operator shall submit, as part of the Notification of Compliance Status required by § 63.151(b) of this subpart, a monitoring plan containing the information specified in paragraph (d)(2)(i) of this section and in either (d)(2)(ii) or (d)(2)(iii) of this section.

(i) A description of the parameter or parameters to be monitored to ensure that the control device is being properly operated and maintained, an explanation of the criteria used for selection of that parameter (or parameters), and the frequency with which monitoring will be performed (e.g., when the liquid level in the storage vessel is being raised); and either

(ii) The documentation specified in paragraph (d)(1)(i) of this section, if the owner or operator elects to prepare a design evaluation; or

(iii) The information specified in paragraph (d)(2)(iii) (A) and (B) of this section if the owner or operator elects to submit the results of a performance test.

(A) Identification of the storage vessel and control device for which the performance test will be submitted, and

(B) Identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted.

(3) The owner or operator shall submit, as part of the Notification of Compliance Status required by § 63.152(b) of this subpart, the information specified in paragraphs (d)(3)(i) and, if applicable, (d)(3)(ii) of this section.

(i) The operating range for each monitoring parameter identified in the monitoring plan. The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.

(ii) Results of the performance test described in paragraph (d)(1)(ii) of this section.

(4) The owner or operator shall demonstrate compliance with the requirements of § 63.119(e)(3) of this subpart (planned routine maintenance of a control device, during which the control device does not meet the specifications of § 63.119 (e)(1) or (e)(2) of this subpart, as applicable, shall not exceed 240 hours per year) by including in each Periodic Report required by § 63.152(c) of this subpart the information specified in § 63.122(g)(1) of this subpart.

(5) The owner or operator shall monitor the parameters specified in the Notification of Compliance Status required in § 63.152(b) of this subpart or in the operating permit and shall operate and maintain the control device such that the monitored parameters remain within the ranges specified in the Notification of Compliance Status.

(6) Except as provided in paragraph (d)(7) of this section, each closed vent system shall be inspected as specified in § 63.148 of this subpart. The initial and annual inspections required by § 63.148(b) of this subpart shall be done during filling of the storage vessel.

(7) For any fixed roof tank and closed vent system that are operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.148 of this subpart.

(8) A design evaluation or performance test is not required, if the owner or operator uses a combustion device meeting the criteria in paragraph (d)(8)(i), (d)(8)(ii), (d)(8)(iii), or (d)(8)(iv) of this section.

(i) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(ii) A boiler or process heater burning hazardous waste for which the owner or operator:

(A) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H, or (B) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(iii) A hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

(iv) A boiler or process heater into which the vent stream is introduced with the primary fuel.

(e) To demonstrate compliance with § 63.119(e) of this subpart (storage vessel equipped with a closed vent system and control device) using a flare, the owner or operator shall comply with the requirements in paragraphs (e)(1) through (e)(6) of this section.

(1) The owner or operator shall perform the compliance determination specified in § 63.11(b) of subpart A of this part.

(2) The owner or operator shall submit, as part of the Notification of Compliance Status required by § 63.152(b) of this subpart, the information specified in paragraphs (e)(2)(i) through (e)(2)(iii) of this section.

(i) Flare design (i.e., steam-assisted, air-assisted, or non-assisted);

(ii) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by paragraph (e)(1) of this section; and

(iii) All periods during the compliance determination when the pilot flame is absent.

(3) The owner or operator shall demonstrate compliance with the requirements of § 63.119(e)(3) of this subpart (planned routine maintenance of a flare, during which the flare does not meet the specifications of § 63.119(e)(1) of this subpart, shall not exceed 240 hours per year) by including in each Periodic Report required by § 63.152(c) of this subpart the information specified in § 63.122(g)(1) of this subpart.

(4) The owner or operator shall continue to meet the general control device requirements specified in § 63.11(b) of subpart A of this part.

(5) Except as provided in paragraph (e)(6) of this section, each closed vent system shall be inspected as specified in § 63.148 of this subpart. The inspections required to be performed in accordance with § 63.148(c) of this subpart shall be done during filling of the storage vessel.

(6) For any fixed roof tank and closed vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.148 of this subpart.

(f) To demonstrate compliance with § 63.119(f) of this subpart (storage vessel routed to a process), the owner or operator shall prepare a design evaluation (or engineering assessment) that demonstrates the extent to which one or more of the ends specified in § 63.119(f)(1)(i) through (f)(1)(iv) are being met. The owner or operator shall submit the design evaluation as part of the Notification of Compliance Status required by § 63.152(b) of this subpart.

§ 63.121 Storage vessel provisions—alternative means of emission limitation.

(a) Determination of equivalence to the reduction in emissions achieved by the requirements of § 63.119 (b), (c), or (d) of this subpart will be evaluated according to § 63.102(b) of subpart F of this part.

(b) The determination of equivalence referred to in paragraph (a) of this section will be based on the application to the Administrator which shall include the information specified in either paragraph (b)(1) or (b)(2) of this section.

(1) Actual emissions tests that use full-size or scale-model storage vessels that accurately collect and measure all organic HAP emissions from a given control technique, and that accurately simulate wind and account for other emission variables such as temperature and barometric pressure, or

(2) An engineering analysis that the Administrator determines is an accurate method of deter-mining equivalence.

§ 63.122 Storage vessel provisions—reporting.

(a) For each Group 1 storage vessel, the owner or operator shall comply with the requirements of paragraphs (a)(1) through (a)(5) of this section.

(1) The owner or operator shall submit an Initial Notification as required by § 63.151(b) of this sub-part.

(2) [Reserved]

(3) The owner or operator shall submit a Notification of Compliance Status as required by § 63.152(b) of this subpart and shall submit as part of the Notification of Compliance Status the information specified in paragraph (c) of this section.

(4) The owner or operator shall submit Periodic Reports as required by § 63.152(c) of this subpart and shall submit as part of the Periodic Reports the information specified in paragraphs (d), (e), (f), and (g) of this section.

(5) The owner or operator shall submit, as applicable, other reports as required by § 63.152(d) of this subpart, containing the information specified in paragraph (h) of this section.

(b) An owner or operator who elects to comply with § 63.119(e) of this subpart by using a closed vent system and a control device other than a flare shall submit, as part of the Monitoring Plan, the information specified in § 63.120(d)(2)(i) of this subpart and the information specified in either § 63.120(d)(2)(ii) of this subpart or § 63.120(d)(2)(iii) of this subpart.

(c) An owner or operator who elects to comply with § 63.119(e) of this subpart by using a closed vent system and a control device shall submit, as part of the Notification of Compliance Status required by § 63.152(b) of this subpart, the information specified in either paragraph (c)(1) or (c)(2) of this section. An owner or operator who elects to comply with § 63.119(f) of this subpart by routing emissions to a process or to a fuel gas system shall submit, as part of the Notification of Compliance Status required by § 63.152(b) of this subpart, the information specified in paragraph (c)(3) of this section.

(1) If a control device other than a flare is used, the owner or operator shall submit the information specified in § 63.120(d)(3)(i) and, if applicable, (d)(3)(ii) of this subpart.

(2) If a flare is used, the owner or operator shall submit the information specified in §63.120(e)(2)(i), (e)(2)(ii), and (e)(2)(iii) of this subpart.

(3) If emissions are routed to a process, the owner or operator shall submit the information specified in § 63.120(f). If emissions are routed to a fuel gas system, the owner or operator shall submit a statement that the emission stream is connected to the fuel gas system and whether the conveyance system is subject to the requirements of § 63.148.

(d) An owner or operator who elects to comply with § 63.119(b) of this subpart by using a fixed roof and an internal floating roof or with § 63.119(d) of this subpart by using an external floating roof converted to an internal floating roof shall submit, as part of the Periodic Report required under § 63.152(c) of this subpart, the results of each inspection conducted in accordance with § 63.120(a) of this subpart in which a failure is detected in the control equipment.

(1) For vessels for which annual inspections are required under § 63.120 (a)(2)(i) or (a)(3)(ii) of this subpart, the specifications and requirements listed in paragraphs (d)(1)(i) through (d)(1)(iii) of this section apply.

(i) A failure is defined as any time in which the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached from the internal floating roof; or there are holes, tears, or other openings in the seal or seal fabric; or there are visible gaps between the seal and the wall of the storage vessel.

(ii) Except as provided in paragraph (d)(1)(iii) of this section, each Periodic Report shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made or the date the storage vessel was emptied.

(iii) If an extension is utilized in accordance with § 63.120(a)(4) of this subpart, the owner or operator shall, in the next Periodic Report, identify the vessel; include the documentation specified in § 63.120(a)(4) of this subpart; and describe the date the storage vessel was emptied and the nature of and date the repair was made.

(2) For vessels for which inspections are required under § 63.120 (a)(2)(ii), (a)(3)(i), or (a)(3)(iii) of this subpart, the specifications and requirements listed in paragraphs (d)(2)(i) and (d)(2)(ii) of this section apply.

(i) A failure is defined as any time in which the internal floating roof has defects; or the primary seal has holes, tears, or other openings in the seal or the seal fabric; or the secondary seal (if one has been installed) has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) Each Periodic Report required under § 63.152(c) of this subpart shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The Periodic Report shall also describe the nature of and date the repair was made.

(e) An owner or operator who elects to comply with § 63.119(c) of this subpart by using an external floating roof shall meet the periodic reporting requirements specified in paragraphs (e)(1), (e)(2), and (e)(3) of this section.

(1) The owner or operator shall submit, as part of the Periodic Report required under § 63.152(c) of this subpart, documentation of the results of each seal gap measurement made in accordance with § 63.120(b) of this subpart in which the requirements of § 63.120 (b)(3), (b)(4), (b)(5), or (b)(6) of this subpart are not met. This documentation shall include the information specified in paragraphs (e)(1)(i) through (e)(1)(iv) of this section.

(i) The date of the seal gap measurement.

(ii) The raw data obtained in the seal gap measurement and the calculations described in § 63.120 (b)(3) and (b)(4) of this subpart.

(iii) A description of any condition specified in § 63.120 (b)(5) or (b)(6) of this subpart that is not met.

(iv) A description of the nature of and date the repair was made, or the date the storage vessel was emptied.

(2) If an extension is utilized in accordance with § 63.120(b)(7)(ii) or (b)(8) of this subpart, the owner or operator shall, in the next Periodic Report, identify the vessel; include the documentation specified in § 63.120(b)(7)(ii) or (b)(8) of this sub-part, as applicable; and describe the date the vessel was emptied and the nature of and date the repair was made.

(3) The owner or operator shall submit, as part of the Periodic Report required under § 63.152(c) of this subpart, documentation of any failures that are identified during visual inspections required by § 63.120(b)(10) of this subpart. This documentation shall meet the specifications and requirements in paragraphs (e)(3)(i) and (e)(3)(ii) of this section.

(i) A failure is defined as any time in which the external floating roof has defects; or the primary seal has holes, or other openings in the seal or the seal fabric; or the secondary seal has holes, tears, or other openings in the seal or the seal fabric; or the gaskets no longer close off the liquid surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) Each Periodic Report required under § 63.152(c) of this subpart shall include the date of the inspection, identification of each storage vessel in which a failure was detected, and a description of the failure. The periodic report shall also describe the nature of and date the repair was made.

(f) An owner or operator who elects to comply with § 63.119(d) of this subpart by using an external floating roof converted to an internal floating roof shall comply with the periodic reporting requirements of paragraph (d) of this section.

(g) An owner or operator who elects to comply with § 63.119(e) of this subpart by installing a closed vent system and control device shall submit, as part of the next Periodic Report required by § 63.152(c) of this subpart, the information specified in paragraphs (g)(1) through (g)(3) of this section.

(1) As required by § 63.120(d)(4) and § 63.120(e)(3) of this subpart, the Periodic Report shall include the information specified in paragraphs (g)(1)(i) and (g)(1)(ii) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of § 63.119 (e)(1) or (e)(2) of this subpart, as applicable.

(i) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(ii) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of § 63.119 (e)(1) or (e)(2) of this sub-part, as applicable, due to planned routine maintenance.

(2) If a control device other than a flare is used, the Periodic Report shall describe each occurrence when the monitored parameters were outside of the parameter ranges documented in the Notification of Compliance Status in accordance with § 63.120(d)(3)(i) of this subpart. The description shall include the information specified in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(i) Identification of the control device for which the measured parameters were outside of the established ranges, and

(ii) Cause for the measured parameters to be outside of the established ranges.

(3) If a flare is used, the Periodic Report shall describe each occurrence when the flare does not meet the general control device requirements specified in § 63.11(b) of subpart A of this part and shall include the information specified in paragraphs (g)(3)(i) and (g)(3)(ii) of this section.

(i) Identification of the flare which does not meet the general requirements specified in § 63.11(b) of subpart A of this part, and (ii) Reason the flare did not meet the general requirements specified in § 63.11(b) of subpart A of this part.

(h) An owner or operator who elects to comply with § 63.119 (b), (c), or (d) of this subpart shall submit, as applicable, the reports specified in paragraphs (h)(1) and (h)(2) of this section.

(1) In order to afford the Administrator the opportunity to have an observer present, the owner or operator shall notify the Administrator of the refilling of a storage vessel that has been emptied and degassed.

(i) If the storage vessel is equipped with an internal floating roof as specified in § 63.119(b) of this subpart, the notification shall meet the requirements of either § 63.120 (a)(5) or (a)(6) of this subpart, as applicable.

(ii) If the storage vessel is equipped with an external floating roof as specified in § 63.119(c) of this subpart, the notification shall meet the requirements of either § 63.120 (b)(10)(ii) or (b)(10)(iii) of this subpart, as applicable.

(iii) If the storage vessel is equipped with an external floating roof converted into an internal floating roof as specified in § 63.119(d) of this subpart, the notification shall meet the requirements of either § 63.120 (a)(5) or (a)(6) of this subpart, as applicable.

(2) In order to afford the Administrator the opportunity to have an observer present, the owner or operator of a storage vessel equipped with an external floating roof as specified in § 63.119(c) of this subpart shall notify the Administrator of any seal gap measurements. This notification shall meet the requirements of § 63.120(b)(9) of this subpart.

§ 63.123 Storage vessel provisions—recordkeeping.

(a) Each owner or operator of a Group 1 or Group 2 storage vessel shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 1 or Group 2 status and is in operation. For each Group 2 storage vessel, the owner or operator is not required to comply with any other provisions of §§ 63.119 through 63.123 of this subpart other than those required by this paragraph unless such vessel is part of an emissions average as described in § 63.150 of this subpart.

(b) [Reserved]

(c) An owner or operator who elects to comply with § 63.119(b) of this subpart shall keep a record that each inspection required by § 63.120(a) of this subpart was performed.

(d) An owner or operator who elects to comply with § 63.119(c) of this subpart shall keep records describing the results of each seal gap measurement made in accordance with § 63.120(b) of this subpart. The records shall include the date of the measurement, the raw data obtained in the measurement, and the calculations described in § 63.120(b) (3) and (4) of this subpart.

(e) An owner or operator who elects to comply with § 63.119(d) of this subpart shall keep a record that each inspection required by § 63.120 (a) and (c) of this subpart was performed.

(f) An owner or operator who elects to comply with § 63.119(e) of this subpart shall keep in a readily accessible location the records specified in paragraphs (f)(1) and (f)(2) of this section.

(1) A record of the measured values of the parameters monitored in accordance with § 63.120(d)(5) of this subpart.

(2) A record of the planned routine maintenance performed on the control device including the duration of each time the control device does not meet the specifications of § 63.119 (e)(1) or (e)(2) of this subpart, as applicable, due to the planned routine maintenance. Such a record shall include the information specified in paragraphs (f)(2)(i) and (f)(2)(ii) of this section.

(i) The first time of day and date the requirements of § 63.119 (e)(1) or (e)(2) of this subpart, as applicable, were not met at the beginning of the planned routine maintenance, and

(ii) The first time of day and date the requirements of § 63.119 (e)(1) or (e)(2) of this subpart, as applicable, were met at the conclusion of the planned routine maintenance.

(g) An owner or operator who elects to utilize an extension in emptying a storage vessel in accordance with § 63.120 (a)(4), (b)(7)(ii), or (b)(8) of this subpart shall keep in a readily accessible location, the documentation specified in § 63.120 (a)(4), (b)(7)(ii), or (b)(8), as applicable.

(h) An owner or operator who uses the by-pass provisions of § 63.119(f)(3) of this subpart shall keep in a readily accessible location the records specified in paragraphs (h)(1) through (h)(3) of this section.

(1) The reason it was necessary to by-pass the process equipment or fuel gas system;

(2) The duration of the period when the process equipment or fuel gas system was by-passed;

(3) Documentation or certification of compliance with the applicable provisions of § 63.119(f)(3)(i) through § 63.119(f)(3)(iii).

§ 63.124–63.125 [Reserved]

§ 63.126 Transfer operations provisions—reference control technology.

(a) For each Group 1 transfer rack the owner or operator shall equip each transfer rack with a vapor collection system and control device.

(1) Each vapor collection system shall be designed and operated to collect the organic hazardous air pollutants vapors displaced from tank trucks or railcars during loading, and to route the collected hazardous air pollutants vapors to a process, or to a fuel gas system, or to a control device as provided in paragraph (b) of this section.

(2) Each vapor collection system shall be designed and operated such that organic HAP vapors collected at one loading arm will not pass through another loading arm in the rack to the atmosphere.

(3) Whenever organic hazardous air pollutants emissions are vented to a process, fuel gas system, or to a control device used to comply with the provisions of this subpart, the process, fuel gas system, or control device shall be operating.

(b) For each Group 1 transfer rack the owner or operator shall comply with paragraph (b)(1), (b)(2), (b)(3), or (b)(4) of this section.

(1) Use a control device to reduce emissions of total organic hazardous air pollutants by 98 weight-percent or to an exit concentration of 20 parts per million by volume, whichever is less stringent. For combustion devices, the emission reduction or concentration shall be calculated on a dry basis, corrected to 3-percent oxygen. If a boiler or process heater is used to comply with the percent reduction requirement, then the vent stream shall be introduced into the flame zone of such a device. Compliance may be achieved by using any combination of combustion, recovery, and/or recapture devices.

(2) Reduce emissions of organic HAPs using a flare.

(i) The flare shall comply with the requirements of § 63.11(b) of subpart A of this part.

(ii) Halogenated vent streams, as defined in § 63.111 of this subpart, shall not be vented to a flare.

(3) Reduce emissions of organic hazardous air pollutants using a vapor balancing system designed and operated to collect organic hazardous air pollutants vapors displaced from tank trucks or railcars during loading; and to route the collected hazardous air pollutants vapors to the storage vessel from which the liquid being loaded originated, or to another storage vessel connected to a common header, or to compress and route to a process collected hazardous air pollutants vapors.

(4) Route emissions of organic hazardous air pollutants to a fuel gas system or to a process where the organic hazardous air pollutants in the emissions shall predominantly meet one of, or a combination of, the ends specified in paragraphs (b)(4)(i) through (b)(4)(iv) of this section.

(i) Recycled and/or consumed in the same manner as a material that fulfills the same function in that process;

(ii) Transformed by chemical reaction into materials that are not organic hazardous air pollutants;

(iii) Incorporated into a product; and/or

(iv) Recovered.

(c) For each Group 2 transfer rack, the owner or operator shall maintain records as required in § 63.130(f). No other provisions for transfer racks apply to the Group 2 transfer rack.

(d) Halogenated emission streams from Group 1 transfer racks that are combusted shall be controlled according to paragraph (d)(1) or (d)(2) of this section. Determination of whether a vent stream is halogenated shall be made using procedures in (d)(3).

(1) If a combustion device is used to comply with paragraph (b)(1) of this section for a halogenated vent stream, then the vent stream exiting the combustion device shall be ducted to a halogen reduction device, including, but not limited to, a scrubber before it is discharged to the atmosphere.

(i) Except as provided in paragraph (d)(1)(ii) of this section, the halogen reduction device shall reduce overall emissions of hydrogen halides and halogens, as defined in § 63.111 of this subpart, by 99 percent or shall reduce the outlet mass emission rate of total hydrogen halides and halogens to 0.45 kilograms per hour or less, whichever is less stringent.

(ii) If a scrubber or other halogen reduction device was installed prior to December 31, 1992, the halogen reduction device shall reduce overall emissions of hydrogen halides and halogens, as defined in § 63.111 of this subpart, by 95 percent or shall reduce the outlet mass of total hydrogen halides and halogens to less than 0.45 kilograms per hour, whichever is less stringent.

(2) A halogen reduction device, such as a scrubber, or other technique may be used to make the vent stream non-halogenated by reducing the vent stream halogen atom mass emission rate to less than 0.45 kilograms per hour prior to any combustion control device used to comply with the requirements of paragraphs (b)(1) or (b)(2) of this section.

(3) In order to determine whether a vent stream is halogenated, the mass emission rate of halogen atoms contained in organic compounds shall be calculated.

(i) The vent stream concentration of each organic compound containing halogen atoms (parts per million by volume by compound) shall be determined based on the following procedures:

(A) Process knowledge that no halogen or hydrogen halides are present in the process, or

(B) Applicable engineering assessment as specified in § 63.115(d)(1)(iii) of this subpart, or

(C) Concentration of organic compounds containing halogens measured by Method 18 of 40 CFR part 60, appendix A, or

(D) Any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of this part.

(ii) The following equation shall be used to calculate the mass emission rate of halogen atoms:

$$E = K_2 V_s \left(\sum_{j=1}^{n} \sum_{i=1}^{m} C_j \times L_{ji} \times M_{ji} \right)$$

where:

E = Mass of halogen atoms, dry basis, kilograms per hour.

K_2 = Constant, 2.494×10^{-6} (parts per million)$^{-1}$ (kilogram-mole per standard cubic meter) (minute/hour), where standard temperature is 20 °C.

C_j = Concentration of halogenated compound j in the gas stream, dry basis, parts per million by volume.

M_{ji} = Molecular weight of halogen atom i in compound j of the gas stream, kilogram per kilogram-mole.

L_{ji} = Number of atoms of halogen i in compound j of the gas stream.

V_s = Flow rate of gas stream, dry standard cubic meters per minute, determined according to § 63.128(a)(8) of this subpart.

j = Halogenated compound j in the gas stream.

i = Halogen atom i in compound j of the gas stream.

n = Number of halogenated compounds j in the gas stream.

m = Number of different halogens i in each compound j of the gas stream.

(e) For each Group 1 transfer rack the owner or operator shall load organic HAPs into only tank trucks and railcars which:

(1) Have a current certification in accordance with the U. S. Department of Transportation pressure test requirements of 49 CFR part 180 for tank trucks and 49 CFR 173.31 for railcars; or

(2) Have been demonstrated to be vapor-tight within the preceding 12 months, as determined by the procedures in § 63.128(f) of this subpart. Vapor-tight means that the truck or railcar tank will sustain a pressure change of not more than 750 pascals within 5 minutes after it is pressurized to a minimum of 4,500 pascals.

(f) The owner or operator of a transfer rack subject to the provisions of this subpart shall load organic HAPs to only tank trucks or railcars equipped with vapor collection equipment that is compatible with the transfer rack's vapor collection system.

(g) The owner or operator of a transfer rack subject to this subpart shall load organic HAPs to only tank trucks or railcars whose collection systems are connected to the transfer rack's vapor collection systems.

(h) The owner or operator of a transfer rack subject to the provisions of this subpart shall ensure that no pressure-relief device in the transfer rack's vapor collection system or in the organic hazardous air pollutants loading equipment of each tank truck or railcar shall begin to open during loading. Pressure relief devices needed for safety purposes are not subject to this paragraph.

(i) Each valve in the vent system that would divert the vent stream to the atmosphere, either directly or indirectly, shall be secured in a non-diverting position using a car-seal or a lock-and-key type configuration, or shall be equipped with a flow indicator. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief devices needed for safety purposes are not subject to this paragraph.

§ 63.127 Transfer operations provisions—monitoring requirements.

(a) Each owner or operator of a Group 1 transfer rack equipped with a combustion device used to comply with the 98 percent total organic hazardous air pollutants reduction or 20 parts per million by volume outlet concentration requirements in § 63.126(b)(1) of this subpart shall install, calibrate, maintain, and operate according to the manufacturers' specifications (or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately) the monitoring equipment specified in paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section, as appropriate.

(1) Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required.

(i) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

(ii) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

(2) Where a flare is used, a device (including but not limited to a thermocouple, infrared sensor, or an ultra-violet beam sensor) capable of continuously detecting the presence of a pilot flame is required.

(3) Where a boiler or process heater with a design heat input capacity less than 44 megawatts is used, a temperature monitoring device in the firebox equipped with a continuous recorder is required. Any boiler or process heater in which all vent streams are introduced with the primary fuel or are used as the primary fuel is exempt from this requirement.

(4) Where a scrubber is used with an incinerator, boiler, or process heater in the case of halogenated vent streams, the following monitoring equipment is required for the scrubber:

(i) A pH monitoring device equipped with a continuous recorder shall be installed to monitor the pH of the scrubber effluent.

(ii) A flow meter equipped with a continuous recorder shall be located at the scrubber influent for liquid flow. Gas stream flow shall be determined using one of the procedures specified in paragraphs (a)(4)(ii)(A) through (a)(4)(ii)(C) of this section.

(A) The owner or operator may determine gas stream flow using the design blower capacity, with appropriate adjustments for pressure drop.

(B) If the scrubber is subject to regulations in 40 CFR parts 264 through 266 that have required a determination of the liquid to gas (L/G) ratio prior to the applicable compliance date for this subpart specified in § 63.100(k) of subpart F of this part, the owner or operator may determine gas stream flow by the method that had been utilized to comply with those regulations. A determination that was conducted prior to the compliance date for this subpart may be utilized to comply with this subpart if it is still representative.

(C) The owner or operator may prepare and implement a gas stream flow determination plan that documents an appropriate method which will be used to determine the gas stream flow. The plan shall require determination of gas stream flow by a method which will at least provide a value for either a representative or the highest gas stream flow anticipated in the scrubber during representative operating conditions other than startups, shutdowns, or malfunctions. The plan shall include a description of the methodology to be followed and an explanation of how the selected methodology will reliably determine the gas stream flow, and a description of the records that will be maintained to document the determination of gas stream flow. The owner or operator shall maintain the plan as specified in § 63.103(c).

(b) Each owner or operator of a Group 1 transfer rack that uses a recovery device to comply with the 98 percent organic hazardous air pollutants reduction or 20 parts per million by volume hazardous air pollutants concentration requirements in § 63.126(b)(1) of this subpart shall install either an organic monitoring device equipped with a continuous recorder, or the monitoring equipment specified in paragraph (b)(1), (b)(2), or (b)(3) of this section, depending on the type of recovery device used. All monitoring equipment shall be installed, calibrated, and maintained according to the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(1) Where an absorber is used, a scrubbing liquid temperature monitoring device equipped with a continuous recorder shall be used; and a specific gravity monitoring device equipped with a continuous recorder shall be used.

(2) Where a condenser is used, a condenser exit (product side) temperature monitoring device equipped with a continuous recorder shall be used.

(3) Where a carbon adsorber is used, an integrating regeneration stream flow monitoring device having an accuracy of ±10 percent or better, capable of recording the total regeneration stream mass flow for each regeneration cycle; and a carbon bed temperature monitoring device, capable of recording the temperature of the carbon bed after regeneration and within 15 minutes of completing any cooling cycle shall be used.

(c) An owner or operator of a Group 1 transfer rack may request approval to monitor parameters other than those listed in paragraph (a) or (b) of this section. The request shall be submitted according to the procedures specified in § 63.151(f) or § 63.152(e) of this subpart. Approval shall be requested if the owner or operator:

(1) Seeks to demonstrate compliance with the standards specified in § 63.126(b) of this subpart with a control device other than an incinerator, boiler, process heater, flare, absorber, condenser, or carbon adsorber; or

(2) Uses one of the control devices listed in paragraphs (a) and (b) of this section, but seeks to monitor a parameter other than those specified in paragraphs (a) and (b) of this subpart.

(d) The owner or operator of a Group 1 transfer rack using a vent system that contains by-pass lines that could divert a vent stream flow away from the control device used to comply with § 63.126(b) of this subpart shall

comply with paragraph (d)(1) or (d)(2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(1) Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in § 63.130(b) of this subpart. The flow indicator shall be installed at the entrance to any by-pass line that could divert the vent stream away from the control device to the atmosphere; or

(2) Secure the by-pass line valve in the closed position with a car-seal or a lock-and-key type configuration.

(i) A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the by-pass line.

(ii) If a car-seal has been broken or a valve position changed, the owner or operator shall record that the vent stream has been diverted. The car-seal or lock-and-key combination shall be returned to the secured position as soon as practicable but not later than 15 calendar days after the change in position is detected.

(e) The owner or operator shall establish a range that indicates proper operation of the control device for each parameter monitored under paragraphs (a), (b), and (c) of this section. In order to establish the range, the information required in § 63.152(b)(2) of this subpart shall be submitted in the Notification of Compliance Status or the operating permit application or amendment.

§ 63.128 Transfer operations provisions - test methods and procedures.

(a) A performance test is required for determining compliance with the reduction of total organic HAP emissions in § 63.126(b) of this subpart for all control devices except as specified in paragraph (c) of this section. Performance test procedures are as follows:

(1) For control devices shared between transfer racks and process vents, the performance test procedures in § 63.116(c) of this subpart shall be followed.

(2) A performance test shall consist of three runs.

(3) All testing equipment shall be prepared and installed as specified in the appropriate test methods.

(4) For control devices shared between multiple arms that load simultaneously, the minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15-minute intervals during the run.

(5) For control devices that are capable of continuous vapor processing but do not meet the conditions in (a)(7)(i)(B) of this section.

(A) Sampling sites shall be located at the inlet and outlet of the control device, except as provided in paragraph (a)(7)(i)(B) of this section.

(B) If a vent stream is introduced with the combustion air or as a secondary fuel into a boiler or process heater with a design capacity less than 44 megawatts, selection of paragraph (a)(1) or (a)(4) of this section, each run shall represent at least one complete filling period, during which liquid organic HAPs are loaded, and samples shall be collected using integrated sampling or grab samples taken at least four times per hour at approximately equal intervals of time, such as 15-minute intervals.

(6) For intermittent vapor processing systems that do not meet the conditions in paragraph (a)(1) or (a)(4) of this section, each run shall represent at least one complete control device cycle, and samples shall be collected using integrated sampling or grab samples taken at least four times per hour at approximately equal intervals of time, such as 15-minute intervals.

(7) Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of sampling sites.

(i) For an owner or operator complying with the 98-percent total organic HAP reduction requirements in § 63.126(b)(1) of this subpart, sampling sites shall be located as specified in paragraph (a)(7)(i)(A) or (a)(7)(i)(B) of this section.

(A) Sampling sites shall be located at the inlet and outlet of the control device, except as provided in paragraph (a)(7)(i)(B) of this section.

(B) If a vent stream is introduced with the combustion air or as a secondary fuel into a boiler or process heater with a design capacity less than 44 megawatts, selection of the location of the inlet sampling sites shall ensure the measurement of total organic HAP or TOC (minus methane and ethane) concentrations in all vent streams and primary and secondary fuels introduced into the boiler or process heater. A sampling site shall also be located at the outlet of the boiler or process heater.

(ii) For an owner or operator complying with the 20 parts per million by volume limit in § 63.126(b)(1) of this subpart, the sampling site shall be located at the outlet of the control device.

(8) The volumetric flow rate, in standard cubic meters per minute at 20 °C, shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A as appropriate.

(9) For the purpose of determining compliance with the 20 parts per million by volume limit in § 63.126(b)(1), Method 18 or Method 25A of 40 CFR part 60, appendix A shall be used to measure either organic compound concentration or organic HAP concentration, except as provided in paragraph (a)(11) of this section.

(i) If Method 25A of 40 CFR part 60, appendix A is used, the following procedures shall be used to calculate the concentration of organic compounds (CT):

(A) The principal organic HAP in the vent stream shall be used as the calibration gas.

(B) The span value for Method 25A of 40 CFR part 60, appendix A shall be between 1.5 and 2.5 times the concentration being measured.

(C) Use of Method 25A of 40 CFR part 60, appendix A is acceptable if the response from the high-level calibration gas is at least 20 times the standard deviation of the response from the zero calibration gas when the instrument is zeroed on the most sensitive scale.

(D) The concentration of TOC shall be corrected to 3 percent oxygen using the procedures and equation in paragraph (a)(9)(v) of this section.

(ii) If Method 18 of 40 CFR part 60, appendix A is used to measure the concentration of organic compounds, the organic compound concentration (C_T) is the sum of the individual components and shall be computed for each run using the following equation:

$$C_T = \sum_{j=1}^{n} C_j$$

where:

C_T = Total concentration of organic compounds (minus methane and ethane), dry basis, parts per million by volume.

C_j = Concentration of sample components j, dry basis, parts per million by volume.

n = Number of components in the sample.

(iii) If an owner or operator uses Method 18 of 40 CFR part 60, appendix A to compute total organic HAP concentration rather than organic compounds concentration, the equation in paragraph (a)(9)(ii) of this section shall be used except that only organic HAP species shall be summed. The list of organic HAPs is provided in table 2 of subpart F of this part.

(iv) The emission rate correction factor or excess air, integrated sampling and analysis procedures of Method 3B of 40 CFR part 60, appendix A shall be used to determine the oxygen concentration. The sampling site shall be the same as that of the organic hazardous air pollutants or organic compound samples, and the samples shall be taken during the same time that the organic hazardous air pollutants or organic compound samples are taken.

(v) The organic compound concentration corrected to 3 percent oxygen (Cc) shall be calculated using the following equation:

$$C_c = C_T \left(\frac{17.9}{(20.9 - \%O_{2d})} \right)$$

C_c = Concentration of organic compounds corrected to 3 percent oxygen, dry basis, parts per million by volume.
C_T = Total concentration of organic compounds, dry basis, parts per million by volume.
$\%O_{2d}$ = Concentration of oxygen, dry basis, percent by volume.

(10) For the purpose of determining compliance with the 98-percent reduction requirement in § 63.126(b)(1) of this subpart, Method 18 or Method 25A of 40 CFR part 60, appendix A shall be used, except as provided in paragraph (a)(11) of this section.

(i) For the purpose of determining compliance with the reduction efficiency requirement, organic compound concentration may be measured in lieu of organic HAP concentration.

(ii) If Method 25A of 40 CFR part 60, appendix A is used to measure the concentration of organic compounds (CT), the principal organic HAP in the vent stream shall be used as the calibration gas.

(A) An emission testing interval shall consist of each 15-minute period during the performance test. For each interval, a reading from each measurement shall be recorded.

(B) The average organic compound concentration and the volume measurement shall correspond to the same emissions testing interval.

(C) The mass at the inlet and outlet of the control device during each testing interval shall be calculated as follows:

$$M_j = FKV_sC_T$$

where:
M_j = Mass of organic compounds emitted during testing interval j, kilograms.
V_s = Volume of air-vapor mixture exhausted at standard conditions, 20 °C and 760 millimeters mercury, standard cubic meters.
C_T = Total concentration of organic compounds (as measured) at the exhaust vent, parts per million by volume, dry basis.
K = Density, kilograms per standard cubic meter organic HAP. 659 kilograms per standard cubic meter organic HAP. (Note: The density term cancels out when the percent reduction is calculated. Therefore, the density used has no effect. The density of hexane is given so that it can be used to maintain the units of Mj.)
$F = 10^{-6}$ = Conversion factor, (cubic meters organic HAP per cubic meters air) * (parts per million by volume)$^{-1}$.

(D) The organic compound mass emission rates at the inlet and outlet of the control device shall be calculated as follows:

$$E_i = \frac{\sum_{j=1}^{n} Mi_j}{T} \qquad E_o = \frac{\sum_{j=1}^{n} M_{oj}}{T}$$

where:
E_i, E_o = Mass flow rate of organic compounds at the inlet (i) and outlet (o) of the combustion or recovery device, kilograms per hour.
M_{ij}, M_{oj} = Mass of organic compounds at the inlet (i) or outlet (o) during testing interval j, kilograms.
T = Total time of all testing intervals, hours.
n = Number of testing intervals.

(iii) If Method 18 of 40 CFR part 60, appendix A is used to measure organic compounds, the mass rates of organic compounds (Ei, Eo) shall be computed using the following equations:

$$E_i = K_2\left(\sum_{j=1}^{n} C_{ij}MW_{ij}\right)Q_i \qquad E_o = K_2\left(\sum_{j=1}^{n} C_{oj}MW_{oj}\right)Q_o$$

where:

C_{ij}, C_{oj} = Concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, dry basis, parts per million by volume.

MW_{ij}, MW_{oj} = Molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.

Q_i, Q_o = Flow rate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

K_2 = Constant, 2.494×10^{-6} (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature for (gram-mole per standard cubic meter) is 20 °C.

(iv) Where Method 18 or 25A of 40 CFR part 60, appendix A is used to measure the percent reduction in organic compounds, the percent reduction across the control device shall be calculated as follows:

$$R = \frac{E_i - E_o}{E_i}(100)$$

where:

R = Control efficiency of control device, percent.

E_i = Mass emitted or mass flow rate of organic compounds at the inlet to the combustion or recovery device as calculated under paragraph (a)(10)(ii)(D) or (a)(10)(iii) of this section, kilogram per hour.

E_o = Mass emitted or mass flow rate of organic compounds at the outlet of the combustion or recovery device, as calculated under paragraph (a)(10)(ii)(D) or (a)(10)(iii) of this section, kilogram per hour.

(11) The owner or operator may use any methods or data other than Method 18 or Method 25A of 40 CFR part 60, appendix A, if the method or data has been validated according to Method 301 of appendix A of this part.

(b) When a flare is used to comply with § 63.126(b)(2), the owner or operator shall comply with paragraphs (b)(1) through (3) of this section. The owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration.

(1) Conduct a visible emission test using the techniques specified in § 63.11(b)(4). The observation period shall be as specified in paragraph (b)(1)(i) or (ii) of this section instead of the 2-hour period specified in § 63.11(b)(4).

(i) If the loading cycle is less than 2 hours, then the observation period for that run shall be for the entire loading cycle.

(ii) If additional loading cycles are initiated within the 2-hour period, then visible emission observations shall be conducted for the additional cycles.

(2) Determine the net heating value of the gas being combusted, using the techniques specified in § 63.11(b)(6).

(3) Determine the exit velocity using the techniques specified in either § 63.11(b)(7)(i) (and § 63.11(b)(7)(iii), where applicable) or § 63.11(b)(8), as appropriate.

(c) An owner or operator is not required to conduct a performance test when any of the conditions specified in paragraphs (c)(1) through (c)(7) of this section are met.

(1) When a boiler or process heater with a design heat input capacity of 44 megawatts or greater is used.

(2) When a boiler or process heater burning hazardous waste is used for which the owner or operator:

(i) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H, or

(ii) Has certified compliance with the interim status requirements of 40 CFR part 266 subpart H.

(3) When emissions are routed to a fuel gas system or when a boiler or process heater is used and the vent stream is introduced with the primary fuel.

(4) When a vapor balancing system is used.

(5) When emissions are recycled to a chemical manufacturing process unit.

(6) When a transfer rack transfers less than 11.8 million liters per year and the owner or operator complies with the requirements in paragraph (h) of this section or uses a flare to comply with § 63.126(b)(2) of this subpart.

(7) When a hazardous waste incinerator is used for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

(d) An owner or operator using a combustion device followed by a scrubber or other halogen reduction device to control a halogenated transfer vent stream in compliance with § 63.126(d) of this subpart shall conduct a performance test to determine compliance with the control efficiency or emission limits for hydrogen halides and halogens.

(1) For an owner or operator determining compliance with the percent reduction of total hydrogen halides and halogens, sampling sites shall be located at the inlet and outlet of the scrubber or other control device used to reduce halogen emissions. For an owner or operator complying with the 0.45 kilograms per hour outlet mass emission rate limit for total hydrogen halides and halogens, the sampling site shall be located at the outlet of the scrubber or other halogen reduction device and prior to release to the atmosphere.

(2) Except as provided in paragraph (d)(5) of this section, Method 26 or 26A of 40 CFR part 60, appendix A, shall be used to determine the concentration in milligrams per dry standard cubic meter of the hydrogen halides and halogens that may be present in the stream. The mass emission rate of each hydrogen halide and halogen compound shall be calculated from the concentrations and the gas stream flow rate.

(3) To determine compliance with the percent emissions reduction limit, the mass emission rate for any hydrogen halides and halogens present at the scrubber inlet shall be summed together. The mass emission rate of the compounds present at the scrubber outlet shall be summed together. Percent reduction shall be determined by comparison of the summed inlet and outlet measurements.

(4) To demonstrate compliance with the 0.45 kilograms per hour mass emission rate limit, the test results must show that the mass emission rate of the total hydrogen halides and halogens measured at the scrubber outlet is below 0.45 kilograms per hour.

(5) The owner or operator may use any other method or data to demonstrate compliance if the method or data has been validated according to the protocol of Method 301 of appendix A of this part.

(e) The owner or operator shall inspect the vapor collection system and vapor balancing system, according to the requirements for vapor collection systems in § 63.148 of this subpart.

(1) Inspections shall be performed only while a tank truck or railcar is being loaded.

(2) For vapor collection systems only, an inspection shall be performed prior to each performance test required to demonstrate compliance with § 63.126(b)(1) of this subpart.

(3) For each vapor collection system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.148 of this subpart.

(f) For the purposes of demonstrating vapor tightness to determine compliance with § 63.126(e)(2) of this subpart, the following procedures and equipment shall be used:

(1) The pressure test procedures specified in Method 27 of 40 CFR part 60, appendix A; and

(2) A pressure measurement device which has a precision of ±2.5 millimeters of mercury or better and which is capable of measuring above the pressure at which the tank truck or railcar is to be tested for vapor tightness.

(g) An owner or operator using a scrubber or other halogen reduction device to reduce the vent stream halogen atom mass emission rate to less than 0.45 kilograms per hour prior to a combustion device used to comply with § 63.126(d)(2) shall determine the halogen atom mass emission rate prior to the combustor according to the procedures in paragraph (d)(3) of this section.

(h) For transfer racks that transfer less than 11.8 million liters per year of liquid organic HAPs, the owner or operator may comply with the requirements in paragraphs (h)(1) through (h)(3) of this section instead of the requirements in paragraph (a) or (b) of this section.

(1) The owner or operator shall prepare, as part of the Notification of Compliance Status required by § 63.152(b) of this subpart, a design evaluation that shall document that the control device being used achieves the required control efficiency during reasonably expected maximum loading conditions. This documentation is to include a description of the gas stream which enters the control device, including flow and organic HAP content, and the information specified in paragraphs (h)(1)(i) through (h)(1)(v) of this section, as applicable.

(i) If the control device receives vapors, gases, or liquids, other than fuels, from emission points other than transfer racks subject to this subpart, the efficiency demonstration is to include consideration of all vapors, gases, and liquids, other than fuels, received by the control device.

(ii) If an enclosed combustion device with a minimum residence time of 0.5 seconds and a minimum temperature of 760 degrees Celsius is used to meet the 98-percent emission reduction requirement, documentation that those conditions exist is sufficient to meet the requirements of paragraph (h)(1) of this section.

(iii) Except as provided in paragraph (h)(1)(ii) of this section, for thermal incinerators, the design evaluation shall include the autoignition temperature of the organic HAP, the flow rate of the organic HAP emission stream, the combustion temperature, and the residence time at the combustion temperature.

(iv) For carbon adsorbers, the design evaluation shall include the affinity of the organic HAP vapors for carbon, the amount of carbon in each bed, the number of beds, the humidity of the feed gases, the temperature of the feed gases, the flow rate of the organic HAP emission stream, the desorption schedule, the regeneration stream pressure or temperature, and the flow rate of the regeneration stream. For vacuum desorption, pressure drop shall be included.

(v) For condensers, the design evaluation shall include the final temperature of the organic HAP vapors, the type of condenser, and the design flow rate of the organic HAP emission stream.

(2) The owner or operator shall submit, as part of the Notification of Compliance Status required by § 63.152(b) of this subpart, the operating range for each monitoring parameter identified for each control device. The specified operating range shall represent the conditions for which the control device can achieve the 98-percent-or-greater emission reduction required by § 63.126(b)(1) of this subpart.

(3) The owner or operator shall monitor the parameters specified in the Notification of Compliance Status required in § 63.152(b) of this subpart or operating permit and shall operate and maintain the control device such that the monitored parameters remain within the ranges specified in the Notification of Compliance Status, except as provided in §§ 63.152(c) and 63.152(f) of this subpart.

§ 63.129 Transfer operations provisions - reporting and recordkeeping for performance tests and notification of compliance status.

(a) Each owner or operator of a Group 1 transfer rack shall:

(1) Keep an up-to-date, readily accessible record of the data specified in paragraphs (a)(4) through (a)(8) of this section, as applicable.

(2) Include the data specified in paragraphs (a)(4) through (a)(7) of this section in the Notification of Compliance Status report as specified in § 63.152(b) of this subpart.

(3) If any subsequent performance tests are conducted after the Notification of Compliance Status has been submitted, report the data in paragraphs (a)(4) through (a)(7) of this section in the next Periodic Report as specified in § 63.152(c) of this subpart.

(4) Record and report the following when using a control device other than a flare to achieve a 98 weight percent reduction in total organic HAP or a total organic HAP concentration of 20 parts per million by volume, as specified in § 63.126(b)(1) of this subpart:

(i) The parameter monitoring results for thermal incinerators, catalytic incinerators, boilers or process heaters, absorbers, condensers, or carbon adsorbers specified in table 7 of this subpart, recorded during the performance test, and averaged over the time period of the performance testing.

(ii) The percent reduction of total organic HAP or TOC achieved by the control device determined as specified in § 63.128(a) of this subpart, or the concentration of total organic HAP or TOC (parts per million by volume, by compound) determined as specified in § 63.128(a) of this subpart at the outlet of the control device. For combustion devices, the concentration shall be reported on a dry basis corrected to 3-percent oxygen.

(iii) The parameters shall be recorded at least every 15 minutes.

(iv) For a boiler or process heater, a description of the location at which the vent stream is introduced into the boiler or process heater.

(5) Record and report the following when using a flare to comply with § 63.126(b)(2) of this subpart:

(i) Flare design (i.e., steam-assisted, air-assisted, or non-assisted);

(ii) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by § 63.128(b) of this subpart; and

(iii) All periods during the compliance determination when the pilot flame is absent.

(6) Record and report the following when using a scrubber following a combustion device to control a halogenated vent stream, as specified in § 63.126(d) of this subpart:

(i) The percent reduction or scrubber outlet mass emission rate of total hydrogen halides and halogens determined according to the procedures in § 63.128(d) of this subpart;

(ii) The parameter monitoring results for scrubbers specified in table 7 of this subpart, and averaged over the time period of the performance test; and

(iii) The parameters shall be recorded at least every 15 minutes.

(7) Record and report the halogen concentration in the vent stream determined according to the procedures as specified in § 63.128(d) of this subpart.

(8) Report that the emission stream is being routed to a fuel gas system or a process, when complying using § 63.126(b)(4).

(b) If an owner or operator requests approval to use a control device other than those listed in table 7 of this subpart or to monitor a parameter other than those specified in table 7 of this subpart, the owner or operator shall submit a description of planned reporting and recordkeeping procedures as required under § 63.151(f) or § 63.152(e) of this subpart. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means.

(c) For each parameter monitored according to table 7 of this subpart or paragraph (b) of this section, the owner or operator shall establish a range for the parameter that indicates proper operation of the control device. In order to establish the range, the information required in § 63.152(b)(2) of this subpart shall be submitted in the Notification of Compliance Status or the operating permit application or amendment.

(d) Each owner or operator shall maintain a record describing in detail the vent system used to vent each affected transfer vent stream to a control device. This document shall list all valves and vent pipes that could vent the stream to the atmosphere, thereby by-passing the control device; identify which valves are secured by car-seals or lock-and-key type configurations; and indicate the position (open or closed) of those valves which have car-seals. Equipment leaks such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(e) An owner or operator meeting the requirements of § 63.128(h) of this subpart shall submit, as part of the Implementation Plan required by § 63.151(c) of this subpart, the information specified in § 63.128(h)(1) of this subpart.

(f) An owner or operator meeting the requirements of § 63.128(h) of this subpart shall submit, as part of the Notification of Compliance Status required by § 63.152(b) of this subpart, the operating range for each monitoring parameter identified for each control device.

§ 63.130 Transfer operations provisions - periodic recordkeeping and reporting.

(a) Each owner or operator using a control device to comply with § 63.126(b)(1) or (b)(2) of this subpart shall keep the following up-to-date, readily accessible records:

(1) While the transfer vent stream is being vented to the control device, continuous records of the equipment operating parameters specified to be monitored under § 63.127 of this subpart, and listed in table 7 of this subpart or specified by the Administrator in accordance with §§ 63.127(c) and 63.129(b). For flares, the hourly records and records of pilot flame outages specified in table 7 shall be maintained in place of continuous records.

(2) Records of the daily average value of each monitored parameter for each operating day determined according to the procedures specified in § 63.152(f), except as provided in paragraphs (a)(2)(i) through (a)(2)(iii) of this section.

(i) For flares, records of the times and duration of all periods during which the pilot flame is absent shall be kept rather than daily averages.

(ii) If carbon adsorber regeneration stream flow and carbon bed regeneration temperature are monitored, the records specified in table 7 of this subpart shall be kept instead of the daily averages.

(iii) Records of the duration of all periods when the vent stream is diverted through by-pass lines shall be kept rather than daily averages.

(3) For boilers or process heaters, records of any changes in the location at which the vent stream is introduced into the flame zone as required under the reduction of total organic HAP emissions in § 63.126(b)(1) of this subpart.

(b) If a vapor collection system containing valves that could divert the emission stream away from the control device is used, each owner or operator of a Group 1 transfer rack subject to the provisions of § 63.127(d) of this subpart shall keep up-to-date, readily accessible records of:

(1) Hourly records of whether the flow indicator specified under § 63.127(d)(1) was operating and whether a diversion was detected at any time during the hour, as well as records of the times durations of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(2) Where a seal mechanism is used to comply with § 63.127(d)(2), hourly records of flow are not required. In such cases, the owner or operator shall record that the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence of all periods when the seal mechanism is broken, the by-pass line valve position has changed, or the key for a lock-and-key type lock has been checked out, and records of any car-seal that has broken, as listed in table 7 of this subpart.

(c) Each owner or operator of a Group 1 transfer rack who uses a flare to comply with § 63.126(b)(2) of this subpart shall keep up-to-date, readily accessible records of the flare pilot flame monitoring specified under § 63.127(a)(2) of this subpart.

(d) Each owner or operator of a transfer rack subject to the requirements of § 63.126 of this subpart shall submit to the Administrator Periodic Reports of the following information according to the schedule in § 63.152(c) of this subpart:

(1) Reports of daily average values of monitored parameters for all operating days when the daily average values were outside the range established in the Notification of Compliance Status or operating permit.

(2) Reports of the duration of periods when monitoring data are not collected for each excursion caused by insufficient monitoring data as defined in § 63.152(c)(2)(ii)(A) of this subpart.

(3) Reports of the times and durations of all periods recorded under paragraph (b)(1) of this section when the vent stream was diverted from the control device.

(4) Reports of all times recorded under paragraph (b)(2) of this section when maintenance is performed on car-sealed valves, when the car-seal is broken, when the by-pass line valve position is changed, or the key for a lock-and-key type configuration has been checked out.

(5) Reports of the times and durations of all periods recorded under paragraph (a)(2)(i) of this section in which all pilot flames of a flare were absent.

(6) Reports of all carbon bed regeneration cycles during which the parameters recorded under paragraph (a)(2)(vi) of this section were outside the ranges established in the Notification of Compliance Status or operating permit.

(e) The owner or operator of a Group 1 transfer rack shall record that the verification of DOT tank certification or Method 27 testing, required in § 63.126(e) of this subpart, has been performed. Various methods for the record of verification can be used, such as: A check off on a log sheet; a list of DOT serial numbers or Method 27 data; or a position description for gate security, showing that the security guard will not allow any trucks on site that do not have the appropriate documentation.

(f) Each owner or operator of a Group 1 or Group 2 transfer rack shall record, update annually, and maintain the information specified in paragraphs (f)(1) through (f)(3) of this section in a readily accessible location on site:

(1) An analysis demonstrating the design and actual annual throughput of the transfer rack;

(2) An analysis documenting the weight-percent organic HAPs in the liquid loaded. Examples of acceptable documentation include but are not limited t analyses of the material and engineering calculations.

(3) An analysis documenting the annual rack weighted average HAP partial pressure of the transfer rack.

(i) For Group 2 transfer racks that are limited to transfer of organic HAPs with partial pressures less than 10.3 kilopascals, documentation is required of the organic HAPs (by compound) that are transferred. The rack weighted average partial pressure does not need to be calculated.

(ii) For racks transferring one or more organic HAPs with partial pressures greater than 10.3 kilopascals, as well as one or more organic HAPs with partial pressures less than 10.3 kilopascals, a rack weighted partial pressure shall be documented. The rack weighted average HAP partial pressure shall be weighted by the annual through-put of each chemical transferred.

§ 63.131 [Reserved]

§ 63.132 Process wastewater provisions - general.

(a) *Existing sources*. This paragraph specifies the requirements applicable to process wastewater streams located at existing sources. The owner or operator shall comply with the requirements in paragraphs (a)(1) through (a)(3) of this section, no later than the applicable dates specified in § 63.100 of subpart F of this part.

(1) *Determine wastewater streams to be controlled for Table 9 compounds*. Determine whether each wastewater stream requires control for Table 9 compounds by complying with the requirements in either paragraph (a)(1)(i) or (a)(1)(ii) of this section, and comply with the requirements in paragraph (a)(1)(iii) of this section.

(i) Comply with paragraph (c) of this section, determining whether the wastewater stream is Group 1 or Group 2 for Table 9 compounds; or

(ii) Comply with paragraph (e) of this section, designating the wastewater stream as a Group 1 wastewater stream.

(iii) Comply with paragraph (f) of this section.

(2) *Requirements for Group 1 wastewater streams*. For wastewater streams that are Group 1 for Table 9 compounds, comply with paragraphs (a)(2)(i) through (a)(2)(iv) of this section.

(i) Comply with the applicable requirements for wastewater tanks, surface impoundments, containers, individual drain systems, and oil/water separators as specified in § 63.133 through § 63.137 of this subpart, except as provided in paragraphs (a)(2)(i)(A) and (a)(2)(i)(B) of this section and § 63.138(a)(3) of this subpart.

(A) The waste management units may be equipped with pressure relief devices that vent directly to the atmosphere provided the pressure relief device is not used for planned or routine venting of emissions.

(B) The pressure relief device remains in a closed position at all times except when it is necessary for the pressure relief device to open for the purpose of preventing physical damage or permanent deformation of the waste management unit in accordance with good engineering and safety practices.

(ii) Comply with the applicable requirements for control of Table 9 compounds as specified in § 63.138 of this subpart. Alternatively, the owner or operator may elect to comply with the treatment provisions specified in § 63.132(g) of this subpart.

(iii) Comply with the applicable monitoring and inspection requirements specified in § 63.143 of this subpart.

(iv) Comply with the applicable recordkeeping and reporting requirements specified in §§ 63.146 and 63.147 of this subpart.

(3) *Requirements for Group 2 wastewater streams*. For wastewater streams that are Group 2 for table 9 compounds, comply with the applicable recordkeeping and reporting requirements specified in §§ 63.146(b)(1) and 63.147(b)(8).

(b) *New sources*. This paragraph specifies the requirements applicable to process wastewater streams located at new sources. The owner or operator shall comply with the requirements in paragraphs (b)(1) through (b)(4) of this section, no later than the applicable dates specified in § 63.100 of subpart F of this part.

(1) *Determine wastewater streams to be controlled for Table 8 compounds*. Determine whether each wastewater stream requires control for Table 8 compounds by complying with the requirements in either paragraph (b)(1)(i) or (b)(1)(ii) of this section, and comply with the requirements in paragraph (b)(1)(iii) of this section.

(i) Comply with paragraph (d) of this section, determining whether the wastewater stream is Group 1 or Group 2 for Table 8 compounds; or

(ii) Comply with paragraph (e) of this section, designating the wastewater stream as a Group 1 wastewater stream for Table 8 compounds.

(iii) Comply with paragraph (f) of this section.

(2) *Determine wastewater streams to be controlled for Table 9 compounds*. Determine whether each wastewater stream requires control for Table 9 compounds by complying with the requirements in either paragraph (b)(2)(i) or (b)(2)(ii) of this section, and comply with the requirements in paragraph (b)(2)(iii) of this section.

(i) Comply with paragraph (c) of this section, determining whether the wastewater stream is Group 1 or Group 2 for Table 9 compounds; or

(ii) Comply with paragraph (e) of this section, designating the wastewater stream as a Group 1 wastewater stream.

(iii) Comply with paragraph (f) of this section.

(3) *Requirements for Group 1 wastewater streams*. For wastewater streams that are Group 1 for Table 8 compounds and/or Table 9 compounds, comply with paragraphs (b)(3)(i) through (b)(3)(iv) of this section.

(i) Comply with the applicable requirements for wastewater tanks, surface impoundments, containers, individual drain systems, and oil/water separators specified in the requirements of § 63.133 through § 63.137 of this subpart, except as provided in paragraphs (b)(3)(i)(A) and (b)(3)(i)(B) of this section and § 63.138(a)(3) of this subpart.

(A) The waste management units may be equipped with pressure relief devices that vent directly to the atmosphere provided the pressure relief device is not used for planned or routine venting of emissions.

(B) The pressure relief device remains in a closed position at all times except when it is necessary for the pressure relief device to open for the purpose of preventing physical damage or permanent deformation of the waste management unit in accordance with good engineering and safety practices.

(ii) Comply with the applicable requirements for control of Table 8 compounds specified in § 63.138 of this subpart. Alternatively, the owner or operator may elect to comply with the provisions specified in § 63.132(g) of this subpart.

(iii) Comply with the applicable monitoring and inspection requirements specified in § 63.143 of this subpart.

(iv) Comply with the applicable recordkeeping and reporting requirements specified in §§ 63.146 and 63.147 of this subpart.

(4) *Requirements for Group 2 wastewater streams*. For wastewater streams that are Group 2 for both Table 8 and Table 9 compounds, comply with the applicable recordkeeping and reporting requirements specified in §§ 63.146(b)(1) and 63.147(b)(8).

(c) *How to determine Group 1 or Group 2 status for Table 9 compounds*. This paragraph provides instructions for determining whether a wastewater stream is Group 1 or Group 2 for Table 9 compounds. Total annual average concentration shall be determined according to the procedures specified in § 63.144(b) of this subpart. Annual average flow rate shall be determined according to the procedures specified in § 63.144(c) of this subpart.

(1) A wastewater stream is a Group 1 wastewater stream for Table 9 compounds if:

(i) The total annual average concentration of Table 9 compounds is greater than or equal to 10,000 parts per million by weight at any flow rate; or

(ii) The total annual average concentration of Table 9 compounds is greater than or equal to 1,000 parts per million by weight and the annual average flow rate is greater than or equal to 10 liters per minute.

(2) A wastewater stream is a Group 2 wastewater stream for Table 9 compounds if it is not a Group 1 wastewater stream for Table 9 compounds by the criteria in paragraph (c)(1) of this section.

(d) *How to determine Group 1 or Group 2 status for Table 8 compounds*. This paragraph provides instructions for determining whether a wastewater stream is Group 1 or Group 2 for Table 8 compounds. Annual average concentration for each Table 8 compound shall be determined

according to the procedures specified in § 63.144(b) of this subpart. Annual average flow rate shall be determined according to the procedures specified in § 63.144(c) of this subpart.

(1) A wastewater stream is a Group 1 wastewater stream for Table 8 compounds if the annual average flow rate is 0.02 liter per minute or greater and the annual average concentration of any individual table 8 compound is 10 parts per million by weight or greater.

(2) A wastewater stream is a Group 2 wastewater stream for Table 8 compounds if the annual average flow rate is less than 0.02 liter per minute or the annual average concentration for each individual Table 8 compound is less than 10 parts per million by weight.

(e) *How to designate a Group 1 wastewater stream*. The owner or operator may elect to designate a wastewater stream a Group 1 wastewater stream in order to comply with paragraph (a)(1) or (b)(1) of this section. To designate a wastewater stream or a mixture of wastewater streams a Group 1 wastewater stream, the procedures specified in paragraphs (e)(1) and (e)(2) of this section and § 63.144(a)(2) of this subpart shall be followed.

(1) From the point of determination for each wastewater stream that is included in the Group 1 designation to the location where the owner or operator elects to designate such wastewater stream(s) as a Group 1 wastewater stream, the owner or operator shall comply with all applicable emission suppression requirements specified in §§ 63.133 through 63.137.

(2) From the location where the owner or operator designates a wastewater stream or mixture of wastewater streams to be a Group 1 wastewater stream, such Group 1 wastewater stream shall be managed in accordance with all applicable emission suppression requirements specified in §§ 63.133 through 63.137 and with the treatment requirements in § 63.138 of this part.

(f) Owners or operators of sources subject to this subpart shall not discard liquid or solid organic materials with a concentration of greater than 10,000 parts per million of Table 9 compounds (as determined by analysis of the stream composition, engineering calculations, or process knowledge, according to the provisions of § 63.144(b) of this subpart) from a chemical manufacturing process unit to water or wastewater, unless the receiving stream is managed and treated as a Group 1 wastewater stream. This prohibition does not apply to materials from the activities listed in paragraphs (f)(1) through (f)(4) of this section.

(1) Equipment leaks;

(2) Activities included in maintenance or startup/shutdown/malfunction plans;

(3) Spills; or

(4) Samples of a size not greater than reasonably necessary for the method of analysis that is used.

(g) *Off-site treatment or on-site treatment not owned or operated by the source*. The owner or operator may elect to transfer a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream to an on-site treatment operation not owned or operated by the owner or operator of the source generating the wastewater stream or residual, or to an off-site treatment operation.

(1) The owner or operator transferring the wastewater stream or residual shall:

(i) Comply with the provisions specified in §§ 63.133 through 63.137 of this subpart for each waste management unit that receives or manages a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream prior to shipment or transport.

(ii) Include a notice with the shipment or transport of each Group 1 wastewater stream or residual removed from a Group 1 wastewater stream. The notice shall state that the wastewater stream or residual contains organic hazardous air pollutants that are to be treated in accordance with the provisions of this subpart. When the transport is continuous or ongoing (for

example, discharge to a publicly-owned treatment works), the notice shall be submitted to the treatment operator initially and whenever there is a change in the required treatment.

(2) The owner or operator may not transfer the wastewater stream or residual unless the transferee has submitted to the EPA a written certification that the transferee will manage and treat any Group 1 wastewater stream or residual removed from a Group 1 wastewater stream received from a source subject to the requirements of this subpart in accordance with the requirements of either §§ 63.133 through 63.147, or § 63.102(b) of subpart F, or subpart D of this part if alternative emission limitations have been granted the transferor in accordance with those provisions. The certifying entity may revoke the written certification by sending a written statement to the EPA and the owner or operator giving at least 90 days notice that the certifying entity is rescinding acceptance of responsibility for compliance with the regulatory provisions listed in this paragraph. Upon expiration of the notice period, the owner or operator may not transfer the wastewater stream or residual to the treatment operation.

(3) By providing this written certification to the EPA, the certifying entity accepts responsibility for compliance with the regulatory provisions listed in paragraph (g)(2) of this section with respect to any shipment of wastewater or residual covered by the written certification. Failure to abide by any of those provisions with respect to such shipments may result in enforcement action by the EPA against the certifying entity in accordance with the enforcement provisions applicable to violations of these provisions by owners or operators of sources.

(4) Written certifications and revocation statements, to the EPA from the transferees of wastewater or residuals shall be signed by the responsible official of the certifying entity, provide the name and address of the certifying entity, and be sent to the appropriate EPA Regional Office at the addresses listed in 40 CFR 63.13. Such written certifications are not transferable by the treater.

§ 63.133 Process wastewater provisions - wastewater tanks.

(a) For each wastewater tank that receives, manages, or treats a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream, the owner or operator shall comply with the requirements of either paragraph (a)(1) or (a)(2) of this section as specified in table 10 of this subpart.

(1) The owner or operator shall operate and maintain a fixed roof except that if the wastewater tank is used for heating wastewater, or treating by means of an exothermic reaction or the contents of the tank is sparged, the owner or operator shall comply with the requirements specified in paragraph (a)(2) of this section.

(2) The owner or operator shall comply with the requirements in paragraphs (b) through (h) of this section and shall operate and maintain one of the emission control techniques listed in paragraphs (a)(2)(i) through (a)(2)(iv) of this section.

(i) A fixed roof and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the wastewater tank to a control device.

(ii) A fixed roof and an internal floating roof that meets the requirements specified in § 63.119(b) of this subpart;

(iii) An external floating roof that meets the requirements specified in §§ 63.119(c), 63.120(b)(5), and 63.120(b)(6) of this subpart; or

(iv) An equivalent means of emission limitation. Determination of equivalence to the reduction in emissions achieved by the requirements of paragraphs (a)(2)(i) through (a)(2)(iii) of this section will be evaluated according to § 63.102(b) of subpart F of this part. The determination will be based on the application to the Administrator which shall include the information specified in either paragraph (a)(2)(iv)(A) or (a)(2)(iv)(B) of this section.

(A) Actual emissions tests that use full-size or scale-model wastewater

tanks that accurately collect and measure all organic hazardous air pollutants emissions from a given control technique, and that accurately simulate wind and account for other emission variables such as temperature and barometric pressure, or

(B) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(b) If the owner or operator elects to comply with the requirements of paragraph (a)(2)(i) of this section, the fixed roof shall meet the requirements of paragraph (b)(1) of this section, the control device shall meet the requirements of paragraph (b)(2) of this section, and the closed-vent system shall meet the requirements of paragraph (b)(3) of this section.

(1) The fixed-roof shall meet the following requirements:

(i) Except as provided in paragraph (b)(4) of this section, the fixed roof and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in § 63.148 of this subpart.

(ii) Each opening shall be maintained in a closed position (e.g., covered by a lid) at all times that the wastewater tank contains a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream except when it is necessary to use the opening for wastewater sampling, removal, or for equipment inspection, maintenance, or repair.

(2) The control device shall be designed, operated, and inspected in accordance with the requirements of § 63.139 of this subpart.

(3) Except as provided in paragraph (b)(4) of this section, the closed-vent system shall be inspected in accordance with the requirements of § 63.148 of this subpart.

(4) For any fixed roof tank and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.148 of this subpart.

(c) If the owner or operator elects to comply with the requirements of paragraph (a)(2)(ii) of this section, the floating roof shall be inspected according to the procedures specified in § 63.120(a)(2) and (a)(3) of this subpart.

(d) Except as provided in paragraph (e) of this section, if the owner or operator elects to comply with the requirements of paragraph (a)(2)(iii) of this section, seal gaps shall be measured according to the procedures specified in § 63.120(b)(2)(i) through (b)(4) of this subpart and the wastewater tank shall be inspected to determine compliance with § 63.120(b)(5) and (b)(6) of this subpart.

(e) If the owner or operator determines that it is unsafe to perform the seal gap measurements specified in § 63.120(b)(2)(i) through (b)(4) of this subpart or to inspect the wastewater tank to determine compliance with § 63.120(b)(5) and (b)(6) of this subpart because the floating roof appears to be structurally unsound and poses an imminent or potential danger to inspecting personnel, the owner or operator shall comply with the requirements in either paragraph (e)(1) or (e)(2) of this section.

(1) The owner or operator shall measure the seal gaps or inspect the wastewater tank within 30 calendar days of the determination that the floating roof is unsafe, or

(2) The owner or operator shall empty and remove the wastewater tank from service within 45 calendar days of determining that the roof is unsafe. If the wastewater tank cannot be emptied within 45 calendar days, the owner or operator may utilize up to two extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include an explanation of why it was unsafe to perform the inspection or seal gap measurement, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the wastewater tank will be emptied as soon as practical.

Attachment 2
Attachment 2

(f) Except as provided in paragraph (e) of this section, each wastewater tank shall be inspected initially, and semi-annually thereafter, for improper work practices in accordance with § 63.143 of this subpart. For wastewater tanks, improper work practice includes, but is not limited to, leaving open any access door or other opening when such door or opening is not in use.

(g) Except as provided in paragraph (e) of this section, each wastewater tank shall be inspected for control equipment failures as defined in paragraph (g)(1) of this section according to the schedule in paragraphs (g)(2) and (g)(3) of this section.

(1) Control equipment failures for wastewater tanks include, but are not limited to, the conditions specified in paragraphs (g)(1)(i) through (g)(1)(ix) of this section.

(i) The floating roof is not resting on either the surface of the liquid or on the leg supports.

(ii) There is stored liquid on the floating roof.

(iii) A rim seal is detached from the floating roof.

(iv) There are holes, tears, cracks or gaps in the rim seal or seal fabric of the floating roof.

(v) There are visible gaps between the seal of an internal floating roof and the wall of the wastewater tank.

(vi) There are gaps between the metallic shoe seal or the liquid mounted primary seal of an external floating roof and the wall of the wastewater tank that exceed 212 square centimeters per meter of tank diameter or the width of any portion of any gap between the primary seal and the tank wall exceeds 3.81 centimeters.

(vii) There are gaps between the secondary seal of an external floating roof and the wall of the wastewater tank that exceed 21.2 square centimeters per meter of tank diameter or the width of any portion of any gap between the secondary seal and the tank wall exceeds 1.27 centimeters.

(viii) Where a metallic shoe seal is used on an external floating roof, one end of the metallic shoe does not extend into the stored liquid or one end of the metallic shoe does not extend a minimum vertical distance of 61 centimeters above the surface of the stored liquid.

(ix) A gasket, joint, lid, cover, or door has a crack or gap, or is broken.

(2) The owner or operator shall inspect for the control equipment failures in paragraphs (g)(1)(i) through (g)(1)(viii) of this section according to the schedule specified in paragraphs (c) and (d) of this section.

(3) The owner or operator shall inspect for the control equipment failures in paragraph (g)(1)(ix) of this section initially, and semi-annually thereafter.

(h) Except as provided in § 63.140 of this subpart, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification. If a failure that is detected during inspections required by this section cannot be repaired within 45 calendar days and if the vessel cannot be emptied within 45 calendar days, the owner or operator may utilize up to two extensions of up to 30 additional calendar days each. Documentation of a decision to utilize an extension shall include a description of the failure, shall document that alternate storage capacity is unavailable, and shall specify a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as practical.

§ 63.134 Process wastewater provisions - surface impoundments.

(a) For each surface impoundment that receives, manages, or treats a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream, the owner or operator shall comply with the requirements of paragraphs (b), (c), and (d) of this section.

(b) The owner or operator shall operate and maintain on each surface impoundment either a cover (e.g., air-supported structure or rigid cover) and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the surface impoundment to a control device in accordance with paragraph (b)(1) of this section, or a floating flexible membrane cover as specified in paragraph (b)(2) of this section.

(1) The cover and all openings shall meet the following requirements:

(i) Except as provided in paragraph (b)(4) of this section, the cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in § 63.148 of this subpart.

(ii) Each opening shall be maintained in a closed position (e.g., covered by a lid) at all times that a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream is in the surface impoundment except when it is necessary to use the opening for sampling, removal, or for equipment inspection, maintenance, or repair.

(iii) The cover shall be used at all times that a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream is in the surface impoundment except during removal of treatment residuals in accordance with 40 CFR 268.4 or closure of the surface impoundment in accordance with 40 CFR 264.228.

(2) Floating flexible membrane covers shall meet the requirements specified in paragraphs (b)(2)(i) through (b)(2)(vii) of this section.

(i) The floating flexible cover shall be designed to float on the liquid surface during normal operations, and to form a continuous barrier over the entire surface area of the liquid.

(ii) The cover shall be fabricated from a synthetic membrane material that is either:

(A) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (100 mils); or

(B) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in paragraph (b)(2)(ii)(A) of this section, and chemical and physical properties that maintain the material integrity for the intended service life of the material.

(iii) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

(iv) Except as provided for in paragraph (b)(2)(v) of this section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(v) The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(vi) The closure devices shall be made of suitable materials that will minimize exposure of organic hazardous air pollutants to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered in designing the closure devices shall include: The effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(vii) Whenever a Group 1 wastewater stream or residual from a Group 1 wastewater stream is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position. Opening of closure devices or removal of the cover is allowed to provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations and/or to remove accumulated sludge or other residues from the bottom of surface impoundment. Openings shall be maintained in accordance with § 63.148 of this subpart.

(3) The control device shall be designed, operated, and inspected in accordance with § 63.139 of this subpart.

(4) Except as provided in paragraph (b)(5) of this section, the closed-vent system shall be inspected in accordance with § 63.148 of this subpart.

(5) For any cover and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.148 of this subpart.

(c) Each surface impoundment shall be inspected initially, and semi-annually thereafter, for improper work practices and control equipment failures in accordance with § 63.143 of this subpart.

(1) For surface impoundments, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use.

(2) For surface impoundments, control equipment failure includes, but is not limited to, any time a joint, lid, cover, or door has a crack or gap, or is broken.

(d) Except as provided in § 63.140 of this subpart, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification.

§ 63.135 Process wastewater provisions - containers.

(a) For each container that receives, manages, or treats a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream, the owner or operator shall comply with the requirements of paragraphs (b) through (f) of this section.

(b) The owner or operator shall operate and maintain a cover on each container used to handle, transfer, or store a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream in accordance with the following requirements:

(1) Except as provided in paragraph (d)(4) of this section, if the capacity of the container is greater than 0.42 m^3, the cover and all openings (e.g., bungs, hatches, sampling ports, and pressure relief devices) shall be maintained in accordance with the requirements specified in § 63.148 of this subpart.

(2) If the capacity of the container is less than or equal to 0.42 m^3, the owner or operator shall comply with either paragraph (b)(2)(i) or (b)(2)(ii) of this section.

(i) The container must meet existing Department of Transportation specifications and testing requirements under 49 CFR part 178; or

(ii) Except as provided in paragraph (d)(4) of this section, the cover and all openings shall be maintained without leaks as specified in § 63.148 of this subpart.

(3) The cover and all openings shall be maintained in a closed position (e.g., covered by a lid) at all times that a Group 1 wastewater stream or residual removed from a Group 1 wastewaterstream is in the container except when it is necessary to use the opening for filling, removal, inspection, sampling, or pressure relief events related to safety considerations.

(c) For containers with a capacity greater than or equal to 0.42 m^3, a submerged fill pipe shall be used when a container is being filled by pumping with a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream.

(1) The submerged fill pipe outlet shall extend to no more than 6 inches or within two fill pipe diameters of the bottom of the container while the container is being filled.

(2) The cover shall remain in place and all openings shall be maintained in a closed position except for those openings required for the submerged fill pipe and for venting of the container to prevent physical damage or permanent deformation of the container or cover.

(d) During treatment of a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream, including aeration, thermal or other treatment, in a container, whenever it is necessary for the container to be open, the container shall be located within an enclosure with a closed-vent system that routes the organic hazardous air pollutants vapors vented from the container to a control device.

(1) Except as provided in paragraph (d)(4) of this section, the enclosure and all openings (e.g., doors, hatches) shall be maintained in accordance with the requirements specified in § 63.148 of this subpart.

(2) The control device shall be designed, operated, and inspected in accordance with § 63.139 of this subpart.

(3) Except as provided in paragraph (d)(4) of this section, the closed-vent system shall be inspected in accordance with § 63.148 of this subpart.

(4) For any enclosure and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.148 of this subpart.

(e) Each container shall be inspected initially, and semi-annually thereafter, for improper work practices and control equipment failures in accordance with § 63.143 of this subpart.

(1) For containers, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use.

(2) For containers, control equipment failure includes, but is not limited to, any time a cover or door has a gap or crack, or is broken.

(f) Except as provided in § 63.140 of this subpart, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 15 calendar days after identification.

§ 63.136 Process wastewater provisions - individual drain systems.

(a) For each individual drain system that receives or manages a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream, the owner or operator shall comply with the requirements of paragraphs (b), (c), and (d) or with paragraphs (e), (f), and (g) of this section.

(b) If the owner or operator elects to comply with this paragraph, the owner or operator shall operate and maintain on each opening in the individual drain system a cover and if vented, route the vapors to a process or through a closed vent system to a control device. The owner or operator shall comply with the requirements of paragraphs (b)(1) through (b)(5) of this section.

(1) The cover and all openings shall meet the following requirements:

(i) Except as provided in paragraph (b)(4) of this section, the cover and all openings (e.g., access hatches, sampling ports) shall be maintained in accordance with the requirements specified in § 63.148 of this subpart.

(ii) The cover and all openings shall be maintained in a closed position at all times that a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream is in the drain system except when it is necessary to use the opening for sampling or removal, or for equipment inspection, maintenance, or repair.

(2) The control device shall be designed, operated, and inspected in accordance with § 63.139 of this subpart.

(3) Except as provided in paragraph (b)(4) of this section, the closed-vent system shall be inspected in accordance with § 63.148 of this subpart.

(4) For any cover and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements specified in § 63.148 of this subpart.

(5) The individual drain system shall be designed and operated to segregate the vapors within the system from other drain systems and the atmosphere.

(c) Each individual drain system shall be inspected initially, and semi-annually thereafter, for improper work practices and control equipment failures, in accordance with the inspection requirements specified in table 11 of this subpart.

(1) For individual drain systems, improper work practice includes, but is not limited to, leaving open any access hatch or other opening when such hatch or opening is not in use for sampling or removal, or for equipment inspection, maintenance, or repair.

(2) For individual drain systems, control equipment failure includes, but is not limited to, any time a joint, lid, cover, or door has a gap or crack, or is broken.

(d) Except as provided in §63.140 of this subpart, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 15 calendar days after identification.

(e) If the owner or operator elects to comply with this paragraph, the owner or operator shall comply with the requirements in paragraphs (e)(1) through (e)(3) of this section:

(1) Each drain shall be equipped with water seal controls or a tightly fitting cap or plug. The owner or operator shall comply with paragraphs (e)(1)(i) and (e)(1)(ii) of this section.

(i) For each drain equipped with a water seal, the owner or operator shall ensure that the water seal is maintained. For example, a flow-monitoring device indicating positive flow from a main to a branch water line supplying a trap or water being continuously dripped into the trap by a hose could be used to verify flow of water to the trap. Visual observation is also an acceptable alternative.

(ii) If a water seal is used on a drain receiving a Group 1 wastewater, the owner or operator shall either extend the pipe discharging the wastewater below the liquid surface in the water seal of the receiving drain, or install a flexible shield (or other enclosure which restricts wind motion across the open area between the pipe and the drain) that encloses the space between the pipe discharging the wastewater to the drain receiving the wastewater. (Water seals which are used on hubs receiving Group 2 wastewater for the purpose of eliminating cross ventilation to drains carrying Group 1 wastewater are not required to have a flexible cap or extended subsurface discharging pipe.)

(2) Each junction box shall be equipped with a tightly fitting solid cover (i.e., no visible gaps, cracks, or holes) which shall be kept in place at all times except during inspection and maintenance. If the junction box is vented, the owner or operator shall comply with the requirements in paragraph (e)(2)(i) or (e)(2)(ii) of this section.

(i) The junction box shall be vented to a process or through a closed vent system to a control device. The closed vent system shall be inspected in accordance with the requirements of §63.148 and the control device shall be designed, operated, and inspected in accordance with the requirements of §63.139.

(ii) If the junction box is filled and emptied by gravity flow (i.e., there is no pump) or is operated with no more than slight fluctuations in the liquid level, the owner or operator may vent the junction box to the atmosphere provided that the junction box complies with the requirements in paragraphs (e)(2)(ii)(A) and (e)(2)(ii)(B) of this section.

(A) The vent pipe shall be at least 90 centimeters in length and no greater than 10.2 centimeters in nominal inside diameter.

(B) Water seals shall be installed and maintained at the wastewater entrance(s) to or exit from the junction box restricting ventilation in the individual drain system and between components in the individual drain system. The owner or operator shall demonstrate (e.g., by visual inspection or smoke test) upon request by the Administrator that the junction box water seal is properly designed and restricts ventilation.

(3) Each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visible gaps or cracks in joints, seals, or other emission interfaces.

(f) Equipment used to comply with paragraphs (e)(1), (e)(2), or (e)(3) of this section shall be inspected as follows:

(1) Each drain using a tightly fitting cap or plug shall be visually inspected initially, and semi-annually thereafter, to ensure caps or plugs are in place and that there are no gaps, cracks, or other holes in the cap or plug.

(2) Each junction box shall be visually inspected initially, and semi-annually thereafter, to ensure that there are no gaps, cracks, or other holes in the cover.

(3) The unburied portion of each sewer line shall be visually inspected initially, and semi-annually thereafter, for indication of cracks or gaps that could result in air emissions.

(g) Except as provided in §63.140 of this subpart, when a gap, hole, or crack is identified in a joint or cover, first efforts at repair shall be made no later than 5 calendar days after identification, and repair shall be completed within 15 calendar days after identification.

§63.137 Process wastewater provisions - oil-water separators.

(a) For each oil-water separator that receives, manages, or treats a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream, the owner or operator shall comply with the requirements of paragraphs (c) and (d) of this section and shall operate and maintain one of the following:

(1) A fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors vented from the oil-water separator to a control device. The fixed roof, closed-vent system, and control device shall meet the requirements specified in paragraph (b) of this section;

(2) A floating roof meeting the requirements in 40 CFR part 60, subpart QQQ §§60.693–2(a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4). For portions of the oil-water separator where it is infeasible to construct and operate a floating roof, such as over the weir mechanism, the owner or operator shall operate and maintain a fixed roof, closed vent system, and control device that meet the requirements specified in paragraph (b) of this section.

(3) An equivalent means of emission limitation. Determination of equivalence to the reduction in emissions achieved by the requirements of paragraphs (a)(1) and (a)(2) of this section will be evaluated according to §63.102(b) of subpart F of this part. The determination will be based on the application to the Administrator which shall include the information specified in either paragraph (a)(3)(i) or (a)(3)(ii) of this section.

(i) Actual emissions tests that use full-size or scale-model oil-water separators that accurately collect and measure all organic hazardous air pollutants emissions from a given control technique, and that accurately simulate wind and account for other emission variables such as temperature and barometric pressure, or

(ii) An engineering evaluation that the Administrator determines is an accurate method of determining equivalence.

(b) If the owner or operator elects to comply with the requirements of paragraphs (a)(1) or (a)(2) of this section, the fixed roof shall meet the requirements of paragraph (b)(1) of this section, the control device shall meet the requirements of paragraph (b)(2) of this section, and the closed-vent system shall meet the requirements of paragraph (b)(3) of this section.

(1) The fixed-roof shall meet the following requirements:

(i) Except as provided in paragraph (b)(4) of this section, the fixed roof and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be maintained in accordance with the requirements specified in §63.148 of this subpart.

(ii) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that the oil-water separator contains a Group 1 wastewater stream or

residual removed from a Group 1 wastewater stream except when it is necessary to use the opening for sampling or removal, or for equipment inspection, maintenance, or repair.

(2) The control device shall be designed, operated, and inspected in accordance with the requirements of §63.139 of this subpart.

(3) Except as provided in paragraph (b)(4) of this section, the closed-vent system shall be inspected in accordance with the requirements of §63.148 of this subpart.

(4) For any fixed roof and closed-vent system that is operated and maintained under negative pressure, the owner or operator is not required to comply with the requirements of §63.148 of this subpart.

(c) If the owner or operator elects to comply with the requirements of paragraph (a)(2) of this section, seal gaps shall be measured according to the procedures specified in 40 CFR part 60, subpart QQQ §60.696(d)(1) and the schedule specified in paragraphs (c)(1) and (c)(2) of this section.

(1) Measurement of primary seal gaps shall be performed within 60 calendar days after installation of the floating roof and introduction of a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream and once every 5 years thereafter.

(2) Measurement of secondary seal gaps shall be performed within 60 calendar days after installation of the floating roof and introduction of a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream and once every year thereafter.

(d) Each oil-water separator shall be inspected initially, and semi-annually thereafter, for improper work practices in accordance with §63.143 of this subpart. For oil-water separators, improper work practice includes, but is not limited to, leaving open or ungasketed any access door or other opening when such door or opening is not in use.

(e) Each oil-water separator shall be inspected for control equipment failures as defined in paragraph (e)(1) of this section according to the schedule specified in paragraphs (e)(2) and (e)(3) of this section.

(1) For oil-water separators, control equipment failure includes, but is not limited to, the conditions specified in paragraphs (e)(1)(i) through (e)(1)(vii) of this section.

(i) The floating roof is not resting on either the surface of the liquid or on the leg supports.

(ii) There is stored liquid on the floating roof.

(iii) A rim seal is detached from the floating roof.

(iv) There are holes, tears, or other open spaces in the rim seal or seal fabric of the floating roof.

(v) There are gaps between the primary seal and the separator wall that exceed 67 square centimeters per meter of separator wall perimeter or the width of any portion of any gap between the primary seal and the separator wall exceeds 3.8 centimeters.

(vi) There are gaps between the secondary seal and the separator wall that exceed 6.7 square centimeters per meter of separator wall perimeter or the width of any portion of any gap between the secondary seal and the separator wall exceeds 1.3 centimeters.

(vii) A gasket, joint, lid, cover, or door has a gap or crack, or is broken.

(2) The owner or operator shall inspect for the control equipment failures in paragraphs (e)(1)(i) through (e)(1)(vi) of this section according to the schedule specified in paragraph (c) of this section.

(3) The owner or operator shall inspect for control equipment failures in paragraph (e)(1)(vii) of this section initially, and semi-annually thereafter.

(f) Except as provided in § 63.140 of this subpart, when an improper work practice or a control equipment failure is identified, first efforts at repair shall be made no later than 5 calendar days after identification and repair shall be completed within 45 calendar days after identification.

§ 63.138 Process wastewater provisions - Performance standards for treatment processes managing Group 1 wastewater streams and/or residuals removed from Group 1 wastewater streams.

(a) *General requirements*. This section specifies the performance standards for treating Group 1 wastewater streams. The owner or operator shall comply with the requirements as specified in paragraphs (a)(1) through (a)(6) of this section. Where multiple compliance options are provided, the options may be used in combination for different wastewater streams and/or for different compounds (e.g., Table 8 versus Table 9 compounds) in the same wastewater streams, except where otherwise provided in this section. Once a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream has been treated in accordance with this subpart, it is no longer subject to the requirements of this subpart.

(1) *Existing source*. If the wastewater stream, at an existing source, is Group 1 for Table 9 compounds, comply with § 63.138(b).

(2) *New source*. If the wastewater stream, at a new source, is Group 1 for Table 8 compounds, comply with § 63.138(c). If the wastewater stream, at a new source, is Group 1 for Table 9 compounds, comply with § 63.138(b). If the wastewater stream, at a new source, is Group 1 for Table 8 and Table 9 compounds, comply with both § 63.138(b) and § 63.138(c).

Note to paragraph (a)(2): The requirements for Table 8 and/or Table 9 compounds are similar and often identical.

(3) *Biological treatment processes*. Biological treatment processes in compliance with this section may be either open or closed biological treatment processes as defined in § 63.111. An open biological treatment process in compliance with this section need not be covered and vented to a control device as required in § 63.133 through § 63.137 of this subpart. An open or a closed biological treatment process in compliance with this section and using § 63.145(f) or § 63.145(g) of this subpart to demonstrate compliance is not subject to the requirements of § 63.133 through § 63.137 of this subpart. A closed biological treatment process in compliance with this section and using § 63.145(e) of this subpart to demonstrate compliance shall comply with the requirements of § 63.133 through § 63.137 of this subpart. Waste management units upstream of an open or closed biological treatment process shall meet the requirements of § 63.133 through § 63.137 of this subpart, as applicable.

(4) *Performance tests and design evaluations*. If design steam stripper option (§ 63.138(d)) or Resource Conservation and Recovery Act (RCRA) option (§ 63.138(h)) is selected to comply with this section, neither a design evaluation nor a performance test is required. For any other non-biological treatment process, and for closed biological treatment processes as defined in § 63.111 of this subpart, the owner or operator shall conduct either a design evaluation as specified in § 63.138(j), or a performance test as specified in § 63.145, of this subpart. For each open biological process as defined in § 63.111 of this subpart, the owner or operator shall conduct a performance test as specified in § 63.145 of this subpart.

Note to paragraph (a)(4): Some open biological treatment processes may not require a performance test. Refer to § 63.145(h) and table 36 of this subpart to determine whether the biological treatment process meets the criteria that exempt the owner or operator from conducting a performance test.

(5) *Control device requirements.* When gases are vented from the treatment process, the owner or operator shall comply with the applicable control device requirements specified in § 63.139 and § 63.145 (i) and (j), and the applicable leak inspection provisions specified in § 63.148, of this subpart. This requirement does not apply to any open biological treatment process that meets the mass removal requirements. Vents from anaerobic biological treatment processes may be routed through hard-piping to a fuel gas system.

(6) *Residuals: general*. When residuals result from treating Group 1 wastewater streams, the owner or operator shall comply with the requirements for residuals specified in § 63.138(k) of this subpart.

(7) Treatment using a series of treatment processes. In all cases where the wastewater provisions in this subpart allow or require the use of a treatment process or control device to comply with emissions

limitations, the owner or operator may use multiple treatment processes or control devices, respectively. For combinations of treatment processes where the wastewater stream is conveyed by hard-piping, the owner or operator shall comply with either the requirements of paragraph (a)(7)(i) or (a)(7)(ii) of this section. For combinations of treatment processes where the wastewater stream is not conveyed by hard-piping, the owner or operator shall comply with the requirements of paragraph (a)(7)(ii) of this section. For combinations of control devices, the owner or operator shall comply with the requirements of paragraph (a)(7)(i) of this section.

(i) (A) For combinations of treatment processes, the wastewater stream shall be conveyed by hard-piping between the treatment processes. For combinations of control devices, the vented gas stream shall be conveyed by hard-piping between the control devices.

(B) For combinations of treatment processes, each treatment process shall meet the applicable requirements of § 63.133 through § 63.137 of this subpart except as provided in paragraph (a)(3) of this section.

(C) The owner or operator shall identify, and keep a record of, the combination of treatment processes or of control devices, including identification of the first and last treatment process or control device. The owner or operator shall include this information as part of the treatment process description reported in the Notification of Compliance Status.

(D) The performance test or design evaluation shall determine compliance across the combination of treatment processes or control devices. If a performance test is conducted, the ‘‘inlet’’ shall be the point at which the wastewater stream or residual enters the first treatment process, or the vented gas stream enters the first control device. The ‘‘outlet’’ shall be the point at which the treated wastewater stream exits the last treatment process, or the vented gas stream exits the last control device.

(ii) (A) For combinations of treatment processes, each treatment process shall meet the applicable requirements of § 63.133 through § 63.137 of this subpart except as provided in paragraph (a)(3) of this section.

(B) The owner or operator shall identify, and keep a record of, the combination of treatment processes, including identification of the first and last treatment process. The owner or operator shall include this information as part of the treatment process description reported in the Notification of Compliance Status.

(C) The owner or operator shall determine the mass removed or destroyed by each treatment process. The performance test or design evaluation shall determine compliance for the combination of treatment processes by adding together the mass removed or destroyed by each treatment process.

(b) Control options: Group 1 wastewater streams for Table 9 compounds. The owner or operator shall comply with either paragraph (b)(1) or (b)(2) of this section for the control of Table 9 compounds at new or existing sources.

(1) *50 ppmw concentration option.* The owner or operator shall comply with paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(i) Reduce, by removal or destruction, the total concentration of Table 9 compounds to a level less than 50 parts per million by weight as determined by the procedures specified in § 63.145(b) of this subpart.

(ii) This option shall not be used when the treatment process is a biological treatment process. This option shall not be used when the wastewater stream is designated as a Group 1 wastewater stream as specified in § 63.132(e). Dilution shall not be used to achieve compliance with this option.

(2) *Other compliance options*. Comply with the requirements specified in any one of paragraphs (d), (e), (f), (g), (h), or (i) of this section.

(c) Control options: Group 1 wastewater streams for Table 8 compounds. The owner or operator shall comply with either paragraph (c)(1) or (c)(2) of this section for the control of Table 8 compounds at new sources.

(1) *10 ppmw concentration option*. The owner or operator shall comply with paragraphs (c)(1)(i) and (c)(1)(ii) of this section.

(i) Reduce, by removal or destruction, the concentration of the individual Table 8 compounds to a level less than 10 parts per million by weight as determined in the procedures specified in § 63.145(b) of this subpart.

(ii) This option shall not be used when the treatment process is a biological treatment process. This option shall not be used when the wastewater stream is designated as a Group 1 wastewater stream as specified in § 63.132(e). Dilution shall not be used to achieve compliance with this option.

(2) Other compliance options. Comply with the requirements specified in any one of paragraphs (d), (e), (f), (g), (h), or (i) of this section.

(d) Design steam stripper option. The owner or operator shall operate and maintain a steam stripper that meets the requirements of paragraphs (d)(1) through (d)(6) of this section.

(1) Minimum active column height of 5 meters,

(2) Countercurrent flow configuration with a minimum of 10 actual trays,

(3) Minimum steam flow rate of 0.04 kilograms of steam per liter of wastewater feed within the column,

(4) Minimum wastewater feed temperature to the steam stripper of 95 °C, or minimum column operating temperature of 95 °C,

(5) Maximum liquid loading of 67,100 liters per hour per square meter, and

(6) Operate at nominal atmospheric pressure.

(e) Percent mass removal/destruction option. The owner or operator of a new or existing source shall comply with paragraph (e)(1) or (e)(2) of this section for control of Table 8 and/or Table 9 compounds for Group 1 wastewater streams. This option shall not be used for biological treatment processes.

(1) *Reduce mass flow rate of Table 8 and/or Table 9 compounds by 99 percent*. For wastewater streams that are Group 1, the owner or operator shall reduce, by removal or destruction, the mass flow rate of Table 8 and/or Table 9 compounds by 99 percent or more. The removal/destruction efficiency shall be determined by the procedures specified in § 63.145(c), for noncombustion processes, or § 63.145(d), for combustion processes.

(2) *Reduce mass flow rate of Table 8 and/or Table 9 compounds by Fr value*. For wastewater streams that are Group 1 for Table 8 and/or Table 9 compounds, the owner or operator shall reduce, by removal or destruction, the mass flow rate by at least the fraction removal (Fr) values specified in Table 9 of this subpart. (The Fr values for Table 8 compounds are all 0.99.) The removal/destruction efficiency shall be determined by the procedures specified in § 63.145(c), for noncombustion treatment processes, or § 63.145(d), for combustion treatment processes.

(f) Required mass removal (RMR) option. The owner or operator shall achieve the required mass removal (RMR) of Table 8 compounds at a new source for a wastewater stream that is Group 1 for Table 8 compounds and/or of Table 9 compounds at a new or existing source for a wastewater stream that is Group 1 for Table 9 compounds. For nonbiological treatment processes compliance shall be determined using the procedures specified in § 63.145(e) of this subpart. For aerobic biological treatment processes compliance shall be determined using the procedures specified in § 63.145 (e) or (f) of this subpart. For closed anaerobic biological treatment processes compliance shall be determined using the procedures specified in § 63.145(e) of this subpart. For open biological treatment processes compliance shall be determined using the procedures specified in § 63.145(f) of this subpart.

(g) *95-percent RMR option, for biological treatment processes*. The owner or operator of a new or existing source using biological treatment for at least one wastewater stream that is Group 1 for Table 9 compounds shall achieve a RMR of at least 95 percent for all Table 9 compounds. The owner or operator of a new source

using biological treatment for at least one wastewater stream that is Group 1 for Table 8 compounds shall achieve a RMR of at least 95 percent for all Table 8 compounds. All Group 1 and Group 2 wastewater streams entering a biological treatment unit that are from chemical manufacturing process units subject to subpart F shall be included in the demonstration of the 95-percent mass removal. The owner or operator shall comply with paragraphs (g)(1) through (g)(4) of this section.

(1) Except as provided in paragraph (g)(4) of this section, the owner or operator shall ensure that all Group 1 and Group 2 wastewater streams from chemical manufacturing process units subject to this rule entering a biological treatment unit are treated to destroy at least 95-percent total mass of all Table 8 and/or Table 9 compounds.

(2) For open biological treatment processes compliance shall be determined using the procedures specified in § 63.145(g) of this subpart. For closed aerobic biological treatment processes compliance shall be determined using the procedures specified in § 63.145 (e) or (g) of this subpart. For closed anaerobic biological treatment processes compliance shall be determined using the procedures specified in § 63.145(e) of this subpart.

(3) For each treatment process or waste management unit that receives, manages, or treats wastewater streams subject to this paragraph, from the point of determination of each Group 1 or Group 2 wastewater stream to the biological treatment unit, the owner or operator shall comply with §§ 63.133 through § 63.137 of this subpart for control of air emissions. When complying with this paragraph, the term Group 1, whether used alone or in combination with other terms, in § 63.133 through § 63.137 of this subpart shall mean both Group 1 and Group 2.

(4) If a wastewater stream is in compliance with the requirements in paragraph (b)(1), (c)(1), (d), (e), (f), or (h) of this section before entering the biological treatment unit, the hazardous air pollutants mass of that wastewater is not required to be included in the total mass flow rate entering the biological treatment unit for the purpose of demonstrating compliance.

(h) *Treatment in a RCRA unit option*. The owner or operator shall treat the wastewater stream or residual in a unit identified in, and complying with, paragraph (h)(1), (h)(2), or (h)(3) of this section. These units are exempt from the design evaluation or performance tests requirements specified in § 63.138(a)(3) and § 63.138(j) of this subpart, and from the monitoring requirements specified in § 63.132(a)(2)(iii) and § 63.132(b)(3)(iii) of this subpart, as well as recordkeeping and reporting requirements associated with monitoring and performance tests.

(1) The wastewater stream or residual is discharged to a hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O;

(2) The wastewater stream or residual is discharged to a process heater or boiler burning hazardous waste for which the owner or operator:

(i) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H; or

(ii) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(3) The wastewater stream or residual is discharged to an underground injection well for which the owner or operator has been issued a final permit under 40 CFR part 270 or 40 CFR part 144 and complies with the requirements of 40 CFR part 122. The owner or operator shall comply with all applicable requirements of this subpart prior to the point where the wastewater enters the underground portion of the injection well.

(i) *One megagram total source mass flow rate option*. A wastewater stream is exempt from the requirements of paragraphs (b) and (c) of this section if the owner or operator elects to comply with either paragraph (i)(1) or (2) of this section, and complies with paragraph (i)(3) of this section.

(1) *All Group 1 wastewater streams at the source.* The owner or operator shall demonstrate that the total source mass flow rate for Table 8 and/or Table 9 compounds is less than 1 megagram per year using the procedures in paragraphs (i)(1)(i) and (i)(1)(ii) of this section. The owner or operator shall include all Group 1 wastewater streams at the source in the total source mass flow rate. The total source mass flow rate shall be based on the mass as calculated before the wastewater stream is treated. The owner or operator who meets the requirements of this paragraph (i)(1) is exempt from the requirements of §§ 63.133 through 63.137.

(i) Calculate the annual average mass flow rate for each Group 1 wastewater stream by multiplying the annual average flow rate of the wastewater stream, as determined by procedures specified in § 63.144(c), times the total annual average concentration of Table 8 and/or Table 9 compounds, as determined by procedures specified in § 63.144(b) of this subpart. (The mass flow rate of compounds in a wastewater stream that is Group 1 for both Table 8 and Table 9 compounds should be included in the annual average mass flow rate only once.)

(ii) Calculate the total source mass flow rate from all Group 1 wastewater streams by adding together the annual average mass flow rate calculated for each Group 1 wastewater stream.

(2) *Untreated and partially treated Group 1 wastewater streams*. The owner or operator shall demonstrate that the total source mass flow rate for untreated Group 1 wastewater streams and Group 1 wastewater streams treated to levels less stringent than required in paragraph (b) or (c) of this section is less than 1 megagram per year using the procedures in paragraphs (i)(2)(i) and (i)(2)(ii) of this section. The owner or operator shall manage these wastewater streams in accordance with paragraph (i)(2)(iii) of this section, and shall comply with paragraph (i)(3) of this section.

(i) Calculate the annual average mass flow rate in each wastewater stream by multiplying the annual average flow rate of the wastewater stream, as determined by procedures specified in § 63.144(c), times the total annual average concentration of Table 8 and/or Table 9 compounds, as determined by procedures specified in § 63.144(b). (The mass flow rate of compounds in a wastewater stream that are Group 1 for both Table 8 and Table 9 compounds should be included in the annual average mass flow rate only once.) When determining the total source mass flow rate for the purposes of paragraph (i)(2)(i)(B) of this section, the concentration and flow rate shall be determined at the location specified in paragraph (i)(2)(i)(B) of this section and not at the location specified in §63.144 (b) and (c).

(A) For each untreated Group 1 wastewater stream, the annual average flow rate and the total annual average concentration shall be determined for that stream's point of determination.

(B) For each Group 1 wastewater stream that is treated to levels less stringent than those required by paragraph (b) or (c) of this section, the annual average flow rate and total annual average concentration shall be determined at the discharge from the treatment process or series of treatment processes.

(C) The annual average mass flow rate for Group 1 wastewater streams treated to the levels required by paragraph (b) or (c) of this section is not included in the calculation of the total source mass flow rate.

(ii) The total source mass flow rate shall be calculated by summing the annual average mass flow rates from all Group 1 wastewater streams, except those excluded by paragraph (i)(2)(i)(C) of this section.

(iii) The owner or operator of each waste management unit that receives, manages, or treats a partially treated wastewater stream prior to or during treatment shall comply with the requirements of §§ 63.133 through 63.137 of this subpart, as applicable. For a partially treated wastewater stream that is stored, conveyed, treated, or managed in a waste management unit meeting the requirements of §§ 63.133 through 63.137, the owner or operator shall follow the procedures in paragraph (i)(2)(i)(B) of this section to calculate mass flow rate. A wastewater stream, either untreated or partially treated, where the mass flow rate has been calculated following the procedures in paragraph (i)(2)(i)(A) of this section, is exempt from the requirements of §§ 63.133 through 63.137.

(3) Wastewater streams included in this option shall be identified in the Notification of Compliance Status required by §63.152(b).

(j) *Design evaluations or performance tests for treatment processes*. Except as provided in paragraph (j)(3) or (h) of this section, the owner or operator shall demonstrate by the procedures in either paragraph (j)(1) or (j)(2) of this section that each nonbiological treatment process used to comply with paragraphs (b)(1), (c)(1), (e), and/or (f) of this section achieves the conditions specified for compliance. The owner or operator shall demonstrate by the procedures in either paragraph (j)(1) or (j)(2) of this section that each closed biological treatment process used to comply with paragraphs (f) or (g) of this section achieves the conditions specified for compliance. If an open biological treatment unit is used to comply with paragraph (f) or (g) of this section, the owner or operator shall comply with § 63.145(f) or § 63.145(g), respectively, of this subpart. Some biological treatment processes may not require a performance test. Refer to § 63.145(h) and table 36 of this subpart to determine whether the open biological treatment process meets the criteria that exempt the owner or operator from conducting a performance test.

(1) A design evaluation and supporting documentation that addresses the operating characteristics of the treatment process and that is based on operation at a representative wastewater stream flow rate and a concentration under which it would be most difficult to demonstrate compliance. For closed biological treatment processes, the actual mass removal shall be determined by a mass balance over the unit. The mass flow rate of Table 8 or Table 9 compounds exiting the treatment process shall be the sum of the mass flow rate of Table 8 or Table 9 compounds in the wastewater stream exiting the biological treatment process and the mass flow rate of the vented gas stream exiting the control device. The mass flow rate entering the treatment process minus the mass flow rate exiting the process determines the actual mass removal.

(2) Performance tests conducted using test methods and procedures that meet the applicable requirements specified in § 63.145 of this subpart.

(3) The provisions of paragraphs (j)(1) and (j)(2) of this section do not apply to design stream strippers which meet the requirements of paragraph (d) of this section.

(k) Residuals. For each residual removed from a Group 1 wastewater stream, the owner or operator shall control for air emissions by complying with §§ 63.133–137 of this subpart and by complying with one of the provisions in paragraphs (k)(1) through (k)(4) of this section.

(1) Recycle the residual to a production process or sell the residual for the purpose of recycling. Once a residual is returned to a production process, the residual is no longer subject to this section.

(2) Return the residual to the treatment process.

(3) Treat the residual to destroy the total combined mass flow rate of Table 8 and/or Table 9 compounds by 99 percent or more, as determined by the procedures specified in § 63.145(c) or (d) of this subpart.

(4) Comply with the requirements for RCRA treatment options specified in § 63.138(h) of this subpart.

§ 63.139 Process wastewater provisions - control devices.

(a) For each control device or combination of control devices used to comply with the provisions in §§ 63.133 through 63.138 of this subpart, the owner or operator shall operate and maintain the control device or combination of control devices in accordance with the requirements of paragraphs (b) through (f) of this section.

(b) Whenever organic hazardous air pollutants emissions are vented to a control device which is used to comply with the provisions of this subpart, such control device shall be operating.

(c) The control device shall be designed and operated in accordance with paragraph (c)(1), (c)(2), (c)(3), (c)(4), or (c)(5) of this section.

(1) An enclosed combustion device (including but not limited to a vapor incinerator, boiler, or process heater) shall meet the conditions in paragraph (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, alone or in combination with other control devices. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(i) Reduce the total organic compound emissions, less methane and ethane, or total organic hazardous air pollutants emissions vented to the control device by 95 percent by weight or greater;

(ii) Achieve an outlet total organic compound concentration, less methane and ethane, or total organic hazardous air pollutants concentration of 20 parts per million by volume on a dry basis corrected to 3 percent oxygen. The owner or operator shall use either Method 18 of 40 CFR part 60, appendix A, or any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of this part; or

(iii) Provide a minimum residence time of 0.5 seconds at a minimum temperature of 760° C.

(2) A vapor recovery system (including but not limited to a carbon adsorption system or condenser), alone or in combination with other control devices, shall reduce the total organic compound emissions, less methane and ethane, or total organic hazardous air pollutants emissions vented to the control device of 95 percent by weight or greater or achieve an outlet total organic compound concentration, less methane and ethane, or total organic hazardous air pollutants concentration of 20 parts per million by volume, whichever is less stringent. The 20 parts per million by volume performance standard is not applicable to compliance with the provisions of § 63.134 or § 63.135 of this subpart.

(3) A flare shall comply with the requirements of § 63.11(b) of subpart A of this part.

(4) A scrubber, alone or in combination with other control devices, shall reduce the total organic compound emissions, less methane and ethane, or total organic hazardous air pollutants emissions in such a manner that 95 weight-percent is either removed, or destroyed by chemical reaction with the scrubbing liquid or achieve an outlet total organic compound concentration, less methane and ethane, or total organic hazardous air pollutants concentration of 20 parts per million by volume, whichever is less stringent. The 20 parts per million by volume performance standard is not applicable to compliance with the provisions of § 63.134 or § 63.135 of this subpart.

(5) Any other control device used shall, alone or in combination with other control devices, reduce the total organic compound emissions, less methane and ethane, or total organic hazardous air pollutants emissions vented to the control device by 95 percent by weight or greater or achieve an outlet total organic compound concentration, less methane and ethane, or total organic hazardous air pollutants concentration of 20 parts per million by volume, whichever is less stringent. The 20 parts per million by volume performance standard is not applicable to compliance with the provisions of § 63.134 or § 63.135 of this subpart.

(d) Except as provided in paragraph (d)(4) of this section, an owner or operator shall demonstrate that each control device or combination of control devices achieves the appropriate conditions specified in paragraph (c) of this section by using one or more of the methods specified in paragraphs (d)(1), (d)(2), or (d)(3) of this section.

(1) Performance tests conducted using the test methods and procedures specified in § 63.145(i) of this subpart for control devices other than flares; or

(2) A design evaluation that addresses the vent stream characteristics and control device operating parameters specified in paragraphs (d)(2)(i) through (d)(2)(vii) of this section.

(i) For a thermal vapor incinerator, the design evaluation shall consider the vent stream composition, constituent concentrations, and flow rate and shall establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(ii) For a catalytic vapor incinerator, the design evaluation shall consider the vent stream composition, constituent concentrations, and flow rate and shall establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(iii) For a boiler or process heater, the design evaluation shall consider the vent stream composition, constituent concentrations, and flow rate; shall establish the design minimum and average flame zone temperatures and combustion zone residence time; and shall describe the method and location where the vent stream is introduced into the flame zone.

(iv) For a condenser, the design evaluation shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature and shall establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and the design average temperatures of the coolant fluid at the condenser inlet and outlet.

(v) For a carbon adsorption system that regenerates the carbon bed directly on-site in the control device such as a fixed-bed adsorber, the design evaluation shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature and shall establish the design exhaust vent stream organic compound concentration level, adsorption cycle time, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total regeneration stream mass or volumetric flow over the period of each complete carbon bed regeneration cycle, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(vi) For a carbon adsorption system that does not regenerate the carbon bed directly on-site in the control device such as a carbon canister, the design evaluation shall consider the vent stream composition, constituent concentrations, mass or volumetric flow rate, relative humidity, and temperature and shall establish the design exhaust vent stream organic compound concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(vii) For a scrubber, the design evaluation shall consider the vent stream composition; constituent concentrations; liquid-to-vapor ratio; scrubbing liquid flow rate and concentration; temperature; and the reaction kinetics of the constituents with the scrubbing liquid. The design evaluation shall establish the design exhaust vent stream organic compound concentration level and will include the additional information in paragraphs (d)(2)(vii)(A) and (d)(2)(vii)(B) of this section for trays and a packed column scrubber.

(A) Type and total number of theoretical and actual trays;

(B) Type and total surface area of packing for entire column, and for individual packed sections if column contains more than one packed section.

(3) For flares, the compliance determination specified in § 63.11(b) of subpart A of this part and § 63.145(j) of this subpart.

(4) An owner or operator using any control device specified in paragraphs (d)(4)(i) through (d)(4)(iv) of this section is exempt from the requirements in paragraphs (d)(1) through (d)(3) of this section and from the requirements in § 63.6(f) of subpart A of this part, and from the requirements of paragraph (e) of this section.

(i) A boiler or process heater with a design heat input capacity of 44 megawatts or greater.

(ii) A boiler or process heater into which the emission stream is introduced with the primary fuel.

(iii) A boiler or process heater burning hazardous waste for which the owner or operator:

(A) Has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 266, subpart H, or

(B) Has certified compliance with the interim status requirements of 40 CFR part 266, subpart H.

(iv) A hazardous waste incinerator for which the owner or operator has been issued a final permit under 40 CFR part 270 and complies with the requirements of 40 CFR part 264, subpart O, or has certified compliance with the interim status requirements of 40 CFR part 265, subpart O.

(e) The owner or operator of a control device that is used to comply with the provisions of this section shall monitor the control device in accordance with § 63.143 of this subpart.

(f) Except as provided in § 63.140 of this subpart, if gaps, cracks, tears, or holes are observed in ductwork, piping, or connections to covers and control devices during an inspection, a first effort to repair shall be made as soon as practical but no later than 5 calendar days after identification. Repair shall be completed no later than 15 calendar days after identification or discovery of the defect.

§ 63.140 Process wastewater provisions - delay of repair.

(a) Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, is allowed if the repair is technically infeasible without a shutdown, as defined in § 63.101 of subpart F of this part, or if the owner or operator determines that emissions of purged material from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of this equipment shall occur by the end of the next shutdown.

(b) Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified, is allowed if the equipment is emptied or is no longer used to treat or manage Group 1 wastewater streams or residuals removed from Group 1 wastewater streams.

(c) Delay of repair of equipment for which a control equipment failure or a gap, crack, tear, or hole has been identified is also allowed if additional time is necessary due to the unavailability of parts beyond the control of the owner or operator. Repair shall be completed as soon as practical. The owner or operator who uses this provision shall comply with the requirements of § 63.147(b)(7) to document the reasons that the delay of repair was necessary.

§ 63.141 Reserved.

§ 63.142 Reserved.

§ 63.143 Process wastewater provisions - inspections and monitoring of operations.

(a) For each wastewater tank, surface impoundment, container, individual drain system, and oil-water separator that receives, manages, or treats a Group 1 wastewater stream, a residual removed from a Group 1 wastewater stream, a recycled Group 1 wastewater stream, or a recycled residual removed from a Group 1 wastewater stream, the owner or operator shall comply with the inspection requirements specified in table 11 of this subpart.

(b) For each design steam stripper and biological treatment unit used to comply with § 63.138 of this subpart, the owner or operator shall comply with the monitoring requirements specified in table 12 of this subpart.

(c) If the owner or operator elects to comply with Item 1 in table 12 of this subpart, the owner or operator shall request approval to monitor appropriate parameters that demonstrate proper operation of the biological treatment unit. The request shall be submitted according to the procedures specified in § 63.151(f) of this subpart, and shall include a description of planned reporting and recordkeeping procedures. The owner or operator shall include as part of the submittal the basis for the selected monitoring frequencies and the methods that will be used. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means.

(d) If the owner or operator elects to comply with Item 3 in table 12 of this subpart, the owner or operator shall request approval to monitor appropriate parameters that demonstrate proper operation of the selected treatment process. The request shall be submitted according to the procedures specified in § 63.151(f) of this subpart, and shall include a description of planned reporting and recordkeeping procedures. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means.

(e) Except as provided in paragraphs (e)(4) and (e)(5) of this section, for each control device used to comply with the requirements of §§ 63.133 through 63.139 of this subpart, the owner or operator shall comply with the requirements in § 63.139(d) of this subpart, and with the requirements specified in paragraph (e)(1), (e)(2), or (e)(3) of this section.

(1) The owner or operator shall comply with the monitoring requirements specified in table 13 of this subpart; or

(2) The owner or operator shall use an organic monitoring device installed at the outlet of the control device and equipped with a continuous recorder. Continuous recorder is defined in § 63.111 of this subpart; or

(3) The owner or operator shall request approval to monitor parameters other than those specified in paragraphs (e)(1) and (e)(2) of this section. The request shall be submitted according to the procedures specified in § 63.151(f) of this subpart, and shall include a description of planned reporting and recordkeeping procedures. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application or by other appropriate means.

(4) For a boiler or process heater in which all vent streams are introduced with primary fuel, the owner or operator shall comply with the requirements in § 63.139(d) of this subpart but the owner or operator is exempt from the monitoring requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(5) For a boiler or process heater with a design heat input capacity of 44 megawatts or greater, the owner or operator shall comply with the requirements in § 63.139(d) of this subpart but the owner or operator is exempt from the monitoring requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(f) For each parameter monitored in accordance with paragraph (c), (d), or (e) of this section, the owner or operator shall establish a range that indicates proper operation of the treatment process or control device. In order to establish the range, the owner or operator shall comply with the requirements specified in §§ 63.146(b)(7)(ii)(A) and (b)(8)(ii) of this subpart.

(g) Monitoring equipment shall be installed, calibrated, and maintained according to the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

§ 63.144 Process wastewater provisions - test methods and procedures for determining applicability and Group 1/Group 2 determinations (determining which wastewater streams require control).

(a) *Procedures to determine applicability*. An owner or operator shall comply with paragraph (a)(1) or (a)(2) of this section for each wastewater stream to determine which wastewater streams require control for Table 8 and/or Table 9 compounds. The owner or operator may use a combination of the approaches in paragraphs (a)(1) and (a)(2) of this section for different wastewater streams generated at the source.

(1) Determine Group 1 or Group 2 status. Determine whether a wastewater stream is a Group 1 or Group 2 wastewater stream in accordance with paragraphs (b) and (c) of this section.

(2) Designate as Group 1. An owner or operator may designate as a Group 1 wastewater stream a single wastewater stream or a mixture of wastewater streams. The owner or operator is not required to determine the concentration or flow rate for each designated Group 1 wastewater stream for the purposes of this section.

(b) *Procedures to establish concentrations, when determining Group status under paragraph (a)(1) of this section.* An owner or operator who elects to comply with the requirements of paragraph (a)(1) of this section shall determine the annual average concentration for Table 8 and/or Table 9 compounds according to paragraph (b)(1) of this section for existing sources or paragraph (b)(2) of this section for new sources. The annual average concentration shall be a flow weighted average representative of actual or anticipated operation of the chemical manufacturing process unit generating the wastewater over a designated 12 month period. For flexible operation units, the owner or operator shall consider the anticipated production over the designated 12 month period and include all wastewater streams generated by the process equipment during this period. The owner/operator is not required to determine the concentration of Table 8 or Table 9 compounds that are not reasonably expected to be in the process.

(1) *Existing sources*. An owner or operator of an existing source who elects to comply with the requirements of paragraph (a)(1) of this section shall determine the flow weighted total annual average concentration for Table 9 compounds. For the purposes of this section, the term concentration, whether concentration is used alone or with other terms, may be adjusted by multiplying by the compound-specific fraction measured (Fm) factors listed in table 34 of this subpart unless determined by the methods in § 63.144(b)(5)(i)(A) and/or (B). When concentration is determined by Method 305 as specified in § 63.144(b)(5)(i)(B), concentration may be adjusted by dividing by the compound-specific Fm factors listed in table 34 of this subpart. When concentration is determined by Method 25D as specified in § 63.144(b)(5)(i)(A), concentration may not be adjusted by the compound-specific Fm factors listed in table 34 of this subpart. Compound-specific Fm factors may be used only when concentrations of individual compounds are determined or when only one compound is in the wastewater stream. Flow weighted total annual average concentration for Table 9 compounds means the total mass of Table 9 compounds occurring in the wastewater stream during the designated 12-month period divided by the total mass of the wastewater stream during the same designated 12-month period. The total annual average concentration shall be determined for each wastewater stream either at the point of determination, or downstream of the point of determination with adjustment for concentration changes made according to paragraph (b)(6) of this section. The procedures specified in paragraphs (b)(3), (b)(4), and (b)(5) of this section are considered acceptable procedures for determining the annual average concentration. They may be used in combination, and no one procedure shall take precedence over another.

(2) *New sources*. An owner or operator of a new source who elects to comply with the requirements of paragraph (a)(1) of this section shall determine both the flow weighted total annual average concentration for Table 9 compounds and the flow weighted annual average concentration for each Table 8 compound. For the purposes of this section, the term concentration, whether concentration is used alone or with other terms, may be adjusted by multiplying by the compound-specific Fm factors listed in table 34 of this subpart unless determined by the methods in § 63.144(b)(5)(i)(A) and/or (B). When concentration is determined by Method 305 as specified in § 63.144(b)(5)(i)(B), concentration may be adjusted by dividing by the compound-specific Fm factors listed in table 34 of this subpart. When concentration is determined by Method 25D as specified in § 63.144(b)(5)(i)(A), concentration may not be adjusted by the compound-specific Fm factors listed in table 34 of this subpart. Compound-specific fraction measured factors are compound specific and shall be used only when concentration of individual compounds are determined or when only one compound is in the wastewater stream. The flow weighted annual average concentration of each Table 8 compound means the mass of each Table 8 compound occurring in the wastewater stream during the designated 12-month period divided by the total mass of the wastewater stream during the same designated 12-month period. Flow weighted total annual average concentration for Table 9 compounds means the total mass of Table 9 compounds occurring in the wastewater stream during the designated 12-month period divided by the total mass of the wastewater stream during the same designated 12-month period. The annual average concentration shall be determined for each wastewater stream either at the point of determination, or downstream of the point of determination with adjustment for concentration changes made according to paragraph (b)(6) of this section. Procedures specified in paragraphs (b)(3), (b)(4), and (b)(5) of this section

are considered acceptable procedures for determining the annual average concentration. They may be used in combination, and no one procedure shall take precedence over another.

(3) *Knowledge of the wastewater*. Where knowledge is used to determine the annual average concentration, the owner or operator shall provide sufficient information to document the annual average concentration for wastewater streams determined to be Group 2 wastewater streams. Documentation to determine the annual average concentration is not required for Group 1 streams. Examples of acceptable documentation include material balances, records of chemical purchases, process stoichiometry, or previous test results. If test data are used, the owner or operator shall provide documentation describing the testing protocol and the means by which any losses of volatile compounds during sampling, and the bias and accuracy of the analytical method, were accounted for in the determination.

(4) *Bench-scale or pilot-scale test data*. Where bench-scale or pilot-scale test data are used to determine the annual average concentration, the owner or operator shall provide sufficient information to document that the data are representative of the actual annual average concentration, or are reliably indicative of another relevant characteristic of the wastewater stream that could be used to predict the annual average concentration. For concentration data, the owner or operator shall also provide documentation describing the testing protocol, and the means by which any losses of volatile compounds during sampling, and the bias and accuracy of the analytical method, were accounted for in the determination of annual average concentration.

(5) *Test data from sampling at the point of determination or at a location downstream of the point of determination.* Where an owner or operator elects to comply with paragraph (a)(1) of this section by measuring the concentration for the relevant Table 8 or Table 9 compounds, the owner or operator shall comply with the requirements of this paragraph. For each wastewater stream, measurements shall be made either at the point of determination, or downstream of the point of determination with adjustment for concentration changes made according to paragraph (b)(6) of this section. A minimum of three samples from each wastewater stream shall be taken. Samples may be grab samples or composite samples.

(i) *Methods.* The owner or operator shall use any of the methods specified in paragraphs (b)(5)(i)(A) through (b)(5)(i)(F) of this section.

(A) *Method 25D*. Use procedures specified in Method 25D of 40 CFR part 60, appendix A.

(B) *Method 305*. Use procedures specified in Method 305 of 40 CFR part 63, appendix A.

(C) *Methods 624 and 625*. Use procedures specified in Methods 624 and 625 of 40 CFR part 136, appendix A and comply with the sampling protocol requirements specified in paragraph (b)(5)(ii) of this section. If these methods are used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 shall be followed. For Method 625, make corrections to the compounds for which the analysis is being conducted based on the accuracy as recovery factors in Table 7 of the method.

(D) *Method 1624 and Method 1625*. Use procedures specified in Method 1624 and Method 1625 of 40 CFR part 136, appendix A and comply with the requirements specified in paragraph (b)(5)(ii) of this section. If these methods are used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 shall be followed.

(E) *Other EPA method(s).* Use procedures specified in the method and comply with the requirements specified in paragraphs (b)(5)(ii) and either paragraph (b)(5)(iii)(A) or (b)(5)(iii)(B) of this section.

(F) *Method(s) other than EPA method*. Use procedures specified in the method and comply with the requirements specified in paragraphs (b)(5)(ii) and (b)(5)(iii)(A) of this section.

(ii) *Sampling plan*. The owner or operator who is expressly referred to this paragraph by provisions of this subpart shall prepare a sampling plan. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity. The sample plan shall include procedures for determining recovery efficiency of

the relevant hazardous air pollutants listed in table 8 or table 9 of this subpart. An example of an acceptable sampling plan would be one that incorporates similar sampling and sample handling requirements to those of Method 25D of 40 CFR part 60, appendix A. The sampling plan shall be maintained at the facility.

(iii) *Validation of methods*. The owner or operator shall validate EPA methods other than Methods 25D, 305, 624, 625, 1624, and 1625 using the procedures specified in paragraph (b)(5)(iii)(A) or (b)(5)(iii)(B) of this section. The owner or operator shall validate other methods as specified in paragraph (b)(5)(iii)(A) of this section.

(A) *Validation of EPA methods and other methods*. The method used to measure organic hazardous air pollutants concentrations in the wastewater shall be validated according to section 5.1 or 5.3, and the corresponding calculations in section 6.1 or 6.3, of Method 301 of appendix A of this part. The data are acceptable if they meet the criteria specified in section 6.1.5 or 6.3.3 of Method 301 of appendix A of this part. If correction is required under section 6.3.3 of Method 301 of appendix A of this part, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 of appendix A of this part are not required. The concentrations of the individual organic hazardous air pollutants measured in the water may be corrected to their concentrations had they been measured by Method 305 of appendix A of this part, by multiplying each concentration by the compound-specific fraction measured (Fm) factor listed in table 34 of this subpart.

(B) *Validation for EPA methods*. Follow the procedures as specified in ‘‘Alternative Validation Procedure for EPA Waste Methods’’ 40 CFR part 63, appendix D.

(iv) *Calculations of average concentration*. The average concentration for each individually speciated Table 8 compound shall be calculated by adding the individual values determined for the specific compound in each sample and dividing by the number of samples. The total average concentration of Table 9 compounds shall be calculated by first summing the concentration of the individual compounds to obtain a total hazardous air pollutants concentration for the sample; add the sample totals and then divide by the number of samples in the run to obtain the sample average for the run. If the method used does not speciate the compounds, the sample results should be added and this total divided by the number of samples in the run to obtain the sample average for the run.

(6) *Adjustment for concentrations determined downstream of the point of determination*. The owner or operator shall make corrections to the annual average concentration or total annual average concentration when the concentration is determined downstream of the point of determination at a location where: two or more wastewater streams have been mixed; one or more wastewater streams have been treated; or, losses to the atmosphere have occurred. The owner or operator shall make the adjustments either to the individual data points or to the final annual average concentration.

(c) *Procedures to determine flow rate, when evaluating Group status under paragraph (a)(1) of this section*. An owner or operator who elects to comply with paragraph (a)(1) of this section shall determine the annual average flow rate of the wastewater stream either at the point of determination for each wastewater stream, or downstream of the point of determination with adjustment for flow rate changes made according to paragraph (c)(4) of this section. These procedures may be used in combination for different wastewater streams at the source. The annual average flow rate for the wastewater stream shall be representative of actual or anticipated operation of the chemical manufacturing process unit generating the wastewater over a designated 12-month period. The owner or operator shall consider the total annual wastewater volume generated by the chemical manufacturing process unit. If the chemical manufacturing process unit is a flexible operation unit, the owner or operator shall consider all anticipated production in the process equipment over the designated 12-month period. The procedures specified in paragraphs (c)(1), (c)(2), and (c)(3) of this section are considered acceptable procedures for determining the flow rate. They may be used in combination, and no one procedure shall take precedence over another.

(1) *Knowledge of the wastewater*. The owner or operator may use knowledge of the wastewater stream and/or the process to determine the annual average flow rate. The owner or operator shall use the maximum expected annual average production capacity of the process unit, knowledge of the process, and/or

mass balance information to either: Estimate directly the annual average wastewater flow rate; or estimate the total annual wastewater volume and then divide total volume by 525,600 minutes in a year. Where knowledge is used to determine the annual average flow rate, the owner or operator shall provide sufficient information to document the flow rate for wastewater streams determined to be Group 2 wastewater streams. Documentation to determine the annual average flow rate is not required for Group 1 streams.

(2) *Historical Records*. The owner or operator may use historical records to determine the annual average flow rate. Derive the highest annual average flow rate of wastewater from historical records representing the most recent 5 years of operation or, if the process unit has been in service for less than 5 years but at least 1 year, from historical records representing the total operating life of the process unit. Where historical records are used to determine the annual average flow rate, the owner or operator shall provide sufficient information to document the flow rate for wastewater streams determined to be Group 2 wastewater streams. Documentation to determine the annual average flow rate is not required for Group 1 streams.

(3) *Measurements of flow rate*. Where an owner or operator elects to comply with paragraph (a)(1) of this section by measuring the flow rate, the owner or operator shall comply with the requirements of this paragraph. Measurements shall be made at the point of determination, or at a location downstream of the point of determination with adjustments for flow rate changes made according to paragraph (c)(4) of this section. Where measurement data are used to determine the annual average flow rate, the owner or operator shall provide sufficient information to document the flow rate for wastewater streams determined to be Group 2 wastewater streams. Documentation to determine the annual average flow rate is not required for Group 1 streams.

(4) *Adjustment for flow rates determined downstream of the point of determination*. The owner or operator shall make corrections to the annual average flow rate of a wastewater stream when it is determined downstream of the point of determination at a location where two or more wastewater streams have been mixed or one or more wastewater streams have been treated. The owner or operator shall make corrections for such changes in the annual average flow rate.

§63.145 Process wastewater provisions - test methods and procedures to determine compliance.

(a) *General*. This section specifies the procedures for performance tests that are conducted to demonstrate compliance of a treatment process or a control device with the control requirements specified in §63.138 of this subpart. Owners or operators conducting a design evaluation shall comply with the requirements of paragraph (a)(1) or (a)(2) of this section. Owners or operators conducting a performance test shall comply with the applicable requirements in paragraphs (a) through (i) of this section.

(1) *Performance tests and design evaluations for treatment processes*. If design steam stripper option (§63.138(d)) or RCRA option (§63.138(h)) is selected to comply with §63.138, neither a design evaluation nor a performance test is required. For any other non-biological treatment process, the owner or operator shall conduct either a design evaluation as specified in §63.138(j), or a performance test as specified in this section. For closed biological treatment processes, the owner or operator shall conduct either a design evaluation as specified in §63.138(j), or a performance test as specified in this section. For each open biological treatment process, the owner or operator shall conduct a performance test as specified in this section.

Note: Some open biological treatment processes may not require a performance test. Refer to §63.145(h) and table 36 of this subpart to determine whether the biological treatment process meets the criteria that exempt the owner or operator from conducting a performance test.

(2) *Performance tests and design evaluations for control devices*. The owner or operator shall conduct either a design evaluation as specified in §63.139(d), or a performance test as specified in paragraph (i) of this section for control devices other than flares and paragraph (j) of this section for flares.

(3) *Representative process unit operating conditions*. Compliance shall be demonstrated for representative operating conditions. Operations during periods of startup, shutdown, or malfunction and

periods of nonoperation shall not constitute representative conditions. The owner or operator shall record the process information that is necessary to document operating conditions during the test.

(4) *Representative treatment process or control device operating conditions*. Performance tests shall be conducted when the treatment process or control device is operating at a representative inlet flow rate and concentration. If the treatment process or control device will be operating at several different sets of representative operating conditions, the owner or operator shall comply with paragraphs (a)(4)(i) and (a)(4)(ii) of this section. The owner or operator shall record information that is necessary to document treatment process or control device operating conditions during the test.

(i) *Range of operating conditions*. If the treatment process or control device will be operated at several different sets of representative operating conditions, performance testing over the entire range is not required. In such cases, the performance test results shall be supplemented with modeling and/or engineering assessments to demonstrate performance over the operating range.

(ii) *Consideration of residence time*. If concentration and/or flow rate to the treatment process or control device are not relatively constant (i.e., comparison of inlet and outlet data will not be representative of performance), the owner or operator shall consider residence time, when determining concentration and flow rate.

(5) *Testing equipment*. All testing equipment shall be prepared and installed as specified in the applicable test methods, or as approved by the Administrator.

(6) *Compounds not required to be considered in performance tests or design evaluations*. Compounds that meet the requirements specified in paragraph (a)(6)(i), (a)(6)(ii), or (a)(6)(iii) of this section are not required to be included in the performance test. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in table 34 of this subpart. Concentration measurements based on methods other than Method 305 shall not be adjusted by the compound-specific Fm factor listed in table 34 of this subpart.

(i) Compounds not used or produced by the chemical manufacturing process unit; or

(ii) Compounds with concentrations at the point of determination that are below 1 part per million by weight; or (iii) Compounds with concentrations at the point of determination that are below the lower detection limit where the lower detection limit is greater than 1 part per million by weight. The method shall be an analytical method for wastewater which has that compound as a target analyte.

(7) *Treatment using a series of treatment processes*. In all cases where the wastewater provisions in this subpart allow or require the use of a treatment process to comply with emissions limitations, the owner or operator may use multiple treatment processes. The owner or operator complying with the requirements of §63.138(a)(7)(i), when wastewater is conveyed by hard-piping, shall comply with either §63.145(a)(7)(i) or §63.145(a)(7)(ii) of this subpart. The owner or operator complying with the requirements of §63.138(a)(7)(ii) of this subpart shall comply with the requirements of §63.145(a)(7)(ii) of this subpart.

(i) The owner or operator shall conduct the performance test across each series of treatment processes. For each series of treatment processes, inlet concentration and flow rate shall be measured either where the wastewater stream enters the first treatment process in a series of treatment processes, or prior to the first treatment process as specified in § 63.145(a)(9) of this subpart. For each series of treatment processes, outlet concentration and flow rate shall be measured where the wastewater stream exits the last treatment process in the series of treatment processes, except when the last treatment process is an open or a closed aerobic biological treatment process demonstrating compliance by using the procedures in § 63.145 (f) or (g) of this subpart. When the last treatment process is either an open or a closed aerobic biological treatment process demonstrating compliance by using the procedures in § 63.145 (f) or (g) of this subpart, inlet and outlet concentrations and flow rates shall be measured as provided in paragraphs (a)(7)(i)(A) and (a)(7)(i)(B) of this section. The mass flow rates removed or destroyed by the series of treatment processes and by the biological treatment process are all used to calculate actual mass removal (AMR) as specified in § 63.145(f)(5)(ii) of this subpart.

(A) The inlet and outlet to the series of treatment processes prior to the

biological treatment process are the points at which the wastewater enters the first treatment process and exits the last treatment process in the series, respectively, except as provided in paragraph (a)(9)(ii) of this section.

(B) The inlet to the biological treatment process shall be the point at which the wastewater enters the biological treatment process or the outlet from the series of treatment processes identified in paragraph (a)(7)(i)(A) of this section, except as provided in paragraph (a)(9)(ii) of this section.

(ii) The owner or operator shall conduct the performance test across each treatment process in the series of treatment processes. The mass flow rate removed or destroyed by each treatment process shall be added together to determine whether compliance has been demonstrated using § 63.145 (c), (d), (e), (f), and (g), as applicable. If a biological treatment process is one of the treatment processes in the series of treatment processes, the inlet to the biological treatment process shall be the point at which the wastewater enters the biological treatment process, or the inlet to the equalization tank if all the criteria of paragraph (a)(9)(ii) of this section are met.

(8) When using a biological treatment process to comply with § 63.138 of this subpart, the owner or operator may elect to calculate the AMR using a subset of Table 8 and/or Table 9 compounds determined at the point of determination or downstream of the point of determination with adjustment for concentration and flowrate changes made according to § 63.144(b)(6) and § 63.144(c)(4) of this subpart, respectively. All Table 8 and/or Table 9 compounds measured to determine the RMR, except as provided by § 63.145(a)(6), shall be included in the RMR calculation.

(9) The owner or operator determining the inlet for purposes of demonstrating compliance with § 63.145 (e), (f), or (g) of this subpart may elect to comply with paragraph (a)(9)(i) or (a)(9)(ii) of this section.

(i) When wastewater is conveyed exclusively by hard-piping from the point of determination to a treatment process that is either the only treatment process or the first in a series of treatment processes (i.e., no treatment processes or other waste management units are used upstream of this treatment process to store, handle, or convey the wastewater), the inlet to the treatment process shall be at any location from the point of determination to where the wastewater stream enters the treatment process. When samples are taken upstream of the treatment process and before wastewater streams have converged, the owner or operator shall ensure that the mass flow rate of all Group 1 wastewater streams is accounted for when using § 63.138 (e) or (f) to comply and that the mass flow rate of all Group 1 and Group 2 wastewater streams is accounted for when using § 63.138(g) to comply, except as provided in § 63.145(a)(6).

(ii) The owner or operator may consider the inlet to the equalization tank as the inlet to the biological treatment process if all the criteria in paragraphs (a)(9)(ii)(A) through (a)(9)(ii)(C) of this section are met. The outlet from the series of treatment processes prior to the biological treatment process is the point at which the wastewater exits the last treatment process in the series prior to the equalization tank, if the equalization tank and biological treatment process are part of a series of treatment processes. The owner or operator shall ensure that the mass flow rate of all Group 1 wastewater streams is accounted for when using § 63.138 (e) or (f) to comply and that the mass flow rate of all Group 1 and Group 2 wastewater streams is accounted for when using § 63.138(g) to comply, except as provided in § 63.145(a)(6).

(A) The wastewater is conveyed by hard-piping from either the last previous treatment process or the point of determination to the equalization tank.

(B) The wastewater is conveyed from the equalization tank exclusively by hard-piping to the biological treatment process and no treatment processes or other waste management units are used to store, handle, or convey the wastewater between the equalization tank and the biological treatment process.

(C) The equalization tank is equipped with a fixed roof and a closed vent system that routes emissions to a control device that meets the requirements of § 63.133(a)(2)(i) and § 63.133 (b)(1) through (b)(4) of this subpart.

(b) *Noncombustion treatment process - concentration limits*. This paragraph applies to performance tests that are conducted to demonstrate compliance of a noncombustion treatment process with the parts per million by

weight wastewater stream concentration limits at the outlet of the treatment process. This compliance option is specified in § 63.138(b)(1) and § 63.138(c)(1). Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per § 63.144(b)(5)(ii). Samples shall be collected and analyzed using the procedures specified in § 63.144(b)(5)(i), (b)(5)(ii), and (b)(5)(iii) of this subpart. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements based on Method 305 may be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 34 of this subpart. Concentration measurements based on methods other than Method 305 may be adjusted by multiplying each concentration by the compound-specific Fm factor listed in table 34 of this subpart. (For wastewater streams that are Group 1 for both Table 8 and Table 9 compounds, compliance is demonstrated only if the sum of the concentrations of Table 9 compounds is less than 50 ppmw, and the concentration of each Table 8 compound is less than 10 ppmw.)

(c) *Noncombustion, nonbiological treatment process: Percent mass removal/destruction option.* This paragraph applies to performance tests that are conducted to demonstrate compliance of a noncombustion, nonbiological treatment process with the percent mass removal limits specified in § 63.138(e) (1) and (2) for Table 8 and/or Table 9 compounds. The owner or operator shall comply with the requirements specified in § 63.145 (c)(1) through (c)(6) of this subpart.

(1) *Concentration*. The concentration of Table 8 and/or Table 9 compounds entering and exiting the treatment process shall be determined as provided in this paragraph. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per § 63.144(b)(5)(ii). The method shall be an analytical method for wastewater which has that compound as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1- hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in Table 34 of this subpart. Concentration measurements based on methods other than Method 305 shall not adjust by the compound-specific Fm factor listed in Table 34 of this subpart.

(2) *Flow rate*. The flow rate of the entering and exiting wastewater streams shall be determined using inlet and outlet flow measurement devices, respectively. Where the outlet flow is not greater than the inlet flow, a flow measurement device shall be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Calculation of mass flow rate - for noncombustion, nonbiological treatment processes*. The mass flow rates of Table 8 and/or Table 9 compounds entering and exiting the treatment process are calculated as follows.

$$QMW_a = \frac{\rho}{p \times 10^6}\left(\sum_{k=1}^{p} Q_{a,k} C_{T,a,k}\right) \qquad \text{(Eqn WW1)}$$

$$QMWb = \frac{\rho}{p \times 10^6}\left(\sum_{k=1}^{p} Q_{b,k} C_{T,b,k}\right) \qquad \text{(Eqn WW2)}$$

Where:

QMW_a, QMW_b = Mass flow rate of Table 8 or Table 9 compounds, average of all runs, in wastewater entering (QMW_a) or exiting (QMW_b) the treatment process, kilograms per hour.

ρ = Density of the wastewater, kilograms per cubic meter.

$Q_{a,k}$, $Q_{b,k}$ = Volumetric flow rate of wastewater entering ($Q_{a,k}$) or exiting ($Q_{b,k}$) the treatment process during each run k, cubic meters per hour.

$C_{T,a,k}$, $C_{T,b,k}$ = Total concentration of Table 8 or Table 9 compounds in wastewater entering ($C_{T,a,k}$) or exiting ($C_{T,b,k}$) the treatment process during each run k, parts per million by weight.
p = Number of runs.
k = Identifier for a run.
10^6 = conversion factor, mg/kg

(4) *Percent removal calculation for mass flow rate*. The percent mass removal across the treatment process shall be calculated as follows:
Where:

$$E = \frac{QMW_a - QMW_b}{QMW_a} \times 100 \qquad \text{(Eqn WW3)}$$

E = Removal or destruction efficiency of the treatment process, percent.

QMW_a, QMW_b = Mass flow rate of Table 8 or Table 9 compounds in wastewater entering (QMW_a) and exiting (QMW_b) the treatment process, kilograms per hour (as calculated using Equations WW1 and WW2).

(5) *Calculation of flow-weighted average of Fr values*. If complying with § 63.138(e)(2), use Equation WW8 to calculate the flow-weighted average of the Fr values listed in Table 9 of this subpart. When the term ‘‘combustion’’ is used in Equation WW8, the term ‘‘treatment process’’ shall be used for the purposes of this paragraph.

(6) *Compare mass removal efficiency to required efficiency*. Compare the mass removal efficiency (calculated in Equation WW3) to the required efficiency as specified in § 63.138(e) of this subpart. If complying with § 63.138(e)(1), compliance is demonstrated if the mass removal efficiency is 99 percent or greater. If complying with § 63.138(e)(2), compliance is demonstrated if the mass removal efficiency is greater than or equal to the flow-weighted average of the Fr values calculated in Equation WW8.

(d) *Combustion treatment processes: percent mass removal/destruction option*. This paragraph applies to performance tests that are conducted to demonstrate compliance of a combustion treatment process with the percent mass destruction limits specified in § 63.138(e) (1) and (2) for Table 9 compounds, and/or § 63.138(e)(1) for Table 8 compounds. The owner or operator shall comply with the requirements specified in § 63.145 (d)(1) through (d)(9) of this subpart. (Wastewater streams that are Group 1 for both Table 8 and Table 9 compounds need only do the compliance demonstration for Table 9 compounds.)

(1) *Concentration in wastewater stream entering the combustion treatment process*. The concentration of Table 8 and/or Table 9 compounds entering the treatment process shall be determined as provided in this paragraph. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per § 63.144(b)(5)(ii). The method shall be an analytical method for wastewater which has that compound as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements based on Method 305 of appendix A of this part shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in table 34 of this subpart. Concentration measurements based on methods other than Method 305 shall not adjust by the compound-specific Fm factor listed in table 34 of this subpart.

(2) *Flow rate of wastewater entering the combustion treatment process*. The flow rate of the wastewater stream entering the combustion treatment process shall be determined using an inlet flow meter. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Calculation of mass flow rate in wastewater stream entering combustion treatment processes*. The mass flow rate of Table 8 and/or Table 9 compounds entering the treatment process is calculated as follows:

$$QMW_a = \frac{\rho}{p \times 10^6}\left(\sum_{k=1}^{p} Q_{a,k} \times C_{T,a,k}\right) \qquad \text{(Eqn WW4)}$$

Where:
QMW_a = Mass flow rate of Table 8 or Table 9 compounds entering the combustion unit, kilograms per hour.
ρ = Density of the wastewater stream, kilograms per cubic meter.
$Q_{a,k}$ = Volumetric flow rate of wastewater entering the combustion unit during run k, cubic meters per hour.
$C_{T,a,k}$ = Total concentration of Table 8 or Table 9 compounds in the wastewater stream entering the combustion unit during run k, parts per million by weight.
p = Number of runs.
k = Identifier for a run.

(4) *Concentration in vented gas stream exiting the combustion treatment process*. The concentration of Table 8 and/or Table 9 compounds exiting the combustion treatment process in any vented gas stream shall be determined as provided in this paragraph. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced timeintervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements shall be determined using Method 18 of 40 CFR part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301 of appendix A of this part may be used.

(5) *Volumetric flow rate of vented gas stream exiting the combustion treatment process*. The volumetric flow rate of the vented gas stream exiting the combustion treatment process shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate. Volumetric flow rate measurements shall be taken at the same time as the concentration measurements.

(6) *Calculation of mass flow rate of vented gas stream exiting combustion treatment processes*. The mass flow rate of Table 8 and/or Table 9 compounds in a vented gas stream exiting the combustion treatment process shall be calculated as follows:

Reserved - 4/26/99 **(Eqn WW5)**

$$QMG_b = K_2\left(\sum_{I=1}^{N} CG_{b,i}MW_i\right)QG_b \qquad \text{(Eqn WW6)}$$

Where:
$CG_{a,i}$, $Cg_{b,i}$ = Concentration of total organic compounds (TOC) (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream, entering ($Cg_{a,i}$) and exiting ($CG_{b,i}$) the control device, dry basis, parts per million by volume.
QMG_a, QMG_b = Mass rate of TOC (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream, entering (QMG_a) and exiting (QMG_b) the control device, dry basis, kilograms per hour.
MW_i = Molecular weight of a component, kilogram/kilogram-mole.
QG_a,QG_b = Flow rate of gas stream entering (QG_a) and exiting (QG_b) the control device, dry standard cubic meters per hour.
K_2 = Constant, 41.57×10^{-9} (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram), where standard temperature (gram-mole per standard cubic meter) is 20° Celsius.
i = Identifier for a compound.
n = Number of components in the sample.

(7) *Destruction efficiency calculation*. The destruction efficiency of the combustion unit for Table 8 and/or Table 9 compounds shall be calculated as follows:

$$E = \frac{QMW_a - QMG_b}{QMW_a} * 100 \qquad \text{(Eqn WW7)}$$

Where:
E = Destruction efficiency of Table 8 or Table 9 compounds for the combustion unit, percent.

QMW_a = Mass flow rate of Table 8 or Table 9 compounds entering the combustion unit, kilograms per hour.
QMG_b = Mass flow rate of Table 8 or Table 9 compounds in vented gas stream exiting the combustion treatment process, kilograms per hour.

(8) *Calculation of flow-weighted average of Fr values*. Use Equation WW8 to calculate the flow-weighted average of the Fr values listed in table 9 of this subpart.

$$Fr_{avg} = \left[\frac{\sum_{i=1}^{n} \sum_{k=1}^{p} Fr_i \times C_{i,a,k} \times Q_{a,k}}{\sum_{k=1}^{p} \sum_{i=1}^{n} C_{i,a,k} \times Q_{a,k}} \right] \times 100 \qquad \text{(Eqn WW8)}$$

Where:
Fr_{avg} = Flow-weighted average of the Fr values.
$C_{i,a,k}$ = Concentration of Table 8 and/or Table 9 compounds in wastewater stream entering the combustion unit, during run k, parts per million by weight.
$Q_{a,k}$ = Volumetric flow rate of wastewater entering the combustion unit during run k, cubic meters per hour.
Fr_i = Compound-specific Fr value listed in table 9 of this subpart.

(9) *Calculate flow-weighted average of Fr values and compare to mass destruction efficiency*. Compare the mass destruction efficiency (calculated in Equation WW 7) to the required efficiency as specified in § 63.138(e). If complying with § 63.138(e)(1), compliance is demonstrated if the mass destruction efficiency is 99 percent or greater. If complying with § 63.138(e)(2), compliance is demonstrated if the mass destruction efficiency is greater than or equal to the flow-weighted average of the Fr value calculated in Equation WW8.

(e) *Non-combustion treatment processes including closed biological treatment processes: RMR option*. This paragraph applies to performance tests for non-combustion treatment processes other than open biological treatment processes to demonstrate compliance with the mass removal provisions for Table 8 and/or Table 9 compounds. Compliance options for noncombustion treatment processes are specified in § 63.138(f) of this subpart. Compliance options for closed aerobic or anaerobic biological treatment processes are specified in § 63.138(f) and § 63.138(g) of this subpart. When complying with § 63.138(f), the owner or operator shall comply with the requirements specified in § 63.145(e)(1) through (e)(6) of this subpart. When complying with § 63.138(g), the owner or operator shall comply with the requirements specified in § 63.145(e)(1) through (e)(6) of this subpart. (Wastewater streams that are Group 1 for both Table 8 and Table 9 compounds need only do the compliance demonstration for Table 9 compounds.)

(1) *Concentration in wastewater stream*. The concentration of Table 8 and/or Table 9 compounds shall be determined as provided in this paragraph. Concentration measurements to determine RMR shall be taken at the point of determination or downstream of the point of determination with adjustment for concentration change made according to § 63.144(b)(6) of this subpart. Concentration measurements to determine AMR shall be taken at the inlet and outlet to the treatment process and as provided in § 63.145(a)(7) for a series of treatment processes. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per § 63.144(b)(5)(ii). The method shall be an analytical method for wastewater which has that compound as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in table 34 of this subpart. Concentration measurements based on methods other than Method 305 shall not adjust by the compound-specific Fm factor listed in table 34 of this subpart.

(2) *Flow rate*. Flow rate measurements to determine RMR shall be taken at the point of determination or downstream of the point of determination with adjustment for flow rate change made according to § 63.144(c)(4) of this subpart. Flow rate measurements to determine AMR shall be taken at the inlet and outlet

to the treatment process and as provided in § 63.145(a)(7) for a series of treatment processes. Flow rate shall be determined using inlet and outlet flow measurement devices. Where the outlet flow is not greater than the inlet flow, a flow measurement device shall be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Calculation of RMR for non-combustion treatment processes including closed biological treatment processes*. When using § 63.138(f) to comply, the required mass removal of Table 8 and/or Table 9 compounds for each Group 1 wastewater stream shall be calculated as specified in paragraph (e)(3)(i) of this section. When using § 63.138(g) to comply, the required mass removal shall be calculated as specified in paragraph (e)(3)(ii) of this section.

(i) When using § 63.138(f) to comply, the required mass removal of Table 8 and/or Table 9 compounds for each Group 1 wastewater stream shall be calculated using Equation WW9.

$$RMR = \frac{\rho}{10^9} Q \sum_{i=1}^{n} \left(C_i \times Fr_i \right) \qquad \text{(Eqn WW9)}$$

Where:
RMR = Required mass removal for treatment process or series of treatment processes, kilograms per hour.
ρ = Density of the Group 1 wastewater stream, kilograms per cubic meter.
Q = Volumetric flow rate of wastewater determination, liters per hour.
i = Identifier for a compound.
n = Number of Table 8 or Table 9 compounds in stream.
C_i = Concentration of Table 8 or Table 9 compounds at the point of determination, parts per million by weight.
Fr_i = Fraction removal value of a Table 8 or Table 9 compound. Fr values are listed in table 9 of this subpart.
10^9 = Conversion factor, mg/kg * l/m^3 .

(ii) When using § 63.138(g) to comply, the required mass removal is 95 percent of the mass flow rate for all Group 1 and Group 2 wastewater streams combined for treatment. The required mass removal of Table 8 and/or Table 9 compounds for all Group 1 and Group 2 wastewater streams combined for treatment when complying with § 63.138(g) shall be calculated using the following equation:

$$RMR = \frac{0.95\rho}{10^9} Q \sum_{i=1}^{n} \left(Ci \right) \qquad \text{(Eqn WW9a)}$$

Where:
RMR = Required mass removal for treatment process or series of treatment processes, kilograms per hour.
ρ = Density of the Group 1 wastewater stream, kilograms per cubic meter.
Q = Volumetric flow rate of wastewater stream at the point of determination, liters per hour.
i = Identifier for a compound.
n = Number of Table 8 or Table 9 compounds in stream.
C_i = Concentration of Table 8 or Table 9 compounds at the point of determination, parts per million by weight.
10^9 = Conversion factor, mg/kg * l/m^3

(4) (i) The required mass removal is calculated by summing the required mass removal for each Group 1 wastewater stream to be combined for treatment when complying with § 63.138(f).

(ii) The required mass removal is calculated by summing the required mass removal for all Group 1 and Group 2 wastewater streams combined for treatment when complying with § 63.138(g).

(5) *The AMR calculation procedure for non-combustion treatment processes including closed biological treatment processes*. The AMR shall be calculated as follows:

$$AMR = (QMW_a - QMW_b) \qquad \text{(Eqn WW10)}$$

Where:
AMR = Actual mass removal of Table 8 or Table 9 compounds achieved by treatment process or series of treatment processes, kilograms per hour.
QMW_a = Mass flow rate of Table 8 or Table 9 compounds in wastewater entering the treatment process or first treatment process in a series of treatment processes, kilograms per hour.
QMW_b = Mass flow rate of Table 8 or Table 9 compounds in wastewater exiting the last treatment process in a series of treatment processes, kilograms per hour.

(6) *Compare RMR to AMR*. When complying with § 63.138(f), compare the RMR calculated in Equation WW9 to the AMR calculated in Equation WW10. Compliance is demonstrated if the AMR is greater than or equal to the RMR. When complying with § 63.138(g),
compare the RMR calculated in Equation WW–9a to the AMR calculated in Equation WW10. Compliance is demonstrated if the AMR is greater than or equal to 95-percent mass removal.

(f) *Open or closed aerobic biological treatment processes: Required mass removal (RMR) option.* This paragraph applies to the use of performance tests that are conducted for open or closed aerobic biological treatment processes to demonstrate compliance with the mass removal provisions for Table 8 and/or Table 9 compounds. These compliance options are specified in § 63.138(f) of this subpart. The owner or operator shall comply with the requirements specified in § 63.145 (f)(1) through (f)(6) of this subpart. Some compounds may not require a performance test. Refer to § 63.145(h) and table 36 of this subpart to determine which compounds may be exempt from the requirements of this paragraph.

(1) *Concentration in wastewater stream*. The concentration of Table 8 and/or Table 9 compounds shall be determined as provided in this paragraph. Concentration measurements to determine RMR shall be taken at the point of determination or downstream of the point of determination with adjustment for concentration change made according to § 63.144(b)(6) of this subpart. Concentration measurements to determine AMR shall be taken at the inlet and outlet to the treatment process and as provided in § 63.145(a)(7) for a series of treatment processes. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per § 63.144(b)(5)(ii). The method shall be an analytical method for wastewater which has that compound as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed in table 34 of this subpart. Concentration measurements based on methods other than Method 305 shall not adjust by the compound-specific Fm factor listed in table 34 of this subpart.

(2) *Flow rate*. Flow rate measurements to determine RMR shall be taken at the point of determination or downstream of the point of determination with adjustment for flow rate change made according to § 63.144(c)(4) of this subpart. Flow rate measurements to determine AMR shall be taken at the inlet and outlet to the treatment process and as provided in § 63.145(a)(7) for a series of treatment processes. Flow rate shall be determined using inlet and outlet flow measurement devices. Where the outlet flow is not greater than the inlet flow, a flow measurement device shall be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Calculation of RMR for open or closed aerobic biological treatment processes*. The required mass removal of Table 8 and/or Table 9 compounds for each Group 1 wastewater stream shall be calculated using the following equation:

$$RMR = \frac{\rho}{10^9} Q \sum_{i=1}^{n} \left(C_i \times Fr_i \right) \qquad \text{(Eqn WW11)}$$

Where:
RMR = Required mass removal for treatment process or series of treatment processes, kilograms per hour.
ρ = Density of the Group 1 wastewater stream, kilograms per cubic meter.

Q = Volumetric flow rate of wastewater stream at the point of determination, liters per hour.
i = Identifier for a compound.
n = Number of Table 8 or Table 9 compounds in stream.
C_i = Concentration of Table 8 or Table 9 compounds at the point of determination, parts per million by weight.
Fr_i = Fraction removal value of a Table 8 or Table 9 compound. Fr values are listed in table 9 of this subpart.
10^9 = Conversion factor, mg/kg * l/m^3 .

(4) The required mass removal is calculated by adding together the required mass removal for each Group 1 wastewater stream to be combined for treatment.

(5) *Actual mass removal calculation procedure for open or closed aerobic biological treatment processes*. The actual mass removal (AMR) shall be calculated using Equation WW12 as specified in paragraph (f)(5)(i) of this section when the performance test is performed across the open or closed aerobic biological treatment process only. If compliance is being demonstrated in accordance with § 63.145(a)(7)(i), the AMR for the series shall be calculated using Equation WW13 in § 63.145(f)(5)(ii). (This equation is for situations where treatment is performed in a series of treatment processes connected by piping.) If compliance is being demonstrated in accordance with § 63.145(a)(7)(ii), the AMR for the biological treatment process shall be calculated using Equation WW12 in § 63.145(f)(5)(i). The AMR for the biological treatment process used in a series of treatment processes calculated using Equation WW12 shall be added to the AMR determined for each of the other individual treatment processes in the series of treatment processes.

(i) Calculate AMR for the open or closed aerobic biological treatment process as follows:

$$AMR = QMW_a * F_{bio} \qquad \text{(Eqn WW12)}$$

Where:
AMR = Actual mass removal of Table 8 or Table 9 compounds achieved by open or closed biological treatment process, kilograms per hour.
QMW_a = Mass flow rate of Table 8 or Table 9 compounds in wastewater entering the treatment process, hard-kilograms per hour.
F_{bio} = Site-specific fraction of Table 8 or Table 9 compounds biodegraded. F_{bio} shall be determined as specified in § 63.145(h) and appendix C of this subpart.

(ii) Calculate AMR across a series of treatment units where the last treatment unit is an open or closed aerobic biological treatment process as follows:

$$AMR = QMW_a - (QMW_b)(1 - F_{bio}) \qquad \text{(Eqn WW13)}$$

Where:
AMR = Actual mass removal of Table 8 or Table 9 compounds achieved by a series of treatment processes, kilograms per hour.
QMW_a = Mass flow rate of Table 8 or Table 9 compounds in wastewater entering the first treatment process in a series of treatment processes, kilograms per hour.
QMW_b = Mass flow rate of Table 8 or Table 9 compounds in wastewater exiting the last treatment process in a series of treatment processes prior to the biological treatment process, kilograms per hour.
F_{bio} = Site-specific fraction of Table 8 or Table 9 compounds biodegraded. F_{bio} shall be determined as specified in § 63.145(h) and appendix C of this subpart.

(6) *Compare RMR to AMR*. Compare the RMR calculated in Equation WW11 to the AMR calculated in either Equation WW12 or WW13, as applicable. Compliance is demonstrated if the AMR is greater than or equal to the RMR.

(g) *Open or closed aerobic biological treatment processes: 95-percent mass removal option.* This paragraph applies to performance tests that are conducted for open or closed aerobic biological treatment processes to demonstrate compliance with the 95-percent mass removal provisions for Table 8 and/or Table 9 compounds. This compliance option is specified in § 63.138(g) of this subpart. The RMR for this option is 95-percent mass removal. The owner or operator shall comply with the requirements specified in § 63.145(g)(1) to determine AMR, § 63.145 (e)(3)(ii) and (e)(4)(ii) to determine RMR, and (g)(2) of this subpart to determine whether compliance has been demonstrated. Some compounds may not require a performance test. Refer to § 63.145(h) and table 36 of this subpart to determine which compounds may be exempt from the requirements of this paragraph. (Wastewater streams that are Group 1 for both Table 8 and Table 9 compounds need only do the compliance demonstration for Table 9 compounds.)

(1) The owner or operator shall comply with the requirements specified in paragraphs (f)(1), (f)(2), and (f)(5) of this section to determine AMR. References to Group 1 wastewater streams shall be deemed Group 1 and Group 2 wastewater streams for the purposes of this paragraph.

(2) *Compare RMR to AMR*. Compliance is demonstrated if the AMR is greater than or equal to RMR.

(h) *Site-specific fraction biodegraded (F_{bio}).* The compounds listed in table 9 of this subpart are divided into two sets for the purpose of determining whether F_{bio} must be determined, and if F_{bio} must be determined, which procedures may be used to determine compound-specific kinetic parameters. These sets are designated as lists 1 and 2 in table 36 of this subpart.

(1) *Performance test exemption*. If a biological treatment process meets the requirements specified in paragraphs (h)(1)(i) and (h)(1)(ii) of this section, the owner or operator is not required to determine Fbio and is exempt from the applicable performance test requirements specified in Sec. 63.138 of this subpart.

(i) The biological treatment process meets the definition of “enhanced biological treatment process” in Sec. 63.111 of this subpart.

(ii) At least 99 percent by weight of all compounds on table 36 of this subpart that are present in the aggregate of all wastewater streams using the biological treatment process to comply with Sec. 63.138 of this subpart are compounds on list 1 of table 36 of this subpart.

(2) *F_{bio} determination*. If a biological treatment process does not meet the requirement specified in paragraph (h)(1)(i) of this section, the owner or operator shall determine F_{bio} for the biological treatment process using the procedures in appendix C to part 63, and paragraph (h)(2)(ii) of this section. If a biological treatment process meets the requirements of paragraph (h)(1)(i) of this section but does not meet the requirement specified in paragraph (h)(1)(ii) of this section, the owner or operator shall determine F_{bio} for the biological treatment process using the procedures in appendix C to part 63, and paragraph (h)(2)(i) of this section.

(i) *Enhanced biological treatment processes*. If the biological treatment process meets the definition of “enhanced biological treatment process” in Sec. 63.111 of this subpart and the wastewater streams include one or more compounds on list 2 of table 36 of this subpart that do not meet the criteria in paragraph (h)(1)(ii) of this section, the owner or operator shall determine F_{bio} for the list 2 compounds using any of the procedures specified in appendix C of 40 CFR part 63. (The symbol “F_{bio}” represents the site specific fraction of an individual Table 8 or Table 9 compound that is biodegraded.) The owner or operator shall calculate F_{bio} for the list 1 compounds using the defaults for first order biodegradation rate constants (K_1) in table 37 of subpart G and follow the procedure explained in Form III of appendix C, 40 CFR part 63, or any of the procedures specified in appendix C, 40 CFR part 63.

(ii) *Biological treatment processes that are not enhanced biological treatment processes.* For biological treatment processes that do not meet the definition for “enhanced biological treatment process” in Sec. 63.111 of this subpart , the owner or operator shall determine F_{bio} for the list 1 and 2 compounds using any of the procedures in appendix C, 40 CFR part 63, except procedure 3 (inlet and outlet concentration measurements). (The symbol “F_{bio}” represents the site specific fraction of an individual Table 8 or Table 9 compound that is biodegraded.)

(i) *Performance tests for control devices other than flares*. This paragraph applies to performance tests that are conducted to demonstrate compliance of a control device with the efficiency limits specified in § 63.139(c). If complying with the 95-percent reduction efficiency requirement, comply with the requirements specified in paragraphs (i)(1) through (i)(9) of this section. If complying with the 20 ppm by volume requirement, comply with the requirements specified in paragraphs (i)(1) through (i)(6) and (i)(9) of this section. The 20 ppm by volume limit or 95 percent reduction efficiency requirement shall be measured as either total organic hazardous air pollutants or as TOC minus methane and ethane.

(1) *Sampling sites*. Sampling sites shall be selected using Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate. For determination of compliance with the 95 percent reduction requirement, sampling sites shall be located at the inlet and the outlet of the control device. For determination of compliance with the 20 parts per million by volume limit, the sampling site shall be located at the outlet of the control device.

(2) *Concentration in gas stream entering or exiting the control device*. The concentration of total organic hazardous air pollutants or TOC in a gas stream shall be determined as provided in this paragraph. Samples may be grab samples or composite samples (i.e., integrated samples). Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements shall be determined using Method 18 of 40 CFR part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301 of appendix A of this part may be used.

(3) Volumetric flow rate of gas stream entering or exiting the control device. The volumetric flow rate of the gas stream shall be determined using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate. Volumetric flow rate measurements shall be taken at the same time as the concentration measurements.

(4) Calculation of TOC concentration. The TOC concentration (CGT) is the sum of the concentrations of the individual components. If compliance is being determined based on TOC, the owner or operator shall compute TOC for each run using the following equation:

$$CG_T = \frac{1}{m}\sum_{j=1}^{m}\left(\sum_{I=1}^{n} CGS_{i,\,j}\right) \qquad \text{(Eqn WW14)}$$

Where:

CG_T = Total concentration of TOC (minus methane and ethane) in vented gas stream, average of samples, dry basis, parts per million by volume.

$CGS_{i,j}$ = Concentration of sample components in vented gas stream for sample j, dry basis, parts per million by volume.

i = Identifier for a compound.

n = Number of components in the sample.

j = Identifier for a sample.

m = Number of samples in the sample run.

(5) Calculation of total organic hazardous air pollutants concentration. The owner or operator determining compliance based on total organic hazardous air pollutants concentration (CHAP) shall compute CHAP according to the Equation WW14, except that only Table 9 compounds shall be summed.

(6) Percent oxygen correction for combustion control devices. If the control device is a combustion device, comply with the requirements specified in paragraph (i)(6)(i) of this section to determine oxygen concentration, and in paragraph (i)(6)(ii) of this section to calculate the percent oxygen correction.

(i) Oxygen concentration. The concentration of TOC or total organic hazardous air pollutants shall be corrected to 3 percent oxygen if the control device is a combustion device. The emission rate correction factor for excess air, composite sampling (i.e., integrated sampling) and analysis procedures of Method 3B of 40 CFR part 60, appendix A shall be used to determine the actual oxygen concentration

(%02d). The samples shall be taken during the same time that the TOC (minus methane or ethane) or total organic hazardous air pollutants samples are taken.

(ii) 3 percent oxygen calculation. The concentration corrected to 3 percent oxygen (CGc), when required, shall be computed using the following equation:

$$CG_c = CG_T\left(\frac{17.9}{20.9 - \%O_{2d}}\right) \qquad \text{(Eqn WW15)}$$

Where:

CG_C = Concentration of TOC or organic hazardous air pollutants corrected to 3 percent oxygen, dry basis, parts per million by volume.

CG_T = Total concentration of TOC (minus methane and ethane) in vented gas stream, average of samples, dry basis, parts per million by volume.

$\%O_{2d}$ = Concentration of oxygen measured in vented gas stream, dry basis, percent by volume.

(7) Mass rate calculation. The mass rate of either TOC (minus methane and ethane) or total organic hazardous air pollutants shall be calculated using the following equations. Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by methods specified in paragraph (i)(2) of this section are summed using Equations WW16 and WW17. Where the mass rate of total organic hazardous air pollutants is being calculated, only Table 9 compounds shall be summed using Equations WW16 and WW17.

$$QMG_a = K_2\left(\sum_{i=1}^{n} CG_{a,i}MW_i\right)QG_a \qquad \text{(Eqn WW16)}$$

$$QMG_b = K_2\left(\sum_{i=1}^{n} CG_{b,i}MW_i\right)QG_b \qquad \text{(Eqn WW17)}$$

Where:

$CG_{a,i}$, $CG_{b,i}$ = Concentration of TOC (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream, entering ($CG_{a,i}$) and exiting ($CG_{b,i}$) the control device, dry basis, parts per million by volume.

QMG_a, QMG_b = Mass rate of TOC (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream, entering (QMG_a) and exiting (QMG_b) the control device, dry basis, kilograms per hour.

MW_i = Molecular weight of a component, kilogram/kilogram-mole.

QG_a, QG_b = Flow rate of gas stream entering (QG_a) and exiting (QG_b) the control device, dry standard cubic meters per hour.

K_2 = Constant, 41.57×10^{-9} (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram), where standard temperature (gram-mole per standard cubic meter) is 20º Celsius.

i = Identifier for a compound.

n = Number of components in the sample.

(8) Percent reduction calculation. The percent reduction in TOC (minus methane and ethane) or total organic hazardous air pollutants shall be calculated as follows:

$$E = \frac{QMG_a - QMG_b}{QMG_a}(100\%) \qquad \text{(Eqn WW18)}$$

Where:

E = Destruction efficiency of control device, percent.

QMG_a, QMG_b = Mass rate of TOC (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream entering (QMG_a) and exiting (QMG_b) the control device, dry basis, kilograms per hour.

(9) Compare mass destruction efficiency to required efficiency. If complying with the 95 percent reduction efficiency requirement, compliance is demonstrated if the mass destruction efficiency (calculated in Equation WW18) is 95 percent or greater. If complying with the 20 parts per million by volume limit in Sec.

63.139 (c)(1)(ii) of this subpart, compliance is demonstrated if the outlet total organic compound concentration, less methane and ethane, or total organic hazardous air pollutants concentration is 20 parts per million by volume, or less. For combustion control devices, the concentration shall be calculated on a dry basis, corrected to 3 percent oxygen.

(j) When a flare is used to comply with Sec. 63.139 (c), the owner or operator shall comply with paragraphs (j)(1) through (3) of this section. The owner or operator is not required to conduct a performance test to determine the percent emission reduction or outlet organic HAP or TOC concentration.

(1) Conduct a visible emission test using the techniques specified in § 63.11(b)(4).

(2) Determine the net heating value of the gas being combusted using the techniques specified in § 63.11(b)(6).

(3) Determine the exit velocity using the techniques specified in either § 63.11(b)(7)(i) (and §63.11(b)(7)(iii), where applicable) or § 63.11(b)(8), as appropriate.

Sec. 63.146 Process wastewater provisions - reporting.

(a) For each waste management unit, treatment process, or control device used to comply with Secs. 63.138 (b)(1), (c)(1), (d), (e), (f), or (g) of this subpart for which the owner or operator seeks to monitor a parameter other than those specified in table 11, table 12, or table 13 of this subpart, the owner or operator shall submit a request for approval to monitor alternative parameters according to the procedures specified in Sec. 63.151(f) or (g) of this subpart.

(b) The owner or operator shall submit the information specified in paragraphs (b)(1) through (b)(9) of this section as part of the Notification of Compliance Status required by Sec. 63.152(b) of this subpart.

(1) *Requirements for Group 2 wastewater streams.* This paragraph does not apply to Group 2 wastewater streams that are used to comply with § 63.138(g). For Group 2 wastewater streams, the owner or operator shall include the information specified in paragraphs (b)(1)(i) through (iv) of this section in the Notification of Compliance Status Report. This information may be submitted in any form. Table 15 of this subpart is an example.

(i) Process unit identification and description of the process unit.

(ii) Stream identification code.

(iii) For existing sources, concentration of table 9 compound(s) in parts per million, by weight. For new sources, concentration of table 8 and/or table 9 compound(s) in parts per million, by weight. Include documentation of the methodology used to determine concentration.

(iv) Flow rate in liter per minute.

(2) For each new and existing source, the owner or operator shall submit the information specified in table 15 of this subpart for Table 8 and/or Table 9 compounds.

(3) [Reserved]

(4) For each treatment process identified in table 15 of this subpart that receives, manages, or treats a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream, the owner or operator shall submit the information specified in table 17 of this subpart.

(5) For each waste management unit identified in table 15 of this subpart that receives or manages a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream, the owner or operator shall submit the information specified in table 18 of this subpart.

(6) For each residual removed from a Group 1 wastewater stream, the owner or operator shall report the information specified in table 19 of this subpart.

(7) For each control device used to comply with Secs. 63.133 through 63.139 of this subpart, the owner or operator shall report the information specified in paragraphs (b)(7)(i) and (b)(7)(ii) of this section.

(i) For each flare, the owner or operator shall submit the information specified in paragraphs (b)(7)(i)(A) through (b)(7)(i)(C) of this section.

(A) Flare design (i.e., steam-assisted, air-assisted, or non-assisted);

(B) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by Sec. 63.139(c)(3) of this subpart; and

(C) Reports of the times and durations of all periods during the compliance determination when the pilot flame is absent or the monitor is not operating.

(ii) For each control device other than a flare, the owner or operator shall submit the information specified in paragraph (b)(7)(ii)(A) of this section and in either paragraph (b)(7)(ii)(B) or (b)(7)(ii)(C) of this section.

(A) The information on parameter ranges specified in Sec. 63.152(b)(2) of this subpart for the applicable parameters specified in table 13 of this subpart, unless the parameter range has already been established in the operating permit; and either

(B) The design evaluation specified in Sec. 63.139(d)(2) of this subpart; or

(C) Results of the performance test specified in Sec. 63.139(d)(1) of this subpart. Performance test results shall include operating ranges of key process and control parameters during the performance test; the value of each parameter being monitored in accordance with Sec. 63.143 of this subpart; and applicable supporting calculations.

(8) For each treatment process used to comply with § 63.138 (b)(1), (c)(1), (d), (e), (f), or (g) of this subpart, the owner or operator shall submit the information specified in paragraphs (b)(8)(i) and (b)(8)(ii) of this section.

(i) For Items 1 and 2 in table 12 of this subpart, the owner or operator shall submit the information specified in paragraphs (b)(8)(i)(A) and (b)(8)(i)(B) of this section. An owner or operator using the design steam stripper compliance option specified § 63.138(d) of this subpart does not have to submit the information specified in paragraph (b)(8)(i)(A) or (b)(8)(i)(B) of this section. However, the monitoring requirements specified in Item 2 of table 12 of this subpart still apply.

(A) The information on parameter ranges specified in Sec. 63.152(b)(2) of this subpart for the parameters approved by the Administrator, unless the parameter range has already been established in the operating permit.

(B) Results of the initial measurements of the parameters approved by the Administrator and any applicable supporting calculations.

(ii) For Item 3 in table 12 of this subpart, the owner or operator shall submit the information on parameter ranges specified in Sec. 63.152(b)(2) of this subpart for the parameters specified in Item 3 of table 12 of this subpart, unless the parameter range has already been established in the operating permit.

(9) For each waste management unit or treatment process used to comply with § 63.138(b)(1), (c)(1), (e), (f), or (g) of this section, the owner or operator shall submit the information specified in either paragraph (b)(9)(i) or (ii) of this section.

(i) The design evaluation and supporting documentation specified in Sec. 63.138(j)(1) of this subpart.

(ii) Results of the performance test specified in Sec. 63.138(j)(2) of this subpart. Performance test results shall include operating ranges of key process and control parameters during the performance test; the value of each parameter being monitored in accordance with Sec. 63.143 of this subpart; and applicable supporting calculations.

(iii) If the owner or operator elects to use one of the technologies specified in Sec. 63.138(h) of this subpart, the owner or operator is exempt from the requirements specified in paragraphs (b)(9)(i) and (b)(9)(ii) of this section.

(c) For each waste management unit that receives, manages, or treats a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream, the owner or operator shall submit as part of the next Periodic

Report required by Sec. 63.152(c) of this subpart the results of each inspection required by Sec. 63.143(a) of this subpart in which a control equipment failure was identified. Control equipment failure is defined for each waste management unit in Secs. 63.133 through 63.137 of this subpart. Each Periodic Report shall include the date of the inspection, identification of each waste management unit in which a control equipment failure was detected, description of the failure, and description of the nature of and date the repair was made.

(d) Except as provided in paragraph (f) of this section, for each treatment process used to comply with § 63.138(b)(1), (c)(1), (e), (f), or (g) of this subpart, the owner or operator shall submit as part of the next Periodic Report required by Sec. 63.152(c) the information specified in paragraphs (d)(1), (2), and (3) of this section for the monitoring required by Sec. 63.143(b), (c), and (d).

(1) For Item 1 in table 12, the owner or operator shall submit the results of measurements that indicate that the biological treatment unit is outside the range established in the Notification of Compliance Status or operating permit.

(2) For Item 2 in table 12, the owner or operator shall submit the monitoring results for each operating day during which the daily average value of a continuously monitored parameter is outside the range established in the Notification of Compliance Status or operating permit.

(3) For Item 3 in table 12 of this subpart, the owner or operator shall submit the monitoring results for each operating day during which the daily average value of any monitored parameter approved in accordance with Sec. 63.151 (f) was outside the range established in the Notification of Compliance Status or operating permit.

(e) Except as provided in paragraph (f) of this section, for each control device used to comply with Secs. 63.133 through 63.139 of this subpart, the owner or operator shall submit as part of the next Periodic Report required by Sec. 63.152(c) of this subpart the information specified in either paragraph (e)(1) or (e)(2) of this section.

(1) The information specified in table 20 of this subpart, or

(2) If the owner or operator elects to comply with Sec. 63.143(e)(2) of this subpart, i.e., an organic monitoring device installed at the outlet of the control device, the owner or operator shall submit the monitoring results for each operating day during which the daily average concentration level or reading is outside the range established in the Notification of Compliance Status or operating permit.

(f) Where the owner or operator obtains approval to use a treatment process or control device other than one for which monitoring requirements are specified in Sec. 63.143 of this subpart, or to monitor parameters other than those specified in table 12 or 13 of this subpart, the Administrator will specify appropriate reporting requirements.

(g) If an extension is utilized in accordance with Sec. 63.133(e)(2) or Sec. 63.133(h) of this subpart, the owner or operator shall include in the next periodic report the information specified in Sec. 63.133 (e)(2) or Sec. 63.133(h).

Sec. 63.147 Process wastewater provisions - recordkeeping.

(a) The owner or operator transferring a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream in accordance with Sec. 63.132(g) of this subpart shall keep a record of the notice sent to the treatment operator stating that the wastewater stream or residual contains organic hazardous air pollutants which are required to be managed and treated in accordance with the provisions of this subpart.

(b) The owner or operator shall keep in a readily accessible location the records specified in paragraphs (b)(1) through (b)(8) of this section.

(1) A record that each waste management unit inspection required by Secs. 63.133 through 63.137 of this subpart was performed.

(2) A record that each inspection for control devices required by Sec. 63.139 of this subpart was performed.

(3) A record of the results of each seal gap measurement required by Secs. 63.133(d) and 63.137(c) of this subpart. The records shall include the date of the measurement, the raw data obtained in the measurement, and the calculations described in Sec. 63.120(b)(2), (3), and (4) of this subpart.

(4) For Item 1 and Item 3 of table 12 of this subpart, the owner or operator shall keep the records approved by the Administrator.

(5) Except as provided in paragraph (e) of this section, continuous records of the monitored parameters specified in Item 2 of table 12 and table 13 of this subpart, and in Sec. 63.143(e)(2) of this subpart.

(6) Documentation of a decision to use an extension, as specified in Sec. 63.133(e)(2) or (h) of this subpart, which shall include a description of the failure, documentation that alternate storage capacity is unavailable, and specification of a schedule of actions that will ensure that the control equipment will be repaired or the vessel will be emptied as soon as practical.

(7) Documentation of a decision to use a delay of repair due to unavailability of parts, as specified in Sec. 63.140(c), shall include a description of the failure, the reason additional time was necessary (including a statement of why replacement parts were not kept on site and when the manufacturer promised delivery), and the date when repair was completed.

(8) Requirements for Group 2 wastewater streams. This paragraph (b)(8) does not apply to Group 2 wastewater streams that are used to comply with § 63.138(g). For all other Group 2 wastewater streams, the owner or operator shall keep in a readily accessible location the records specified in paragraphs (b)(8)(i) through (iv) of this section.

(i) Process unit identification and description of the process unit.

(ii) Stream identification code.

(iii) For existing sources, concentration of table 9 compound(s) in parts per million, by weight. For new sources, concentration of table 8 and/or table 9 compound(s) in parts per million, by weight. Include documentation of the methodology used to determine concentration.

(iv) Flow rate in liter per minute.

(c) For each boiler or process heater used to comply with Secs. 63.133 through 63.139 of this subpart, the owner or operator shall keep a record of any changes in the location at which the vent stream is introduced into the flame zone as required in Sec. 63.139(c)(1) of this subpart.

(d) The owner or operator shall keep records of the daily average value of each continuously monitored parameter for each operating day as specified in Sec. 63.152(f), except as provided in paragraphs (d)(1) through (3) of this section.

(1) For flares, records of the times and duration of all periods during which the pilot flame is absent shall be kept rather than daily averages.

(2) *Regenerative carbon adsorbers*. For regenerative carbon adsorbers, the owner or operator shall keep the records specified in paragraphs (d)(2)(i) and (d)(2)(ii) of this section instead of daily averages.

(i) Records of the total regeneration stream mass flow for each carbon bed regeneration cycle.

(ii) Records of the temperature of the carbon bed after each regeneration cycle.

(3) *Non-regenerative carbon adsorbers.* For non-regenerative carbon adsorbers using organic monitoring equipment, the owner or operator shall keep the records specified in paragraph (d)(3)(i) of this section instead of daily averages. For non-regenerative carbon adsorbers replacing the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system, the owner or operator shall keep the records specified in paragraph (d)(3)(ii) of this section instead of daily averages.

(i) (A) Record of how the monitoring frequency, as specified in table 13 of this subpart, was determined.

(B) Records of when organic compound concentration of adsorber exhaust was monitored.

(C) Records of when the carbon was replaced.

(ii) (A) Record of how the carbon replacement interval, as specified in table 13 of this subpart, was determined.

(B) Records of when the carbon was replaced.

(e) Where the owner or operator obtains approval to use a control device other than one for which monitoring requirements are specified in Sec. 63.143 of this subpart, or to monitor parameters other than those specified in table 12 or table 13 of this subpart, the Administrator will specify appropriate recordkeeping requirements.

(f) If the owner or operator uses process knowledge to determine the annual average concentration of a wastewater stream as specified in Sec. 63.144(b)(3) of this subpart and/or uses process knowledge to determine the annual average flow rate as specified in Sec. 63.144(c)(1) of this subpart, and determines that the wastewater stream is not a Group 1 wastewater stream, the owner or operator shall keep in a readily accessible location the documentation of how process knowledge was used to determine the annual average concentration and/or the annual average flow rate of the wastewater stream.

§ 63.148 Leak inspection provisions.

(a) Except as provided in paragraph (k) of this section, for each vapor collection system, closed-vent system, fixed roof, cover, or enclosure required to comply with this section, the owner or operator shall comply with the requirements of paragraphs (b) through (j) of this section.

(b) Except as provided in paragraphs (g) and (h) of this section, each vapor collection system and closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (b)(1) and (b)(2) of this section and each fixed roof, cover, and enclosure shall be inspected according to the procedures and schedule specified in paragraph (b)(3) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (c) of this section, and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of ductwork, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (c) of this section, and

(ii) Conduct annual inspections according to the procedures in paragraph (c) of this section.

(iii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(3) For each fixed roof, cover, and enclosure, the owner or operator shall conduct initial visual inspections and semi-annual visual inspections for visible, audible, or olfactory indications of leaks as specified in §§ 63.133 through 63.137 of this subpart.

(c) Each vapor collection system and closed vent system shall be inspected according to the procedures specified in paragraphs (c)(1) through (c)(5) of this section.

(1) Inspections shall be conducted in accordance with Method 21 of 40 CFR part 60, appendix A.

(2) (i) Except as provided in paragraph (c)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response

factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual volatile organic compound in the stream. For process streams that contain nitrogen, air, or other inerts which are not organic hazardous air pollutants or volatile organic compounds, the average stream response factor shall be calculated on an inert-free basis.

(ii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (c)(2)(i) of this section, the instrument readings may be adjusted by multiplying be the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (c)(2)(i) of this section.

(3) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) Calibration gases shall be as follows:

(i) Zero air (less than 10 parts per million hydrocarbon in air); and

(ii) A mixture of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (c)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(5) An owner or operator may elect to adjust or not adjust instrument readings for background. If an owner or operator elects to not adjust readings for background, all such instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall measure background concentration using the procedures in Secs. 63.180(b) and (c) of subpart H of this part. The owner or operator shall subtract background reading from the maximum concentration indicated by the instrument.

(6) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared with 500 parts per million for determining compliance.

(d) Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in paragraph (e) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in paragraph (d)(3) of this section.

(3) For leaks found in vapor collection systems used for transfer operations, repairs shall be completed no later than 15 calendar days after the leak is detected or at the beginning of the next transfer loading operation, whichever is later.

(e) Delay of repair of a vapor collection system, closed vent system, fixed roof, cover, or enclosure for which leaks have been detected is allowed if the repair is technically infeasible without a shutdown, as defined in § 63.101 of subpart F of this part, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next shutdown.

(f) For each vapor collection system or closed vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall comply with the provisions of either paragraph (f)(1) or (f)(2) of this section, except as provided in paragraph (f)(3) of this section.

(1) Install, calibrate, maintain, and operate a flow indicator that determines whether vent stream flow is present at least once every 15 minutes. Records shall be generated as specified in § 63.118(a)(3) of this subpart. The flow indicator shall be installed at the entrance to any bypass line; or

(2) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least

once every month to ensure the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

(3) Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(g) Any parts of the vapor collection system, closed vent system, fixed roof, cover, or enclosure that are designated, as described in paragraph (i)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (b)(1), (b)(2), and (b)(3)(i) of this section if:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (b)(1), (b)(2), or (b)(3)(i) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(h) Any parts of the vapor collection system, closed vent system, fixed roof, cover, or enclosure that are designated, as described in paragraph (i)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (b)(1), (b)(2), and (b)(3)(i) of this section if:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(i) The owner or operator shall record the information specified in paragraphs (i)(1) through (I)(5) of this section.

(1) Identification of all parts of the vapor collection system, closed vent system, fixed roof, cover, or enclosure that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the vapor collection system, closed vent system, fixed roof, cover, or enclosure that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each vapor collection system or closed vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either paragraph (i)(3)(i) or (i)(3)(ii) of this section.

(i) Hourly records of whether the flow indicator specified under paragraph (f)(1) of this section was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the flow indicator is not operating.

(ii) Where a seal mechanism is used to comply with paragraph (f)(2) of this section, hourly records of flow are not required. In such cases, the owner or operator shall record whether the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type configuration has been checked out, and records of any car-seal that has broken.

(4) For each inspection during which a leak is detected, a record of the information specified in paragraphs (i)(4)(i) through (i)(4)(viii) of this section.

(i) The instrument identification numbers; operator name or initials; and identification of the equipment.

(ii) The date the leak was detected and the date of the first attempt to repair the leak.

(iii) Maximum instrument reading measured by the method specified in paragraph (d) of this section after the leak is successfully repaired or determined to be nonrepairable.

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(iv) ‘‘Repair delayed’’ and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(v) The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown.

(vi) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(vii) Dates of shutdowns that occur while the equipment is unrepaired.

(viii) The date of successful repair of the leak.

(5) For each inspection conducted in accordance with paragraph (c) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(6) For each visual inspection conducted in accordance with paragraph (b)(1)(ii) or (b)(3)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(j) The owner or operator shall submit with the reports required by § 63.182(b) of subpart H of this part or with the reports required by § 63.152(c) of this subpart, the information specified in paragraphs (j)(1) through (j)(3) of this section.

(1) The information specified in paragraph (I)(4) of this section;

(2) Reports of the times of all periods recorded under paragraph (i)(3)(i) of this section when the vent stream is diverted from the control device through a bypass line; and

(3) Reports of all periods recorded under paragraph (i)(3)(ii) of this section in which the seal mechanism is broken, the bypass line valve position has changed, or the key to unlock the bypass line valve was checked out.

(k) If a closed-vent system subject to this section is also subject to § 63.172 of subpart H of this part, the owner or operator shall comply with the provisions of § 63.172 of subpart H of this part and is exempt from the requirements of this section.

§ 63.149 Control requirements for certain liquid streams in open systems within a chemical manufacturing process unit.

(a) The owner or operator shall comply with the provisions of table 35 of this subpart, for each item of equipment meeting all the criteria specified in paragraphs (b) through (d) and either paragraph (e)(1) or (e)(2) of this section.

(b) The item of equipment is of a type identified in table 35 of this subpart;

(c) The item of equipment is part of a chemical manufacturing process unit that meets the criteria of Sec. 63.100(b) of subpart F of this part;

(d) The item of equipment is controlled less stringently than in table 35 and is not listed in Sec. 63.100(f) of subpart F of this part, and the item of equipment is not otherwise exempt from controls by the provisions of subparts A, F, G, or H of this part; and

(e) The item of equipment:

(1) is a drain, drain hub, manhole, lift station, trench, pipe, or oil/water separator that conveys water with a total annual average concentration greater than or equal to 10,000 parts per million by weight of Table 9 compounds at any flowrate; or a total annual average concentration greater than or equal to 1,000 parts per million by weight of Table 9 compounds at an annual average flow rate greater than or equal to 10 liters per

minute. At a chemical manufacturing process unit subject to the new source requirements of 40 CFR 63.100(l)(1) or 40 CFR 63.100(l)(2), the criteria of this paragraph are also met if the item of equipment conveys water with an annual average concentration greater than or equal to 10 parts per million by weight of any Table 8 compound at an annual average flow rate greater than or equal to 0.02 liter per minute, or

(2) Is a tank that receives one or more streams that contain water with a total annual average concentration greater than or equal to 1,000 ppm (by weight) of Table 9 compounds at an annual average flowrate greater than or equal to 10 liters per minute. At a chemical manufacturing process unit subject to the new source requirements of 40 CFR 63.100(l)(1) or 40 CFR 63.100 (l)(2), the criteria of this paragraph are also met if the tank receives one or more streams that contain water with an annual average concentration greater than or equal to 10 parts per million by weight of any Table 8 compound at an annual average flow rate greater than or equal to 0.02 liter per minute. The owner or operator of the source shall determine the characteristics of the stream as specified in paragraphs (e)(2) (i) and (ii) of this section.

(i) The characteristics of the stream being received shall be determined at the inlet to the tank.

(ii) The characteristics shall be determined according to the procedures in Sec. 63.144 (b) and (c).

§ 63.150 Emissions averaging provisions.

(a) This section applies to owners or operators of existing sources who seek to comply with the emission standard in § 63.112(a) of this subpart by using emissions averaging according to § 63.112(f) of this subpart rather than following the provisions of §§ 63.113 through 63.148 of this subpart. Notwithstanding the definition of process vent in § 63.101 and the sampling site designation in § 63.115(a), for purposes of this section the location of a process vent shall be defined, and the characteristics of its gas stream shall be determined, consistent with paragraph (g)(2)(i) of this section.

(b) Unless an operating permit application has been submitted, the owner or operator shall develop and submit for approval an Implementation Plan containing all of the information required in § 63.151(d) of this subpart for all points to be included in an emissions average. The Implementation Plan or operating permit application shall identify all emission points to be included in the emissions average. This must include any Group 1 emission points to which the reference control technology (defined in § 63.111 of this subpart) is not applied and all other emission points being controlled as part of the average.

(c) The following emission points can be used to generate emissions averaging credits, if control was applied after November 15, 1990 and if sufficient information is available to determine the appropriate value of credits for the emission point:

(1) Group 2 emission points.

(2) Group 1 emission points that are controlled by a technology that the Administrator or permitting authority agrees has a higher nominal efficiency than the reference control technology. Information on the nominal efficiencies for such technologies must be submitted and approved as provided in paragraph (i) of this section.

(3) Emission points from which emissions are reduced by pollution prevention measures. Percent reductions for pollution prevention measures shall be determined as specified in paragraph (j) of this section.

(i) For a Group 1 emission point, the pollution prevention measure must reduce emissions more than the reference control technology would have had the reference control technology been applied to the emission point instead of the pollution prevention measure except as provided in paragraph (c)(3)(ii) of this section.

(ii) If a pollution prevention measure is used in conjunction with other controls for a Group 1 emission point, the pollution prevention measure alone does not have to reduce emissions more than the reference control technology, but the combination of the pollution prevention measure and other controls must reduce emissions more than the reference control technology would have had it been applied instead.

(d) The following emission points cannot be used to generate emissions averaging credits:

(1) Emission points already controlled on or before November 15, 1990, unless the level of control is increased after November 15, 1990, in which case credit will be allowed only for the in-crease in control after November 15, 1990.

(2) Group 1 emission points that are controlled by a reference control technology, unless the reference control technology has been approved for use in a different manner and a higher nominal efficiency has been assigned according to the procedures in paragraph (i) of this section. For example, it is not allowable to claim that an internal floating roof meeting the specifications of § 63.119(b) of this subpart applied to a storage vessel is achieving greater than 95 percent control.

(3) Emission points on shut-down process units. Process units that are shut down cannot be used to generate credits or debits.

(4) Wastewater that is not process wastewater or wastewater streams treated in biological treatment units. These two types of wastewater cannot be used to generate credits or debits. For the purposes of this section, the terms wastewater and wastewater stream are used to mean process wastewater.

(5) Emission points controlled to comply with a State or Federal rule other than this subpart, unless the level of control has been increased after November 15, 1990 above what is required by the other State or Federal rule. Only the control above what is required by the other State or Federal rule will be credited. However, if an emission point has been used to generate emissions averaging credit in an approved emissions average, and the point is subsequently made subject to a State or Federal rule other than this subpart, the point can continue to generate emissions averaging credit for the purpose of complying with the previously approved average.

(e) For all points included in an emissions average, the owner or operator shall:

(1) Calculate and record monthly debits for all Group 1 emission points that are controlled to a level less stringent than the reference control technology for those emission points. Equations in paragraph (g) of this section shall be used to calculate debits.

(2) Calculate and record monthly credits for all Group 1 or Group 2 emission points that are overcontrolled to compensate for the debits. Equations in paragraph (h) of this section shall be used to calculate credits. Emission points and controls that meet the criteria of paragraph (c) of this section may be included in the credit calculation, whereas those described in paragraph (d) of this section shall not be included.

(3) Demonstrate that annual credits calculated according to paragraph (h) of this section are greater than or equal to debits calculated for the same annual compliance period according to paragraph (g) of this section.

(i) The owner or operator may choose to include more than the required number of credit-generating emission points in an average in order to increase the likelihood of being in compliance.

(ii) The initial demonstration in the Implementation Plan or operating permit application that credit-generating emission points will be capable of generating sufficient credits to offset the debits from the debit-generating emission points must be made under representative operating conditions. After the compliance date, actual operating data will be used for all debit and credit calculations.

(4) Demonstrate that debits calculated for a quarterly (3-month) period according to paragraph (g) of this section are not more than 1.30 times the credits for the same period calculated according to paragraph (h) of this section. Compliance for the quarter shall be determined based on the ratio of credits and debits from that quarter, with 30 percent more debits than credits allowed on a quarterly basis.

(5) Record and report quarterly and annual credits and debits in the Periodic Reports as specified in § 63.152(c) of this subpart. Every fourth Periodic Report shall include a certification of compliance with the emissions averaging provisions as required by § 63.152(c)(5)(iv)(B) of this subpart.

(f) Debits and credits shall be calculated in accordance with the methods and procedures specified

in paragraphs (g) and (h) of this section, respectively, and shall not include emissions from the following:

(1) More than 20 individual Group 1 or Group 2 emission points. Where pollution prevention measures (as specified in paragraph (j)(1) of this section) are used to control emission points to be included in an emissions average, no more than 25 emission points may be included in the average. For example, if two emission points to be included in an emissions average are controlled by pollution prevention measures, the average may include up to 22 emission points.

(2) Periods of start-up, shutdown, and malfunction as described in the source's start-up, shutdown, and malfunction plan required by § 63.6(e)(3) of subpart A of this part.

(3) Periods of monitoring excursions as defined in § 63.152(c)(2)(ii)(A) of this subpart. For these periods, the calculation of monthly credits and debits shall be adjusted as specified in paragraphs (f)(3)(i) through (f)(3)(iii) of this section.

(i) No credits would be assigned to the credit-generating emission point.

(ii) Maximum debits would be assigned to the debit-generating emission point.

(iii) The owner or operator may demonstrate to the Administrator that full or partial credits or debits should be assigned using the procedures in paragraph (l) of this section.

(g) Debits are generated by the difference between the actual emissions from a Group 1 emission point that is uncontrolled or is controlled to a level less stringent than the reference control technology, and the emissions allowed for the Group 1 emission point. Debits shall be calculated as follows:

(1) The overall equation for calculating source-wide debits is:

$$Debits = \sum_{i=1}^{n}\left(EPV_{iACTUAL} - (0.02)EPV_{iu}\right) + \sum_{i=1}^{n}\left(ES_{iACTUAL} - (0.05)ES_{iu}\right)$$

$$+ \sum_{i=1}^{n}\left(ETR_{iACTUAL} - (0.02)ETR_{iu}\right) + \sum_{i=1}^{n}\left(EWW_{iACTUAL} - EWW_{ic}\right)$$

where:

Debits and all terms of the equation are in units of megagrams per month, and

$EPV_{iACTUAL}$ = Emissions from each Group 1 process vent i that is uncontrolled or is controlled to a level less stringent than the reference control technology. This is calculated according to paragraph (g)(2) of this section.

(0.02) EPV_{iu} = Emissions from each Group 1 vent i if the reference control technology had been applied to the uncontrolled emissions, calculated according to paragraph (g)(2) of this section.

$ES_{iACTUAL}$ = Emissions from each Group 1 storage vessel i that is uncontrolled or is controlled to a level less stringent than the reference control technology. This is calculated according to paragraph (g)(3) of this section.

(0.05) ES_{iu} = Emissions from each Group 1 storage vessel i if the reference control technology had been applied to the uncontrolled emissions, calculated according to paragraph (g)(3) of this section.

$ETR_{iACTUAL}$ = Emissions from each Group 1 transfer rack i that is uncontrolled or is controlled to a level less stringent than the reference control technology. This is calculated according to paragraph (g)(4) of this section.

(0.02) ETR_{iu} = Emissions from each Group 1 transfer rack i if the reference control technology had been applied to the uncontrolled emissions, calculated according to paragraph (g)(4) of this section.

$EWW_{iACTUAL}$ = Emissions from each Group 1 wastewater stream i that is uncontrolled or is controlled to a level less stringent than the reference control technology. This is calculated according to paragraph (g)(5) of this section.

EWW_{ic} = Emissions from each Group 1 wastewater stream i if the reference control technology

had been applied to the uncontrolled emissions. This is calculated according to paragraph (g)(5) of this section.

n = The number of emission points being included in the emissions average. The value of n is not necessarily the same for process vents, storage vessels, transfer racks, and wastewater.

(2) Emissions from process vents shall be calculated according to paragraphs (g)(2)(i) through (iii) of this section:

(i) The location of a process vent shall be defined, and the characteristics of its gas stream shall be determined at a point that meets the conditions in either paragraph (g)(2)(i)(A) or (B) of this section and the conditions in paragraphs (g)(2)(i)(C) through (E) of this section.

(A) The point is after the final recovery device (if any recovery devices are present).

(B) If a gas stream included in an emissions average is combined with one or more other gas streams after a final recovery device (if any recovery devices are present), then for each gas stream, the point is at a representative point after any final recovery device and as near as feasible to, but before, the point of combination of the gas streams.

(C) The point is before any control device (for process vents, recovery devices shall not be considered control devices).

(D) The point is before discharge to the atmosphere.

(E) The measurement site for determination of the characteristics of the gas stream was selected using Method 1 or 1A of 40 CFR part 60, appendix A.

(ii) The following equation shall be used for each process vent i to calculate EPV_{iu}:

$$EPV_{iu} = \left(2.494 \times 10^{-9}\right) Qh \left(\sum_{J=1}^{N} CjMj \right)$$

where:

EPV_{iu} = Uncontrolled process vent emission rate from process vent i, megagrams per month.

Q = Vent stream flow rate, dry standard cubic meters per minute, measured using Method 2, 2A, 2C, or 2D of part 60, appendix A, as appropriate.

h = Monthly hours of operation during which positive flow is present in the vent, hours per month.

C_j = Concentration, parts per million by volume, dry basis, of organic HAP j as measured by Method 18 of part 60, appendix A.

M_j = Molecular weight of organic HAP j, gram per gram-mole.

n = Number of organic HAPs.

(A) The values of Q, Cj, and Mj shall be determined during a performance test conducted under representative operating conditions. The values of Q, Cj, and Mj shall be established in the Notification of Compliance Status and must be updated as provided in paragraph (g)(2)(ii)(B) of this section.

(B) If there is a change in capacity utilization other than a change in monthly operating hours, or if any other change is made to the process or product recovery equipment or operation such that the previously measured values of Q, Cj, and Mj are no longer representative, a new performance test shall be conducted to determine new representative values of Q, Cj, and Mj. These new values shall be used to calculate debits and credits from the time of the change forward, and the new values shall be reported in the next Periodic Report.

(iii) The following procedures and equations shall be used to calculate EPViACTUAL:

(A) If the vent is not controlled by a control device or pollution prevention measure, EPViACTUAL = EPViu, where EPViu is calculated according to the procedures in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(B) If the vent is controlled using a control device or a pollution prevention measure achieving less than 98-percent reduction,

$$EPV_{iACTUAL} = EPV_{iu} \times \left(1 - \frac{\text{percent reduction}}{100\%}\right)$$

(*1*) The percent reduction shall be measured according to the procedures in § 63.116 of this subpart if a combustion control device is used. For a flare meeting the criteria in § 63.116(a) of this subpart, or a boiler or process heater meeting the criteria in § 63.116(b) of this subpart, the percent reduction shall be 98 percent. If a non-combustion control device is used, percent reduction shall be demonstrated by a performance test at the inlet and outlet of the device, or, if testing is not feasible, by a control design evaluation and documented engineering calculations.

(*2*) For determining debits from Group1 process vents, recovery devices shall not be considered control devices and cannot be assigned a percent reduction in calculating EPViACTUAL. The sampling site for measurement of uncontrolled emissions is after the final recovery device. However, as provided in § 63.113(a)(3), a Group 1 process vent may add sufficient recovery to raise the TRE index value above 1.0, thereby becoming a Group 2 process vent.

(*3*) Procedures for calculating the percent reduction of pollution prevention measures are specified in paragraph (j) of this section.

(3) Emissions from storage vessels shall be calculated as follows:

(i) The following equation shall be used for each storage vessel i to calculate ES_{iu}:

$$ES_{iu} = \frac{L_B + L_W}{12}$$

where:

ES_{iu} = Uncontrolled emissions, defined as emissions from a fixed roof vessel having identical dimensions and vessel color as vessel I, megagrams per month.

L_B = Breathing loss emissions, megagrams per year, calculated according to paragraph (g)(3)(i)(A) of this section.

L_W = Working loss emissions, megagrams per year, calculated according to paragraph (g)(3)(i)(B) of this section.

12 = Constant, months per year.

(A) Breathing loss emissions shall be calculated using the following equation:

$$L_B = 1.02 \times 10^{-5} M_V \left(\frac{P}{P_A - P}\right) 0.68_D 1.73_H 0.51_{\Delta T} 0.50 F_{pCKC}$$

where:

M_v = Molecular weight of vapor in storage vessel, pound per pound-mole.

P_A = Average atmospheric pressure, pounds per square inch absolute.

P = True vapor pressure of the HAP at liquid storage temperature, pounds per square inch absolute. See table 21 of this subpart.

D = Tank diameter, feet.

H = Average vapor space height, feet. Use vessel-specific values or an assumed value of one-half the height.

ΔT = Average ambient diurnal temperature change, °F. A typical value of 20 °F may be used.

Fp = Paint factor, dimensionless, from table 22 of this subpart; use Fp = 1 for vessels located indoors.

C = Adjustment factor for small diameter tanks, dimensionless; use C = 1 for diameter $\geq$30 feet; use C = $0.0771D - 0.0013D^2 - 0.1334$ for diameter <30 feet.

Kc = Product factor, dimensionless. Use 1.0 for organic HAPs.

(B) Working losses shall be calculated using the following equation:

$$L_W = 1.089 \times 10^{-8} M_v (P)(V)(N)(K_N)(K_C)$$

where:

V = Tank capacity, gallon.

N = Number of turnovers per year.

K_N = Turnover factor, dimensionless, and

$$K_N = \frac{180 + N}{6N} \text{ for turnovers} > 36$$

$$K_N = 1 \text{ for turnovers} \leq 36$$

M_v, P, and K_C as defined in paragraph (g)(3)(i)(A) of this section.

(C) The owner or operator may elect to calculate ES_{iu} in accordance with the methods described in American Petroleum Institute Publication 2518, Evaporative Loss from Fixed-Roof Tanks (incorporated by reference as specified in § 63.14 of this part).

(*1*) The owner or operator who elects to use these alternative methods must use them for all storage vessels included in the emissions average as debit or credit generating points.

(*2*) The equations of paragraphs (g)(3)(i)(A) and (g)(3)(i)(B) of this section shall not be used in conjunction with the alternative methods provided under paragraph (g)(3)(i)(C) of this section.

(ii) The following procedures and equations shall be used for each fixed roof storage vessel i that is not controlled with a floating roof to calculate $ES_{iACTUAL}$:

(A) If the vessel is not controlled, $ES_{iACTUAL} = ES_{iu}$, where ES_{iu} is calculated according to the procedures in paragraph (g)(3)(i) of this section.

(B) Except as provided in paragraph (g)(3)(ii)(C) of this section, if the vessel is controlled using a control device or pollution prevention measure achieving less than 95-percent reduction,

$$ES_{iACTUAL} = ES_{iu} * \left(\frac{1 - \text{Percent reduction}}{100} \right)$$

(*1*) The percent reduction for a control device shall be determined through a design evaluation according to the procedures specified in § 63.120(d) of this subpart.

(*2*) Procedures for calculating the percent reduction for pollution prevention measures are specified in paragraph (j) of this section.

(C) If the vessel is controlled according to the provisions of § 63.119(e)(2) of this section where-by the control device is only required to achieve at least 90-percent reduction, the vessel shall not be considered to be generating debits.

(iii) The following equation shall be used for each internal floating roof vessel i that does not meet the specifications of § 63.119(b) or (d) of this subpart to calculate $ES_{iACTUAL}$:

$$ES_{iACTUAL} = (L_W + L_R + L_F + L_D)/12$$

where:

L_W = Withdrawal loss emissions, megagrams per year, calculated according to paragraph (g)(3)(iii)(A) of this section.

L_R = Rim seal loss emissions, megagrams per year, calculated according to paragraph (g)(3)(iii)(B) of this section.

L_F = Fitting loss emissions, megagrams per year, calculated according to paragraph (g)(3)(iii)(C) of this section.

L_D = Deck seam loss emissions, megagrams per year, calculated according to paragraph (g)(3)(iii)(D) of this section.

12 = Constant, months per year.

(A) Withdrawal loss emissions shall be calculated using the following equation:

$$L_W = \frac{1.018 \times 10^{-5} QCW_L}{D} \left[1 + \left(\frac{N_c F_c}{D} \right) \right]$$

where:
Q = Throughput, gallon per year; (gallon/turnover)* (turnovers per year).
C = Shell clingage factor, barrel per 1,000 square foot, see table 23 of this subpart.
W_L = Average liquid density, pound per gallon.
D = Tank diameter, feet.
N_c = Number of columns, dimensionless, see table 24 of this subpart.
F_c = Effective column diameter, feet [column perimeter (feet)¸3.1416], see table 25 of this subpart.

(B) Rim seal loss emissions shall be calculated using the following equation:

$$L_R = \frac{K_S V^n P^* D M_V K_C}{2{,}205}$$

where:
M_v = Molecular weight of vapor in storage vessel, pound per pound-mole.
D = Tank diameter, feet.
K_c = Product factor, dimensionless; use 1.0 for organic HAPs.
K_s = Seal factor, pound-mole per [foot (miles per hour)n year], see table 26 of this subpart.
V = Average wind speed at the source, miles per hour. A value of 10 miles per hour may be assumed if source-specific data are not available.
n = Seal related wind speed exponent, dimensionless, see table 26 of this subpart.
2,205 = Constant, pounds per megagram.
P^* = Vapor pressure function, dimensionless, and

$$P^* = \frac{\frac{P}{P_A}}{\left[1 + \left(1 - \frac{P}{P_A}\right)0.5\right]^2}$$

where:
P_A = Average atmospheric pressure, pounds per square inch absolute.
P = True vapor pressure at liquid storage temperature, pounds per square inch absolute.

(C) Fitting loss emissions shall be calculated using the following equation:

$$L_F = \frac{F_f P^* M_v K_c}{2{,}205}$$

where:
F_f = The total deck fitting loss factor, pound-mole per year, and where:

$$F_f = \sum_{i=1}^{n} \left(NF_i KF_i\right) = \left[\left(NF_1 KF_1\right) + \left(NF_2 KF_2\right) + \ldots \left(NF_n KF_n\right)\right]$$

N_{Fi} = Number of fittings of a particular type, dimensionless. N_{Fi} is determined for the specific tank or estimated from tables 24 and 27 of this subpart.
K_{Fi} = Deck fitting loss factor for a particular type fitting, pound-mole per year. K_{Fi} is determined for each fitting type from table 27 of this subpart.
n = Number of different types of fittings, dimensionless.
P^*, M_v, K_c, and 2,205 as defined in paragraph (g)(3)(iii)(B) of this section.

(D) Deck seam loss emissions shall be calculated using the following equation:

$$L_D = \frac{K_D S_D D^2 P^* M_v K_c}{2{,}205}$$

where:
K_D = Deck seam loss factor, pound-mole per foot per year, and

K_D = 0.34 for non-welded decks.
K_D = 0 for welded decks.
S_D = Deck seam length factor, feet per square foot, see table 28 of this subpart.
D, P^*, M_v, K_c, and 2,205 as defined in paragraph (g)(3)(iii)(B) of this section.

(iv) The following equation shall be used for each external floating roof vessel i that does not meet the specifications of § 63.119(c) of this subpart to calculate $ES_{iACTUAL}$:

$$ES_{iACTUAL} = \frac{L_W + L_R + L_F}{12}$$

where:
L_W = Withdrawal loss emissions, megagrams per year, calculated according to paragraph (g)(3)(iv)(A) of this section.
L_R = Rim seal loss emissions, megagrams per year, calculated according to paragraph (g)(3)(iv)(B) of this section.
L_F = Fitting loss emissions, megagrams per year, calculated according to paragraph (g)(3)(iv)(C) of this section.
12 = Constant, months per year.

(A) Withdrawal loss emissions shall be calculated using the following equation:

$$L_W = \frac{4.28 * 10^{-4}\ QCW_L}{D}$$

where:
Q = Throughput, gallons per year.
C = Shell clingage factor, barrel per 1,000 square foot, see table 23 of this subpart.
W_L = Average liquid density, pound per gallon.
D = Vessel diameter, feet.

(B) Rim seal loss emissions shall be calculated using the following equation:

$$L_R = \frac{K_s V^N P^* D M_v K_c}{2{,}205}$$

where:
K_s = Seal factor, pound-mole per [foot (miles per hour)N year], see table 29 of this subpart.
V = Average wind speed, miles per hour, at the source. A value of 10 miles per hour may be assumed if source-specific data are not available.
N = Seal wind speed exponent, dimensionless, see table 29 of this subpart.
P^* = Vapor pressure function, dimensionless, as defined in paragraph (g)(3)(iii)(B) of this section.
D = Vessel diameter, feet.
M_V = Molecular weight of the HAP, pound per pound-mole.
K_c = Product factor, dimensionless; use 1.0 for organic HAPs.
2,205 = Constant, pounds per megagram.

(C) Fitting loss emissions shall be calculated using the following equation:

$$L_F = \frac{F_F P^* M_v K_c}{2{,}205}$$

where:
F_F = The total deck fitting loss factor, pound-mole per year, and

$$F_f = \sum_{i=1}^{n} \left(NF_i KF_i\right) = \left[\left(NF_1 KF_1\right) + \left(NF_2 KF_2\right) + \ldots \left(NF_n KF_n\right)\right]$$

where:
N_{Fi} = Number of fittings of a particular type, dimensionless. NFi is determined for the specific

tank or estimated from tables 30 through 32 of this subpart.
K_{Fi} = Deck fitting loss factor for a particular type fitting, pound-mole per year, and
$K_{Fi} = K_{Fai} + K_{Fbi} V^{mi}$, pound-mole per year, see table 30 of this subpart for the appropriate values of K_{Fa}, K_{Fb}, and m for each fitting type.
V, P^*, M_v, K_c, and 2,205 as defined in paragraph (g)(3)(iv)(B) of this section.

(4) Emissions from transfer racks shall be calculated as follows:

(i) The following equation shall be used for each transfer rack i to calculate ETR_{iu}:

$$ETR_{iu} = (1.20 \times 10^{-7}) \frac{SPMG}{T}$$

where:
ETR_{iu} = Uncontrolled transfer HAP emission rate from transfer rack i, megagrams per month.
S = Saturation factor, dimensionless (see table 33 of this subpart).
P = Weighted average rack partial pressure of organic HAPs transferred at the rack during the month, kilopascals.
M = Weighted average molecular weight of organic HAPs transferred at the transfer rack during the month, gram per gram-mole.
G = Monthly volume of organic HAPs transferred, liters per month.
T = Weighted rack bulk liquid loading temperature during the month, Kelvin (°C + 273).

(ii) The following equation shall be used for each transfer rack i to calculate the weighted average rack partial pressure:

$$P = \frac{\sum_{1}^{j=n} (P_j)(G_j)}{G}$$

where:
P_j = Maximum true vapor pressure of individual organic HAP transferred at the rack, kilopascals.
G = Monthly volume of organic HAP transferred, liters per month, and

$$G = \sum_{1}^{j=n} G_j$$

G_j = Monthly volume of individual organic HAP transferred at the transfer rack, liters per month.
n = Number of organic HAPs transferred at the transfer rack.

(iii) The following equation shall be used for each transfer rack i to calculate the weighted average rack molecular weight:

$$M = \frac{\sum_{1}^{j=n} (M_j)(G_j)}{G}$$

where:
M_j = Molecular weight of individual organic HAP transferred at the rack, gram per gram-mole.
G, G_j, and n as defined in paragraph (g)(4)(ii) of this section.

(iv) The following equation shall be used for each transfer rack i to calculate the monthly weighted rack bulk liquid loading temperature:

$$T = \frac{\sum_{1}^{j=n} (T_j)(G_j)}{G}$$

where:
T_j = Average annual bulk temperature of individual organic HAP loaded at the transfer rack, Kelvin (°C + 273).
G, G_j, and n as defined in paragraph (g)(4)(ii) of this section.

(v) The following procedures and equations shall be used to calculate $ETR_{iACTUAL}$:

(A) If the transfer rack is not controlled, $ETR_{iACTUAL} = ETR_{iu}$, where ETR_{iu} is calculated using the equations specified in paragraphs (g)(4)(i) through (g)(4)(iv) of this section.

(B) If the transfer rack is controlled using a control device or a pollution prevention measure achieving less than the 98-percent reduction,

$$ETR_{iACTUAL} = ETR_{iu} \left(\frac{1 - \text{Percent reduction}}{100\%} \right)$$

(*1*) The percent reduction for a control device shall be measured according to the procedures and test methods specified in § 63.128(a) of this subpart. For a flare meeting the criteria in § 63.128(b) of this subpart or a boiler or process heater meeting the criteria in § 63.128(c) of this subpart, the percent reduction shall be 98 percent. If testing is not feasible, percent reduction shall be determined through a design evaluation according to the procedures specified in § 63.128(h) of this subpart.

(*2*) Procedures for calculating the percent reduction for pollution prevention measures are specified in paragraph (j) of this section.

(5) Emissions from wastewater shall be calculated as follows:

(i) The following equation shall be used for each wastewater stream i to calculate EWW_{ic}:

$$EWW_{ic} = \left(6.0 \times 10^{-8}\right) Q_i H_i \sum_{m=1}^{s} \left(1 - Fr_m\right) Fe_m HAP_{im} + \left(0.05\right)\left(6.0 \times 10^{-8}\right) Q_i H_i \sum_{m=1}^{s} \left(Fr_m HAP_{im}\right)$$

Where:

EWW_{ic} = Monthly wastewater stream emission rate if wastewater stream i is controlled by the reference control technology, megagrams per month.

Q_i = Average flow rate for wastewater stream i, as determined by the procedure in § 63.144(c)(3), liters per minute.

H_i = Number of hours during the month that wastewater stream i was generated, hours per month.

s = Total number of table 9 HAP in wastewater stream i.

Fr_m = Fraction removed of table 9 HAP m in wastewater, from table 9, dimensionless.

Fe_m = Fraction emitted of table 9 HAP m in wastewater, from table 34, dimensionless.

HAP_{im} = Average concentration of table 9 HAP m in wastewater stream i, parts per million by weight.

(A) HAP_{im} shall be determined for the point of determination, or at a location downstream of the point of determination and adjusted according as specified in § 63.144(b)(6) of this subpart, by developing and using the sampling plan specified in § 63.144(b)(5)(ii) of this subpart. The samples collected may be analyzed by any of the methods specified in § 63.144(b)(5)(i)(B) through (b)(5)(i)(F) of this subpart. Concentration measurements based on Method 305 shall be adjusted by dividing each concentration by the compound-specific Fm factor listed on table 34 of this subpart. Concentration measurements other than Method 305 shall not be adjusted by the compound-specific Fm factor listed in table 34 of this subpart.

(B) Values for Q_i, HAP_{im}, and C_{im} shall be determined during a performance test conducted under representative conditions as specified in § 63.145(a)(3) and (a)(4) of this subpart. The average value obtained from three test runs shall be used. The values of Q_i, HAP_{im}, and C_{im} shall be established in the Notification of Compliance Status and must be updated as provided in paragraph (g)(5)(i)(C) of this section.

(C) If there is a change to the process or operation such that the previously measured values of Q_i, HAP_{im}, and C_{im} are no longer representative, a new performance test shall be conducted to determine new representative values of Qi, HAPim, and Cim. These new values shall be used to calculate debits and credits from the time of the change forward, and the new values shall be reported in the next Periodic Report.

(ii) The following equation shall be used to calculate $EWW_{iACTUAL}$ for each wastewater stream i that is not managed according to the provisions for waste management units of §§ 63.133 through 63.137 of this subpart, as applicable, which specify equipment and work practices for suppressing and controlling vapors. Q_i, H_i, s, Fe_m, and HAP_{im} are as defined and determined according to paragraph (g)(5)(i) of this section.

$$EWW_{iACTUAL} = \left(6.0 \times 1^{-8}\right) Q_i H_i \sum_{m=1}^{s} Fe_m HAP_{im}$$

where:

$EWW_{iACTUAL}$ = Monthly wastewater stream emission rate if wastewater stream i is uncontrolled or is controlled to a level less stringent than the reference control technology, megagrams per month.

(iii) The following equation shall be used to calculate $EWW_{iACTUAL}$ for each wastewater stream i that is managed according to the requirements of §§ 63.133 through 63.137 of this subpart, as applicable, and wastewater stream i is uncontrolled or is controlled to a level less stringent than the reference control technology (for the purposes of the wastewater emissions averaging provisions, the term control is used to mean treatment). Q_i, H_i, s, Fe_m, and HAPim are as defined and determined according to paragraph (g)(5)(i) of this section.

$$EWW_{iACTUAL} = \left(6.0 \times 10^{-8}\right) Q_i H_i \sum_{m=1}^{s} \left[Fe_m HAP_{im}\left(1 - PR_{im}\right)\right] + \left(1 - \frac{R_i}{100\%}\right)\left(6.0 \times 10^{-8}\right) Q_i H_i \sum_{m=1}^{s} \left(HAP_{im} PR_{im}\right)$$

where:

$EWW_{iACTUAL}$ = Monthly wastewater stream emission rate if wastewater stream i is uncontrolled or is controlled to a level less stringent than the reference control technology, megagrams per month.

Pr_{im} = The efficiency of the treatment process, or series of treatment processes, which treat wastewater stream i, in reducing the emission potential of organic HAP m in wastewater, dimensionless, as calculated by:

$$Pr_{im} = \frac{HAP_{im\text{-}in} - HAP_{im\text{-}out}}{HAP_{im\text{-}in}}$$

where:

$HAP_{im\text{–}in}$ = Average concentration of table 9 HAP m, parts per million by weight, as defined and determined according to paragraph (g)(5)(i) of this section, in the wastewater entering the first treatment process in the series.

$HAP_{im\text{–}out}$ = Average concentration of table 9 HAP m, parts per million by weight, as defined and determined according to paragraph (g)(5)(i) of this section, in the wastewater exiting the last treatment process in the series.

R_i = Reduction efficiency of the device used to control any vapor streams emitted and collected from wastewater stream i during treatment, dimensionless, as determined according to the procedures in § 63.145(i) or (j) of this subpart.

(h) Credits are generated by the difference between emissions that are allowed for each Group 1 and Group 2 emission point and the actual emissions from a Group 1 or Group 2 emission point that has been controlled after November 15, 1990 to a level more stringent than what is required by this subpart or any other State or Federal rule or statute. Credits shall be calculated as follows:

(1) The overall equation for calculating source-wide credits is:

$$Credits = D\sum_{i=1}^{n}\left((0.02)EPV1_{iu} - EPV1_{iACTUAL}\right) + D\sum_{i=1}^{m}\left(EPV2_{iBASE} - EPV2_{iACTUAL}\right) +$$

$$D\sum_{i=1}^{n}\left((0.05)ES1_{iu} - ES1_{iACTUAL}\right) + D\sum_{i=1}^{m}\left(ES2_{iBASE} - ES2_{iACTUAL}\right) + D\sum_{i=1}^{n}\left((0.02)ETR1_{iu} - ETR1_{iACTUAL}\right)$$

$$+ D\sum_{i=1}^{m}\left(ETR2_{iBASE} - ETR2_{iACTUAL}\right) + D\sum_{i=1}^{n}\left(EWW1_{ic} - EWW1_{iACTUAL}\right) + D\sum_{i=1}^{m}\left(EWW2_{iBASE} - EWW2_{iACTUAL}\right)$$

where: Credits and all terms of the equation are in units of megagrams per month, the baseline date is November 15, 1990, and:

D = Discount factor = 0.9 for all credit generating emission points except those controlled by a pollution prevention measure, which will not be discounted.

$EPV1_{iACTUAL}$ = Emissions for each Group 1 process vent i that is controlled to a level more stringent than the reference control technology, calculated according to paragraph (h)(2) of this section.

(0.02) $EPV1_{iu}$ = Emissions from each Group 1 process vent i if the reference control technology had been applied to the uncontrolled emissions. EPV1iu is calculated according to paragraph (h)(2) of this section.

$EPV2_{iACTUAL}$ = Emissions from each Group 2 process vent i that is controlled, calculated according to paragraph (h)(2) of this section.

$EPV2_{iBASE}$ = Emissions from each Group 2 process vent i at the baseline date, as calculated in paragraph (h)(2) of this section.

$ES1_{iACTUAL}$ = Emissions from each Group 1 storage vessel i that is controlled to a level more stringent than the reference control technology, calculated according to paragraph (h)(3) of this section.

(0.05) $ES1_{iu}$ = Emissions from each Group 1 storage vessel i if the reference control technology had been applied to the uncontrolled emissions. $ES1_{iu}$ is calculated according to paragraph (h)(3) of this section.

$ES2_{iACTUAL}$ = Emissions from each Group 2 storage vessel i that is controlled, calculated according to paragraph (h)(3) of this section.

$ES2_{iBASE}$ = Emissions from each Group 2 storage vessel i at the baseline date, as calculated in paragraph (h)(3) of this section.

$ETR1_{iACTUAL}$ = Emissions from each Group 1 transfer rack i that is controlled to a level more stringent than the reference control technology, calculated according to paragraph (h)(4) of this section.

(0.02) $ETR1_{iu}$ = Emissions from each Group 1 transfer rack i if the reference control technology had been applied to the uncontrolled emissions. ETR1iu is calculated according to paragraph (h)(4) of this section.

$ETR2_{iACTUAL}$ = Emissions from each Group 2 transfer rack i that are controlled, calculated according to paragraph (h)(4) of this section.

$ETR2_{iBASE}$ = Emissions from each Group 2 transfer rack i at the baseline date, as calculated in paragraph (h)(4) of this section.

$EWW1_{iACTUAL}$ = Emissions from each Group 1 wastewater stream i that is controlled to a level more stringent than the reference control technology, calculated according to paragraph (h)(5) of this section.

$EWW1_{ic}$ = Emissions from each Group 1 wastewater stream i if the reference control technology had been applied to the uncontrolled emissions, calculated according to paragraph (h)(5) of this section.

$EWW2_{iACTUAL}$ = Emissions from each Group 2 wastewater stream i that is controlled, calculated according to paragraph (h)(5) of this section.

$EWW2_{iBASE}$ = Emissions from each Group 2 wastewater stream i at the baseline date, calculated according to paragraph (h)(5) of this section.

n = Number of Group 1 emission points included in the emissions average. The value of n is not necessarily the same for process vents, storage vessels, transfer racks, and wastewater.

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m = Number of Group 2 emission points included in the emissions average. The value of m is not necessarily the same for process vents, storage vessels, transfer racks, and wastewater.

(i) For an emission point controlled using a reference control technology, the percent reduction for calculating credits shall be no greater than the nominal efficiency associated with the reference control technology, unless a higher nominal efficiency is assigned as specified in paragraph (h)(1)(ii) of this section.

(ii) For an emission point controlled to a level more stringent than the reference control technology, the nominal efficiency for calculating credits shall be assigned as described in paragraph (i) of this section. A reference control technology may be approved for use in a different manner and assigned a higher nominal efficiency according to the procedures in paragraph (i) of this section.

(iii) For an emission point controlled using a pollution prevention measure, the nominal efficiency for calculating credits shall be as determined as described in paragraph (j) of this section.

(2) Emissions from process vents shall be determined as follows:

(i) Uncontrolled emissions from Group 1 process vents, EPV1iu, shall be calculated according to the procedures and equation for EPViu in paragraphs (g)(2)(i) and (g)(2)(ii) of this section.

(ii) Actual emissions from Group 1 process vents controlled using a technology with an approved nominal efficiency greater than 98 percent or a pollution prevention measure achieving greater than 98 percent emission reduction, $EPV1_{iACTUAL}$, shall be calculated according to the following equation:

$$EPV1_{iACTUAL} = EPV1_{iu} \left(1 - \frac{\text{Nominal efficiency \%}}{100\%} \right)$$

(iii) The following procedures shall be used to calculate actual emissions from Group 2 process vents, $EPV2_{iACTUAL}$:

(A) For a Group 2 process vent controlled by a control device, a recovery device applied as a pollution prevention project, or a pollution prevention measure, if the control achieves a percent reduction less than or equal to 98 percent reduction,

$$EPV2_{iACTUAL} = EPV2_{iu} \left(1 - \frac{\text{Percent reduction}}{100\%} \right)$$

(*1*) $EPV2_{iu}$ shall be calculated according to the equations and procedures for EPV_{iu} in paragraphs (g)(2)(i) and (g)(2)(ii) of this section, except as provided in paragraph (h)(2)(iii)(A)(3) of this section.

(*2*) The percent reduction shall be calculated according to the procedures in paragraphs (g)(2)(iii)(B)(1) through (g)(2)(iii)(B)(3) of this section, except as provided in paragraph (h)(2)(iii)(A)(4) of this section.

(*3*) If a recovery device was added as part of a pollution prevention project, $EPV2_{iu}$ shall be calculated prior to that recovery device. The equation for EPV_{iu} in paragraph (g)(2)(ii) of this section shall be used to calculate $EPV2_{iu}$; however, the sampling site for measurement of vent stream flow rate and organic HAP concentration shall be at the inlet of the recovery device.

(*4*) If a recovery device was added as part of a pollution prevention project, the percent reduction shall be demonstrated by conducting a performance test at the inlet and outlet of that recovery device.

(B) For a Group 2 process vent controlled using a technology with an approved nominal efficiency greater than 98 percent or a pollution prevention measure achieving greater than 98 percent reduction,

$$EPV2_{iACTUAL} = EPV2_{iu} \left(1 - \frac{\text{Nominal efficiency \%}}{100\%} \right)$$

(iv) Emissions from Group 2 process vents at baseline, $EPV2_{iBASE}$, shall be calculated as follows:

(A) If the process vent was uncontrolled on November 15, 1990, $EPV2_{iBASE} = EPV2_{iu}$ and shall be calculated according to the procedures and equation for EPV_{iu} in paragraphs (g)(2)(i) and (g)(2)(ii)

(B) If the process vent was controlled on November 15, 1990,

$$EPV2_{iBASE} = EPV2_{iu} \left(1 - \frac{\text{Percent reduction}}{100\%} \right)$$

where $EPV2_{iu}$ is calculated according to the procedures and equation for EPV_{iu} in paragraphs (g)(2)(i) and (g)(2)(ii) of this section. The percent reduction shall be calculated according to the procedures specified in paragraphs (g)(2)(iii)(B)(*1*) through (g)(2)(iii)(B)(*3*) of this section.

(C) If a recovery device was added to a process vent as part of a pollution prevention project initiated after November 15, 1990, $EPV2_{iBASE} = EPV2_{iu}$, where $EPV2_{iu}$ is calculated according to paragraph (h)(2)(iii)(A)(*3*) of this section.

(3) Emissions from storage vessels shall be determined as follows:

(i) Uncontrolled emissions from Group 1 storage vessels, $ES1_{iu}$, shall be calculated according to the equations and procedures for ESiu in paragraph (g)(3)(i) of this section.

(ii) Actual emissions from Group 1 storage vessels controlled using a technology with an approved nominal efficiency greater than 95 percent or a pollution prevention measure achieving greater than 95 percent emission reduction, $ES1_{iACTUAL}$, shall be calculated according to the following equation:

$$ES1_{iACTUAL} = ES1_{iu} \left(1 - \frac{\text{Nominal efficiency \%}}{100\%} \right)$$

(iii) The following procedures shall be used to calculate actual emissions from Group 2 storage vessels, $ES2_{iACTUAL}$:

(A) For a Group 2 storage vessel controlled using a control device or a pollution prevention measure (other than an internal or external floating roof) achieving a percent reduction less than or equal to 95-percent reduction,

$$ES2_{iACTUAL} = ES2_{iu} \left(1 - \frac{\text{Percent reduction}}{100\%} \right)$$

(*1*) $ES2_{iu}$ is calculated according to the equations and procedures for ES_{iu} in paragraph (g)(3)(i) of this section.

(*2*) The percent reduction shall be calculated according to the procedures in paragraphs (g)(3)(ii)(B)(*1*) and (g)(3)(ii)(B)(*2*) of this section.

(*3*) If an internal or external floating roof meeting the specifications of § 63.119 (b), (c), or (d) of this subpart is used to control the vessel, the percent reduction shall be 95 percent.

(B) If a Group 2 storage vessel is controlled with an internal or external floating roof not meeting the specifications of § 63.119 (b), (c), or (d) of this subpart, $ES2_{iACTUAL}$ shall be calculated as specified for $ES_{iACTUAL}$ in paragraph (g)(3)(iii) or (g)(3)(iv) of this section.

(C) For a Group 2 storage vessel controlled using a technology with an approved nominal efficiency greater than 95 percent or a pollution prevention measure achieving greater than 95 percent reduction,

$$ES2_{iACTUAL} = ES2_{iu} \left(1 - \frac{\text{Nominal efficiency \%}}{100\%} \right)$$

(iv) Emissions from Group 2 storage vessels at baseline, $ES2_{iBASE}$, shall be calculated as follows:

(A) If the fixed-roof vessel was uncontrolled on November 15, 1990, $ES2_{iBASE} = ES2_{iu}$ and shall be calculated according to the procedures and equations for ES_{iu} in paragraph (g)(3)(i) of this section.

(B) If the storage vessel was controlled on November 15, 1990:

(*1*) The equations for $ES_{iACTUAL}$ in paragraph (g)(3)(iii) of this section shall be used to calculate $ES2_{iBASE}$ for vessels controlled with an internal floating roof that does not meet the specifications of § 63.119 (b) or (d) of this subpart.

(*2*) The equations for $ES_{iACTUAL}$ in paragraph (g)(3)(iv) of this section shall be used to calculate $ES2_{iBASE}$ for vessels controlled with an external floating roof that does not meet the specifications of § 63.119(c) of this subpart.

(*3*) The following equations shall be used to calculate $ES2_{iBASE}$ for vessels controlled with a control device,

$$ES2_{iBASE} = ES2_{iu} \left(1 - \frac{\text{Percent reduction}}{100\%} \right)$$

where $ES2_{iu}$ shall be calculated according to the equations for ES_{iu} in paragraph (g)(3)(i) of this section. The percent reduction shall be calculated according to the procedures in paragraphs (g)(3)(ii)(B)(*1*) and (g)(3)(ii)(B)(*2*) of this section.

(4) Emissions from transfer racks shall be determined as follows:

(i) Uncontrolled emissions from Group 1 transfer racks, $ETR1_{iu}$, shall be calculated according to the procedures and equations for ETR_{iu} as described in paragraphs (g)(4)(i) through (g)(4)(iv) of this section.

(ii) Actual emissions from Group 1 transfer racks controlled using a technology with an approved nominal efficiency greater than 98 percent or a pollution prevention measure achieving greater than 98 percent emission reduction, $ETR_{iACTUAL}$, shall be calculated according to the following equation:

$$ETR1_{iACTUAL} = ETR1_{iu} \left(1 - \frac{\text{Nominal efficiency}}{100\%} \right)$$

(iii) The following procedures shall be used to calculate actual emissions from Group 2 transfer racks, $ETR2_{iACTUAL}$:

(A) For a Group 2 transfer rack controlled by a control device or a pollution prevention measure achieving a percent reduction less than or equal to 98 percent reduction,

$$ETR2_{iACTUAL} = ETR2_{iu} \left(1 - \frac{\text{Percent reduction}}{100\%} \right)$$

(*1*) $ETR2_{iu}$ shall be calculated according to the equations and procedures for ETR_{iu} in paragraphs (g)(4)(i) through (g)(4)(iv) of this section.

(*2*) The percent reduction shall be calculated according to the procedures in paragraph (g)(4)(v)(B)(1) and (g)(4)(v)(B)(2) of this section.

(B) For a Group 2 transfer rack controlled using a technology with an approved nominal efficiency greater than 98 percent or a pollution prevention measure achieving greater than 98 percent reduction,

$$ETR2_{iACTUAL} = ETR2_{iu} \left(1 - \frac{\text{Nominal efficiency}}{100\%} \right)$$

(iv) Emissions from Group 2 transfer racks at baseline, $ETR2_{iBASE}$, shall be calculated as follows:

(A) If the transfer rack was uncontrolled on November 15, 1990, $ETR2_{iBASE} = ETR2_{iu}$ and shall be calculated according to the procedures and equations for ETR_{iu} in paragraphs (g)(4)(i) through (g)(4)(iv) of this section.

(B) If the transfer rack was controlled on November 15, 1990,

$$ETR2_{iBASE} = ETR2_{iu} \left(1- \frac{\text{Percent reduction}}{100\%} \right)$$

where $ETR2_{iu}$ is calculated according to the procedures and equations for ETR_{iu} in paragraphs (g)(4)(i) through (g)(4)(iv) of this section. Percent reduction shall be calculated according to the procedures in paragraphs (g)(4)(v)(B)(1) and (g)(4)(v)(B)(2) of this section.

(5) Emissions from wastewater shall be determined as follows:

(i) $EWW1_{ic}$ shall be calculated according to the equation for EWW_{ic} in paragraph (g)(5)(i) of this section.

(ii) $EWW2_{iBASE}$ shall be calculated according to the equation for $EWW_{iACTUAL}$ in paragraph (g)(5)(ii) of this section for each Group 2 wastewater stream i, which, on November 15, 1990, was not managed according to the requirements of §§ 63.133 through 63.137 of this subpart, as applicable.

(iii) $EWW2_{iBASE}$ shall be calculated according to the equation for $EWW_{iACTUAL}$ in paragraph (g)(5)(iii) of this section for each Group 2 wastewater stream i, which, on November 15, 1990, was managed according to the requirements of §§ 63.133 through 63.137 of this subpart, as applicable, and was uncontrolled or controlled to a level less stringent than the reference control technology.

(iv) For Group 2 wastewater streams that are managed according to the requirements of §§ 63.133 through 63.137 of this subpart, as applicable, $EWW2_{iACTUAL}$ shall be calculated as follows:

(A) $EWW2_{iACTUAL}$ shall be calculated according to the equation for $EWW_{iACTUAL}$ in paragraph (g)(5)(iii) of this section for each Group 2 wastewater stream i that is controlled to a level less stringent than, or equivalent to, the reference control technology.

(B) $EWW2_{iACTUAL}$ shall be calculated according to the procedures for calculating $EWW1_{iACTUAL}$ in paragraph (h)(5)(v) of this section for each Group 2 wastewater stream that is controlled to a level more stringent than the reference control technology.

(v) The following equations for $EWW1_{iACTUAL}$ shall be used to calculate emissions from each Group 1 wastewater stream i that is managed according to the requirements of §§ 63.133 through 63.137 of this subpart, as applicable, and is controlled to a level more stringent than the reference control technology.

(A) If the Group 1 wastewater stream i is controlled using a treatment process or series of treatment processes with an approved nominal reduction efficiency in the concentration of table 9 HAP for stream i greater than that of the design steam stripper specified in § 63.138(d) of this subpart, and the control device used to reduce table 9 HAP emissions from the vapor stream(s) vented from the treatment process(es) achieves a percent reduction equal to 95 percent, the following equation shall be used. All terms in this equation are as defined and determined in paragraph (g)(5) of this section.

$$EWW1_{iACTUAL} = \left(6.0 \times 10^{-8}\right) Q_i H_i \sum_{m=1}^{s} \left[Fe_m HAP_{im} \left(1 - PR_{im}\right) \right] + 0.05 \left(6.0 \times 10^{-8}\right) Q_i H_i \sum_{m=1}^{s} \left[HAP_{im} PR_{im} \right]$$

(B) If the Group 1 wastewater stream i is not controlled using a treatment process or series of treatment processes with a nominal reduction efficiency in the table 9 HAP concentration greater than that of the design steam stripper specified in § 63.138(d) of this subpart, but the vapor stream(s) vented from the treatment process(es) are controlled using a device with an approved nominal efficiency greater than 95 percent, the following equation shall be used. All terms other than nominal efficiency are as defined and determined in paragraph (g)(5) of this section.

$$EWW1_{iACTUAL} = \left(6.0 \times 10^{-8}\right) Q_i H_i \sum_{m=1}^{s} \left[Fe_m HAP_{im}\left(1 - Fr_m\right)\right] + \left(1 - \frac{\text{nominal efficiency } \%}{100}\right)\left(6.0 \times 10^{-8}\right) Q_i H_i \sum_{m=1}^{s} \left[HAP_{im} Fr_m\right]$$

(C) If the Group 1 wastewater stream i is controlled using a treatment process or series of treatment processes with an approved nominal reduction efficiency in the table 9 concentration greater than that of the design steam stripper specified in § 63.138(d) of this subpart, and the vapor stream(s) vented from the treatment process are controlled using a device with an approved nominal efficiency greater than 95 percent, the following equation shall be used. All terms other than nominal efficiency are as defined and determined in paragraph (g)(5) of this section.

$$EWW1_{iACTUAL} = \left(6.0 \times 10^{-8}\right) Q_i H_i \sum_{m=1}^{s} \left[Fe_m HAP_{im}\left(1 - PR_m\right)\right] + \left(1 - \frac{\text{nominal efficiency } \%}{100}\right)\left(6.0 \times 10^{-8}\right) Q_i H_i \sum_{m=1}^{s} \left[HAP_{im} PR_{im}\right]$$

(i) The following procedures shall be followed to establish nominal efficiencies. The procedures in paragraphs (i)(1) through (i)(6) of this section shall be followed for control technologies that are different in use or design from the reference control technologies and achieve greater percent reductions than the percent efficiencies assigned to the reference control technologies in § 63.111 of this subpart.

(1) In those cases where the owner or operator is seeking permission to take credit for use of a control technology that is different in use or design from the reference control technology, and the different control technology will be used in more than three applications at a single plant-site, the owner or operator shall submit the information specified in paragraphs (i)(1)(i) through (i)(1)(iv) of this section to the Director of the EPA Office of Air Quality Planning and Standards in writing:

(i) Emission stream characteristics of each emission point to which the control technology is or will be applied including the kind of emission point, flow, organic HAP concentration, and all other stream characteristics necessary to design the control technology or determine its performance.

(ii) Description of the control technology including design specifications.

(iii) Documentation demonstrating to the Administrator's satisfaction the control efficiency of the control technology. This may include performance test data collected using an appropriate EPA method or any other method validated according to Method 301 of appendix A of this part. If it is infeasible to obtain test data, documentation may include a design evaluation and calculations. The engineering basis of the calculation procedures and all inputs and assumptions made in the calculations shall be documented.

(iv) A description of the parameter or parameters to be monitored to ensure that the control technology will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters).

(2) The Administrator shall determine within 120 calendar days whether an application presents sufficient information to determine nominal efficiency. The Administrator reserves the right to request specific data in addition to the items listed in paragraph (i)(1) of this section.

(3) The Administrator shall determine within 120 calendar days of the submittal of sufficient data whether a control technology shall have a nominal efficiency and the level of that nominal efficiency. If, in the Administrator's judgment, the control technology achieves a level of emission reduction greater than the reference control technology for a particular kind of emission point, the Administrator will publish a FEDERAL REGISTER notice establishing a nominal efficiency for the control technology.

(4) The Administrator may condition permission to take emission credits for use of the control technology on requirements that may be necessary to ensure operation and maintenance to achieve the specified nominal efficiency.

(5) In those cases where the owner or operator is seeking permission to take credit for use of a control technology that is different in use or design from the reference control technology and the different control technology will be used in no more than three applications at a single plant site, the information listed in

paragraphs (i)(1)(i) through (i)(1)(iv) can be submitted to the permitting authority for the source for approval instead of the Administrator.

(i) In these instances, use and conditions for use of the control technology can be approved by the permitting authority as part of an operating permit application or modification. The permitting authority shall follow the procedures specified in paragraphs (i)(2) through (i)(4) of this section except that, in these instances, a FEDERAL REGISTER notice is not required to establish the nominal efficiency for the different technology.

(ii) If, in reviewing the application, the permitting authority believes the control technology has broad applicability for use by other sources, the permitting authority shall submit the information provided in the application to the Director of the EPA Office of Air Quality Planning and Standards. The Administrator shall review the technology for broad applicability and may publish a FEDERAL REGISTER notice; however, this review shall not affect the permitting authority's approval of the nominal efficiency of the control technology for the specific application.

(6) If, in reviewing an application for a control technology for an emission point, the Administrator or permitting authority determines the control technology is not different in use or design from the reference control technology, the Administrator or permitting authority shall deny the application.

(j) The following procedures shall be used for calculating the efficiency (percent reduction) of pollution prevention measures:

(1) A pollution prevention measure is any practice which meets the criteria of paragraphs (j)(1)(i) and (j)(1)(ii) of this section.

(i) A pollution prevention measure is any practice that results in a lesser quantity of organic HAP emissions per unit of product released to the atmosphere prior to out-of-process recycling, treatment, or control of emissions, while the same product is produced.

(ii) Pollution prevention measures may include: substitution of feedstocks that reduce HAP emissions; alterations to the production process to reduce the volume of materials released to the environment; equipment modifications; housekeeping measures; and in-process recycling that returns waste materials directly to production as raw materials. Production cutbacks do not qualify as pollution prevention.

(2) The emission reduction efficiency of pollution prevention measures implemented after November 15, 1990, can be used in calculating the actual emissions from an emission point in the debit and credit equations in paragraphs (g) and (h) of this section. When the term "organic HAP" is used in § 63.150(j)(2) in reference to wastewater emission points the term "table 9 HAP" shall apply for the purposes of this paragraph.

(i) For pollution prevention measures, the percent reduction used in the equations in paragraphs (g)(2) through (g)(5) of this section and paragraphs (h)(2) through (h)(5) of this section is the percent difference between the monthly organic HAP emissions for each emission point after the pollution prevention measure for the most recent month versus monthly emissions from the same emission point before the pollution prevention measure, adjusted by the volume of product produced during the two monthly periods.

(ii) The following equation shall be used to calculate the percent reduction of a pollution prevention measure for each emission point.

$$\text{Percent reduction} = \frac{E_B - \dfrac{(E_{pp} \times P_B)}{P_{pp}}}{E_B} \times 100\%$$

where:

Percent reduction = Efficiency of pollution prevention measure (percent organic HAP reduction).

E_B = Monthly emissions before the pollution prevention measure, megagrams per month, determined as specified in paragraphs (j)(2)(ii)(A), (j)(2)(ii)(B), and (j)(2)(ii)(C) of this section.

E_{pp} = Monthly emissions after the pollution prevention measure, megagrams per month, as determined for the most recent month, determined as specified in paragraphs (j)(2)(ii)(D) or (j)(2)(ii)(E) of this section.

P_B = Monthly production before the pollution prevention measure, megagrams per month, during

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the same period over which E_B is calculated.

P_{pp} = Monthly production after the pollution prevention measure, megagrams per month, as determined for the most recent month.

(A) The monthly emissions before the pollution prevention measure, EB, shall be determined in a manner consistent with the equations and procedures in paragraphs (g)(2), (g)(3), and (g)(4) of this section for process vents, storage vessels, and transfer operations.

(B) For wastewater, E_B shall be calculated as follows:

$$E_B = \sum_{i=1}^{n}\left[\left(6.0\times10^{-8}\right)Q_{Bi}H_{Bi}\sum_{i=1}^{s}Fe_m HAP_{Bim}\right]$$

where:

n = Number of wastewater streams.

Q_{Bi} = Average flow rate for wastewater stream i before the pollution prevention measure, defined and determined according to paragraph (g)(5)(i) of this section, liters per minute, before implementation of the pollution prevention measure.

H_{Bi} = Number of hours per month that wastewater stream i was discharged before the pollution prevention measure, hours per month.

s = Total number of organic HAPs in wastewater stream i.

Fe_m = Fraction emitted of organic HAP m in wastewater from table 9 of this subpart, dimensionless.

HAP_{Bim} = Average concentration of organic HAP m in wastewater stream i, defined and determined according to paragraph (g)(5)(i) of this section, before the pollution prevention measure, parts per million by weight, as measured before the implementation of the pollution measure.

(C) If the pollution prevention measure was implemented prior to April 22, 1994, records may be used to determine E_B.

(D) The monthly emissions after the pollution prevention measure, E_{pp}, may be determined during a performance test or by a design evaluation and documented engineering calculations. Once an emissions-to-production ratio has been established, the ratio can be used to estimate monthly emissions from monthly production records.

(E) For wastewater, E_{pp} shall be calculated using the following equation:

$$E_{pp} = \sum_{i=1}^{n}\left[\left(6.0\times10^{-8}\right)Q_{ppi}H_{ppi}\sum_{i=1}^{s}Fe_m HAP_{ppim}\right]$$

where n, Q_{ppi}, H_{ppi}, s, Fe_m, and HAP_{ppim} are defined and determined as described in paragraph (j)(2)(ii)(B) of this section except that Q_{ppi}, H_{ppi}, and HAP_{ppim} shall be determined after the pollution prevention measure has been implemented.

(iii) All equations, calculations, test procedures, test results, and other information used to determine the percent reduction achieved by a pollution prevention measure for each emission point shall be fully documented.

(iv) The same pollution prevention measure may reduce emissions from multiple emission points. In such cases, the percent reduction in emissions for each emission point must be calculated.

(v) For the purposes of the equations in paragraphs (h)(2) through (h)(5) of this section, used to calculate credits for emission points controlled more stringently than the reference control technology, the nominal efficiency of a pollution prevention measure is equivalent to the percent reduction of the pollution prevention measure. When a pollution prevention measure is used, the owner or operator of a source is not required to apply to the Administrator for a nominal efficiency and is not subject to paragraph (i) of this section.

(k) The owner or operator must demonstrate that the emissions from the emission points proposed to be included in the average will not result in greater hazard or, at the option of the operating permit authority, greater risk to human health or the environment than if the emission points were controlled according to the provisions in §§ 63.113 through 63.148.

(1) This demonstration of hazard or risk equivalency shall be made to the satisfaction of the operating permit authority.

(i) The Administrator may require owners and operators to use specific methodologies and procedures for making a hazard or risk determination.

(ii) The demonstration and approval of hazard or risk equivalency shall be made according to any guidance that the Administrator makes available for use.

(2) Owners and operators shall provide documentation demonstrating the hazard or risk equivalency of their proposed emissions average in their operating permit application or in their Implementation Plan if an operating permit application has not yet been submitted.

(3) An emissions averaging plan that does not demonstrate hazard or risk equivalency to the satisfaction of the Administrator shall not be approved. The Administrator may require such adjustments to the emissions averaging plan as are necessary in order to ensure that the average will not result in greater hazard or risk to human health or the environment than would result if the emission points were controlled according to §§ 63.113 through 63.148 of this subpart.

(4) A hazard or risk equivalency demonstration must:

(i) Be a quantitative, bona fide chemical hazard or risk assessment;

(ii) Account for differences in chemical hazard or risk to human health or the environment; and

(iii) Meet any requirements set by the Administrator for such demonstrations.

(l) For periods of excursions, an owner or operator may request that the provisions of paragraphs (l)(1) through (l)(4) of this section be followed instead of the procedures in paragraphs (f)(3)(i) and (f)(3)(ii) of this section.

(1) The owner or operator shall notify the Administrator of excursions in the Periodic Reports as required in § 63.152 of this subpart.

(2) The owner or operator shall demonstrate that other types of monitoring data or engineering calculations are appropriate to establish that the control device for the emission point was operating in such a fashion to warrant assigning full or partial credits and debits. This demonstration shall be made to the Administrator's satisfaction, and the Administrator may establish procedures of demonstrating compliance that are acceptable.

(3) The owner or operator shall provide documentation of the excursion and the other type of monitoring data or engineering calculations to be used to demonstrate that the control device for the emission point was operating in such a fashion to warrant assigning full or partial credits and debits.

(4) The Administrator may assign full or partial credit and debits upon review of the information provided.

(m) For each Group 1 or Group 2 emission point included in an emissions average, the owner or operator shall perform testing, monitoring, recordkeeping, and reporting equivalent to that required for Group 1 emission points complying with §§ 63.113 through 63.148 of this subpart. The specific requirements for process vents, storage vessels, transfer racks, and wastewater are identified in paragraphs (m)(1) through (m)(6) of this section.

(1) The source shall implement the following testing, monitoring, recordkeeping, and reporting procedures for each process vent equipped with a flare, incinerator, boiler, or process heater.

(i) Determine, consistent with paragraph (g)(2)(i) of this section, whether the process vent is Group 1 or Group 2 according to the procedures in § 63.115.

(ii) Conduct initial performance tests to determine percent reduction as specified in § 63.116 of this subpart;

(iii) Monitor the operating parameters, keep records, and submit reports specified in § 63.114, § 63.117(a), and § 63.118 (a), (f), and (g) of this subpart, as appropriate for the specific control device.

(2) The source shall implement the following procedures for each process vent equipped with a carbon adsorber, absorber, or condenser but not equipped with a control device:

(i) Determine, consistent with paragraph (g)(2)(i) of this section, the flow rate, organic HAP concentration, and TRE index value using the methods specified in § 63.115;

(ii) Monitor the operating parameters, keep records, and submit reports specified in § 63.114, § 63.117(a), and § 63.118(b), (f), and (g) of this subpart, as appropriate for the specific recovery device.

(3) The source shall implement the following procedures for each storage vessel controlled with an internal floating roof, external roof, or a closed vent system with a control device, as appropriate to the control technique:

(i) Perform the monitoring or inspection procedures in § 63.120 of this subpart,

(ii) Perform the reporting and recordkeeping procedures in §§ 63.122 and 63.123 of this subpart, and

(iii) For closed vent systems with control devices, conduct an initial design evaluation and submit an operating plan as specified in § 63.120(d) and § 63.122(a)(2) and (b) of this subpart.

(4) The source shall implement the following procedures for each transfer rack controlled with a vapor balancing system, or a vapor collection system and an incinerator, flare, boiler, process heater, adsorber, condenser, or absorber, as appropriate to the control technique:

(i) The monitoring and inspection procedures in § 63.127 of this subpart,

(ii) The testing and compliance procedures in § 63.128 of this subpart, and

(iii) The reporting and recordkeeping procedures in § 63.129 and § 63.130 of this subpart.

(5) The source shall implement the following procedures for wastewater emission points, as appropriate to the control techniques:

(i) For wastewater treatment processes, conduct tests as specified in § 63.138(j) of this subpart.

(ii) Conduct inspections and monitoring as specified in § 63.143 of this subpart.

(iii) A recordkeeping program as specified in § 63.147 of this subpart.

(iv) A reporting program as specified in § 63.146 of this subpart.

(6) If an emission point in an emissions average is controlled using a pollution prevention measure or a device or technique for which no monitoring parameters or inspection procedures are specified in § 63.114, § 63.120, § 63.127, or § 63.143 of this subpart, the owner or operator shall submit the information specified in § 63.151(f) of this subpart in the Implementation Plan or operating permit application.

(n) Records of all information required to calculate emission debits and credits shall be retained for five years.

(o) Initial Notifications, Implementation Plans, Notifications of Compliance Status, Periodic Re-ports, and other reports shall be submitted as required by § 63.151 and § 63.152 of this subpart.

§ 63.151 Initial notification and implementation plan.

(a) Each owner or operator of a source subject to this subpart shall submit the reports listed in paragraphs (a)(1) through (a)(5) of this section. Owners or operators requesting an extension of compliance shall also submit the report listed in paragraph (a)(6) of this section.

(1) An Initial Notification described in paragraph (b) of this section, and

(2) An Implementation Plan for new sources subject to this subpart or for emission points to be included in an emissions average, unless an operating permit application has been submitted prior to the date the Implementation Plan is due and the owner or operator has elected to include the information specified in § 63.152(e) in that application. The submittal date and contents of the Implementation Plan are specified in paragraphs (c) and (d) of this section.

(i) The submittal date and contents of the Implementation Plan for emission points to be included in an emissions average are specified in paragraphs (c) and (d) of this section.

(ii) The submittal date and contents of the Implementation Plan for emission points that will not be included in an emissions average are specified in paragraph (c) and (e) of this section,

(3) A Notification of Compliance Status described in § 63.152 of this subpart,

(4) Periodic Reports described in § 63.152 of this subpart, and

(5) Other reports described in § 63.152 of this subpart.

(6) Pursuant to section 112(i)(3)(B) of the Act, an owner or operator may request an extension allowing the existing source up to 1 additional year to comply with section 112(d) standards.

(i) For purposes of this subpart, a request for an extension shall be submitted to the permit authority as part of the operating permit application or as part of the Initial Notification or as a separate submittal. Requests for extensions shall be submitted no later than 120 days prior to the compliance dates specified in § 63.100(k)(2), § 63.100(l)(4), and § 63.100(m) of subpart F of this part, except as provided for in paragraph (a)(6)(iv) of this section. The dates specified in § 63.6(i) of subpart A of this part for submittal of requests for extensions shall not apply to sources subject to this subpart G.

(ii) A request for an extension of compliance must include the data described in § 63.6(i)(6)(i) (A), (B), and (D) of subpart A of this part.

(iii) The requirements in § 63.6(i)(8) through (i)(14) of subpart A will govern the review and approval of requests for extensions of compliance with this subpart.

(iv) An owner or operator may submit a compliance extension request after the date specified in paragraph (a)(6)(i) of this section provided the need for the compliance extension arose after that date and before the otherwise applicable compliance date, and the need arose due to circumstances beyond reasonable control of the owner or operator. This request shall include, in addition to the information in paragraph (a)(6)(ii) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problem.

(7) The reporting requirements for storage vessels are located in § 63.122 of this subpart.

(b) Each owner or operator of an existing or new source subject to subpart G shall submit a written Initial Notification to the Administrator, containing the information described in paragraph (b)(1) of this section, according to the schedule in paragraph (b)(2) of this section. The Initial Notification provisions in § 63.9(b)(2), (b)(3), and (b)(6) of subpart A shall not apply to owners or operators of sources subject to subpart G.

(1) The Initial Notification shall include the following information:

(i) The name and address of the owner or operator;

(ii) The address (physical location) of the affected source;

(iii) An identification of the kinds of emission points within source that are subject to this subpart;

(iv) An identification of the chemical manufacturing processes subject to subpart G; and

(v) A statement of whether the source can achieve compliance by the relevant compliance date specified in § 63.100 of subpart F.

(2) The Initial Notification shall be submitted according to the schedule in paragraph (b)(2)(i), (b)(2)(ii), or (b)(2)(iii) of this section, as applicable.

(i) For an existing source, the Initial Notification shall be submitted within 120 calendar days after the date of promulgation.

(ii) For a new source that has an initial start-up 90 calendar days after the date of promulgation of this subpart or later, the application for approval of construction or reconstruction required by § 63.5(d) of subpart A shall be submitted in lieu of the Initial Notification. The application shall be submitted as soon as practicable before construction or reconstruction is planned to commence (but it need not be sooner than 90 calendar days after the date of promulgation of this subpart).

(iii) For a new source that has an initial start-up prior to 90 calendar days after the date of promulgation, the Initial Notification shall be submitted within 90 calendar days after the date of promulgation of this subpart. The application for approval of construction or reconstruction described in § 63.5(d) of subpart A is not required for these sources.

(c) Each owner or operator of an existing source with emission points that will be included in an emissions average or new source subject to this subpart must submit an Implementation Plan to the Administrator by the dates specified in paragraphs (c)(1) and (c)(2) of this section unless an operating permit application accompanied by the information specified in § 63.152(e) of this subpart has been submitted. The Implementation Plan for emissions averaging is subject to Administrator approval.

(1) Each owner or operator of an existing source subject to this subpart who elects to comply with § 63.112 of this subpart by using emissions averaging for any emission points, and who has not submitted an operating permit application accompanied by the information specified in § 63.152(e) of this subpart at least 18 months prior to the compliance dates specified in § 63.100 of subpart F of this part, shall develop an Implementation Plan for emissions averaging. For existing sources, the Implementation Plan for those emissions points to be included in the emissions average shall be submitted no later than 18 months prior to the compliance dates in § 63.100 of subpart F of this part.

(i) Each owner or operator of an existing source subject to this subpart who elects to comply with § 63.112 by using emissions averaging for any emission points, and who has not submitted an operating permit application accompanied by the information specified in § 63.152(e) at least 18 months prior to the compliance dates specified in § 63.100 of subpart F of this part, shall develop an Implementation Plan for emissions averaging. For existing sources, the Implementation Plan for those emission points to be included in an emissions average shall be submitted no later than 18 months prior to the compliance dates in § 63.100 of subpart F.

(ii) Each owner or operator of an existing source subject to this subpart who elects to comply with § 63.112 of this subpart by complying with the provisions of §§ 63.113 to 63.148 of this subpart, rather than emissions averaging, for any emission points, and who has not submitted an operating permit application accompanied by the information specified in § 63.152(e) by December 31,1996, shall develop an Implementation Plan. For an existing source, the Implementation Plan for those emission points that are not to be included in an emissions average shall be submitted to the Administrator no later than December 31, 1996.

(2) Each owner or operator of a new source shall submit an Implementation Plan by the date specified in paragraphs (c)(2)(i) or (c)(2)(ii) of this section, as applicable, unless an operating permit application containing the information in paragraph (e) of this section has been submitted by that date.

(i) For a new source that has an initial start-up 90 calendar days after the date of promulgation of this subpart or later, the Implementation Plan shall be submitted with the application for approval of construction or reconstruction by the date specified in paragraph (b)(2)(ii) of this section.

(ii) For a new source that has an initial start-up prior to 90 calendar days after the date of promulgation, the Implementation Plan shall be submitted within 90 calendar days after the date of promulgation of this subpart.

(3) The Administrator shall determine within 120 calendar days whether the Implementation Plan submitted by sources using emissions averaging presents sufficient information. The Administrator shall either approve the Implementation Plan, request changes, or request that the owner or operator submit additional information. Once the Administrator receives sufficient information, the Administrator shall approve, disapprove, or request changes to the plan within 120 calendar days.

(d) Each owner or operator required to submit an Implementation Plan for emissions averaging shall include in the plan, for all emission points included in the emissions average, the information listed in paragraphs (d)(1) through (d)(8) of this section.

(1) The identification of all emission points in the planned emissions average and notation of whether each point is a Group 1 or Group 2 emission point as defined in § 63.111 of this subpart.

(2) The projected emission debits and credits for each emission point and the sum for the emission points involved in the average calculated according to § 63.150 of this subpart. The projected credits must be greater than the projected debits, as required under § 63.150(e)(3) of this subpart.

(3) The specific control technology or pollution prevention measure that will be used for each emission point included in the average and date of application or expected date of application.

(4) The specific identification of each emission point affected by a pollution prevention measure. To be considered a pollution prevention measure, the criteria in § 63.150(j)(1) of this subpart must be met. If the same pollution prevention measure reduces or eliminates emissions from multiple emission points in the average, the owner or operator must identify each of these emission points.

(5) A statement that the compliance demonstration, monitoring, inspection, recordkeeping, and reporting provisions in § 63.150(m), (n), and (o) of this subpart that are applicable to each emission point in the emissions average will be implemented beginning on the date of compliance.

(6) Documentation of the information listed in paragraph (d)(6)(i) through (d)(6)(v) of this section for each process vent, storage vessel, or transfer rack included in the average.

(i) The values of the parameters used to determine whether the emission point is Group 1 or Group 2. Where TRE index value is used for process vent group determination, the estimated or measured values of the parameters used in the TRE equation in § 63.115(d) of this subpart (flow rate, organic HAP emission rate, TOC emission rate, and net heating value) and the resulting TRE index value shall be submitted.

(ii) The estimated values of all parameters needed for input to the emission debit and credit calculations in § 63.150 (g) and (h) of this subpart. These parameter values, or as appropriate, limited ranges for the parameter values, shall be specified in the source's Implementation Plan (or operating permit) as enforceable operating conditions. Changes to these parameters must be reported as required by paragraph (i)(2)(ii) of this section.

(iii) The estimated percent reduction if a control technology achieving a lower percent reduction than the efficiency of the reference control technology, as defined in § 63.111 of this subpart, is or will be applied to the emission point.

(iv) The anticipated nominal efficiency if a control technology achieving a greater percent emission reduction than the efficiency of the reference control technology is or will be applied to the emission point. The procedures in § 63.150(i) of this subpart shall be followed to apply for a nominal efficiency.

(v) The operating plan required in § 63.122(a)(2) and (b) of this subpart for each storage vessel controlled with a closed-vent system with a control device other than a flare.

(7) The information specified in § 63.151(f) of this subpart shall be included in the Implementation Plan for:

(i) Each process vent or transfer rack controlled by a pollution prevention measure or control technique for which monitoring parameters or inspection procedures are not specified in § 63.114, § 63.126(b)(3), or § 63.127 of this subpart, and

(ii) Each storage vessel controlled by pollution prevention or a control technique other than an internal or external floating roof or a closed vent system with a control device.

(8) Documentation of the information listed in paragraph (d)(8)(i) through (d)(8)(iv) for each process wastewater stream included in the average.

(i) The information used to determine whether the wastewater stream is a Group 1 or Group 2 wastewater stream.

(ii) The estimated values of all parameters needed for input to the wastewater emission credit and debit calculations in § 63.150 (g)(5) and (h)(5) of this subpart.

(iii) The estimated percent reduction if:

(A) A control technology that achieves an emission reduction less than or equal to the emission reduction achieved by the design steam stripper, as specified in § 63.138(g) of this subpart, is or will be applied to the wastewater stream, or

(B) A control technology achieving less than or equal to 95 percent emission reduction is or will be applied to the vapor stream(s) vented and collected from the treatment processes, or

(C) A pollution prevention measure is or will be applied.

(iv) The anticipated nominal efficiency if the owner or operator plans to apply for a nominal efficiency under § 63.150(i) of this subpart. A nominal efficiency shall be applied for if:

(A) A control technology is or will be applied to the wastewater stream and achieves an emission reduction greater than the emission reduction achieved by the design steam stripper as specified in § 63.138(g) of this subpart, or

(B) A control technology achieving greater than 95 percent emission reduction is or will be applied to the vapor stream(s) vented and collected from the treatment processes.

(v) For each pollution prevention measure, treatment process, or control device used to reduce air emissions of organic HAPs from wastewater and for which no monitoring parameters or inspection procedures are specified in § 63.143 of this subpart, the information specified in § 63.151(f) of this subpart shall be included in the Implementation Plan.

(e) An owner or operator expressly referred to this paragraph shall report, in an Implementation Plan, operating permit application, or as otherwise specified by the permitting authority, the information listed in paragraphs (e)(1) through (e)(5) of this section.

(1) A list designating each emission point complying with §§ 63.113 through 63.149 and whether each emission point is Group 1 or Group 2, as defined in § 63.111. For each process vent within the source, provide the information listed in paragraphs (e)(1)(i) through (iv) of this section.

(i) The chemical manufacturing process unit(s) that is the origin of all or part of the vent stream that exits the process vent.

(ii) The type(s) of unit operations *(i.e.,* an air oxidation reactor, distillation unit, or reactor) that creates the vent stream that exits the process vent.

(iii) For a Group 2 process vent, the last recovery device, if any.

(iv) For a Group 1 process vent, the control device, or other equipment used for compliance.

(2) The control technology or method of compliance that will be applied to each Group 1 emission point.

(3) A statement that the compliance demonstration, monitoring, inspection, recordkeeping, and reporting provisions in §§ 63.113 through 63.149 of this subpart that are applicable to each emission point will be implemented beginning on the date of compliance.

(4) The operating plan required in § 63.122(a)(2) and (b) of this subpart for each storage vessel controlled with a closed vent system with a control device other than a flare.

(5) The monitoring information in § 63.151(f) of this subpart if, for any emission point, the owner or operator of a source seeks to comply through use of a control technique other than those for which monitoring parameters are specified in § 63.114 for process vents, § 63.127 for transfer, and § 63.143 for process wastewater.

(f) The owner or operator who has been directed by any section of this subpart that expressly references this paragraph to set unique monitoring parameters or who requests approval to monitor a different parameter than those listed in § 63.114 for process vents, § 63.127 for transfer, or
§ 63.143 for process wastewater shall submit the information specified in paragraphs (f)(1), (f)(2), and (f)(3) of this section with the operating permit application or as otherwise specified by the permitting authority.

(1) A description of the parameter(s) to be monitored to ensure the control technology or pollution prevention measure is operated in conformance with its design and achieves the specified emission limit, percent reduction, or nominal efficiency, and an explanation of the criteria used to select the parameter(s).

(2) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device, the schedule for this demonstration, and a statement that the owner or operator will establish a range for the monitored parameter as part of the Notification of Compliance

Status report required in § 63.152(b) of this subpart, unless this information has already been included in the operating permit application.

(3) The frequency and content of monitoring, recording, and reporting if monitoring and recording is not continuous, or if reports of daily average values when the monitored parameter value is outside the range established in the operating permit or Notification of Compliance Status will not be included in Periodic Reports required under § 63.152(c) of this subpart. The rationale for the proposed monitoring, recording, and reporting system shall be included.

(g) An owner or operator may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in §§ 63.114, 63.117, and 63.118 for process vents, §§ 63.127, 63.129, and 63.130 for transfer operations, and §§ 63.143, 63.146, and 63.147 for wastewater.

(1) Requests shall be submitted in the operating permit application or as otherwise specified by the permitting authority and shall contain the information specified in paragraphs (g)(3) through (g)(5) of this section, as applicable.

(2) The provisions in § 63.8(f)(5)(i) of subpart A shall govern the review and approval of requests.

(3) An owner or operator of a source that does not have an automated monitoring and recording system capable of measuring parameter values at least once every 15 minutes and generating continuous records may request approval to use a non-automated system with less frequent monitoring.

(i) The requested system shall include manual reading and recording of the value of the relevant operating parameter no less frequently than once per hour. Daily average values shall be calculated from these hourly values and recorded.

(ii) The request shall contain:

(A) A description of the planned monitoring and recordkeeping system;

(B) Documentation that the source does not have an automated monitoring and recording system;

(C) Justification for requesting an alternative monitoring and recordkeeping system; and

(D) Demonstration to the Administrator's satisfaction that the proposed monitoring frequency is sufficient to represent control device operating conditions considering typical variability of the specific process and control device operating parameter being monitored.

(4) An owner or operator may request approval to use an automated data compression recording system that does not record monitored operating parameter values at a set frequency (for example once every 15 minutes) but records all values that meet set criteria for variation from previously recorded values.

(i) The requested system shall be designed to:

(A) Measure the operating parameter value at least once every 15 minutes.

(B) Record at least four values each hour during periods of operation.

(C) Record the date and time when monitors are turned off or on.

(D) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident.

(E) Compute daily average values of the monitored operating parameter based on recorded data.

(F) If the daily average is not an excursion, as defined in § 63.152(c)(2)(ii), the data for that operating day may be converted to hourly average values and the four or more individual records for each hour in the operating day may be discarded.

(ii) The request shall contain a description of the monitoring system and data compression recording system, including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets all criteria in paragraph (g)(4)(i) of this section.

(5) An owner or operator may request approval to use other alternative monitoring systems according to the procedures specified in § 63.8(f) of subpart A of this part.

(h) The owner or operator required to prepare an Implementation Plan, or otherwise required to submit a report, under paragraph (c), (d), or (e) of this section shall also submit a supplement for any additional alternative controls or operating scenarios that may be used to achieve compliance.

(i) The owner or operator of a source required to submit an Implementation Plan for emissions averaging under paragraphs (c) and (d) of this section shall also submit written updates of the Implementation Plan to the Administrator for approval under the circumstances described in paragraphs (i)(1) and (i)(2) of this section unless the relevant information has been included and submitted in an operating permit application or amendment.

(1) The owner or operator who plans to make a change listed in paragraph (i)(1)(i) or (i)(1)(ii) of this section shall submit an Implementation Plan update at least 120 calendar days prior to making the change.

(i) Whenever an owner or operator elects to achieve compliance with the emissions averaging provisions in § 63.150 of this subpart by using a control technique other than that specified in the Implementation Plan or plans to monitor a different parameter or operate a control device in a manner other than that specified in the Implementation Plan.

(ii) Whenever an emission point or a chemical manufacturing process unit is added to an existing source and is planned to be included in an emissions average, or whenever an emission point not included in the emissions average described in the Implementation Plan is to be added to an emissions average. The information in paragraph (d) of this section shall be updated to include the additional emission point.

(2) The owner or operator who has made a change listed in paragraph (i)(2)(i) or (i)(2)(ii) of this section shall submit an Implementation Plan update within 90 calendar days after the information regarding the change is known to the source. The update may be submitted in the next quarterly Periodic Report if the change is made after the date the Notification of Compliance status is due.

(i) Whenever a process change is made such that the group status of any emission point in an emissions average changes.

(ii) Whenever a value of a parameter in the emission credit or debit equations in § 63.150(g) or (h) changes such that it is outside the range specified in the Implementation Plan and causes a decrease in the projected credits or an increase in the projected debits.

(3) The Administrator shall approve or request changes to the Implementation Plan update within 120 calendar days of receipt of sufficient information regarding the change for emission points included in emissions averages.

(j) The owner or operator of a source subject to this subpart, for emission points that are not included in an emissions average, shall report the Administrator under the circumstances described in paragraphs (j)(1), (j)(2), and (j)(3) of this section unless the relevant information has been included and submitted in an operating permit application or amendment, or as otherwise specified by the permitting authority. The information shall be submitted within 180 calendar days after the change is made or the information regarding the change is known to the source. The update may be submitted in the next Periodic Report if the change is made after the date the Notification of Compliance status is due.

(1) Whenever a deliberate change is made such that the group status of any emission point changes. The information submitted shall include a compliance schedule as specified in § 63.100 of subpart F of this part if the emission point becomes Group 1.

(2) Whenever an owner or operator elects to achieve compliance with this subpart by using a control technique other than that previously reported to the Administrator or to the permitting authority, or plans to monitor a different parameter or operate a control device in a manner other than that specified in the Implementation Plan.

(3) Whenever an emission point or a chemical manufacturing process unit is added to a source, written information specified under paragraphs (e)(1) through (e)(5) of this section, containing information on the new emission point(s) shall be submitted to the EPA regional office where the source is located.

§ 63.152 General reporting and continuous records.

(a) The owner or operator of a source subject to this subpart shall submit the reports listed in paragraphs (a)(1) through (a)(5) of this section and keep continuous records of monitored parameters as specified in paragraph (f) of this section. Owners or operators requesting an extension of compliance shall also submit the report described in § 63.151(a)(6) of this subpart.

(1) An Initial Notification described in § 63.151(b) of this subpart.

(2) An Implementation Plan described in § 63.151 (c), (d), and (e) of this subpart for existing sources with emission points that are included in an emissions average or for new sources

(3) A Notification of Compliance Status described in paragraph (b) of this section.

(4) Periodic Reports described in paragraph (c) of this section.

(5) Other reports described in paragraphs (d) and (e) of this section.

(b) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status within 150 calendar days after the compliance dates specified in § 63.100 of subpart F of this part.

(1) The notification shall include the results of any emission point group determinations, performance tests, inspections, continuous monitoring system performance evaluations, values of monitored parameters established during performance tests, and any other information used to demonstrate compliance or required to be included in the Notification of Compliance Status under § 63.110(h) for regulatory overlaps, § 63.117 for process vents, § 63.122 for storage vessels,
§ 63.129 for transfer operations, § 63.146 for process wastewater, and § 63.150 for emission points included in an emissions average.

(i) For performance tests and group determinations that are based on measurements, the Notification of Compliance Status shall include one complete test report for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other information required in § 63.117 for process vents, § 63.129 for transfer, and § 63.146 for process wastewater shall be submitted, but a complete test report is not required.

(ii) A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(2) For each monitored parameter for which a range is required to be established under § 63.114 for process vents, § 63.127 for transfer, § 63.143 for process wastewater, § 63.150(m) for emission points in emissions averages, or § 63.151(f), or § 63.152(e), the Notification of Compliance Status shall include the information in paragraphs (b)(2)(i), (b)(2)(ii), and (b)(2)(iii) of this section, unless the range and the operating day definition have been established in the operating permit. The recordkeeping and reporting requirements applicable to storage vessels are located in §§ 63.122 and 63.123.

(i) The specific range of the monitored parameter(s) for each emission point;

(ii) The rationale for the specific range for each parameter for each emission point, including any data and calculations used to develop the range and a description of why the range indicates proper operation of the control device.

(A) If a performance test is required by this subpart for a control device, the range shall be based on the parameter values measured during the performance test and may be supplemented by engineering assessments and/or manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of permitted parameter values.

(B) If a performance test is not required by this subpart for a control device, the range may be based solely on engineering assessments and manufacturer's recommendations.

(iii) A definition of the source's operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the times at which an operating day begins and ends.

(3) For emission points included in an emissions average, the Notification of Compliance Status shall include the values of all parameters needed for input to the emission credit and debit equations in § 63.150 (g) and (h), calculated or measured according to the procedures in § 63.150 (g) and (h) of this subpart, and the resulting calculation of credits and debits for the first quarter of the year. The first quarter begins on the compliance date specified in § 63.100 of subpart F.

(4) If any emission point is subject to this subpart and to other standards as specified in § 63.110 of this subpart and if the provisions of § 63.110 of this subpart allow the owner or operator to choose which testing, monitoring, reporting, and recordkeeping provisions will be followed, then the Notification of Compliance Status shall indicate which rule's requirements will be followed for testing, monitoring, reporting, and recordkeeping.

(5) An owner or operator who transfers a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream for treatment pursuant to § 63.132(g) shall include in the Notification of Compliance Status the name and location of the transferee and a description of the Group 1 wastewater stream or residual sent to the treatment facility.

(6) An owner or operator complying with § 63.113(i) shall include in the Notification of Compliance Status, or where applicable, a supplement to the Notification of Compliance Status, the name and location of the transferee, and the identification of the Group 1 process vent.

(c) The owner or operator of a source subject to this subpart shall submit Periodic Reports.

(1) Except as specified under paragraphs (c)(5) and (c)(6) of this section, a report containing the information in paragraphs (c)(2), (c)(3), and (c)(4) of this section shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The first report shall be submitted no later than 8 months after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due.

(2) Except as provided in paragraph (c)(2)(iv) of this section, for an owner or operator of a source complying with the provisions of §§ 63.113 through 63.147 of this subpart for any emission points, Periodic Reports shall include all information specified in §§ 63.117 and 63.118 for process vents, § 63.122 for storage vessels, §§ 63.129 and 63.130 for transfer operations, and § 63.146 for process wastewater, including reports of periods when monitored parameters are outside their established ranges.

(i) For each parameter or parameters required to be monitored for a control device, the owner or operator shall establish a range of parameter values to ensure that the device is being applied, operated and maintained properly. As specified in paragraph (b)(2) of this section, these parameter values and the definition of an operating day shall be approved as part of and incorporated into the source's Notification of Compliance Status or operating permit, as appropriate.

(ii) The parameter monitoring data for Group 1 emission points and emission points included in emissions averages that are required to perform continuous monitoring shall be used to determine compliance with the required operating conditions for the monitored control devices. For each excursion, except for excused excursions, the owner or operator shall be deemed to have failed to have applied the control in a manner that achieves the required operating conditions.

(A) An excursion means any of the three cases listed in paragraphs (c)(2)(ii)(A)(*1*), (c)(2)(ii)(A)(*2*), or (c)(2)(ii)(A)(*3*) of this section. For a control device where multiple parameters are monitored, if one or more of the parameters meets the excursion criteria in paragraphs (c)(2)(ii)(A)(*1*), (c)(2)(ii)(A)(*2*), or (c)(2)(ii)(A)(*3*), this is considered a single excursion for the control device.

(*1*) When the daily average value of one or more monitored parameters is outside the permitted range.

(*2*) When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours.

(*3*) When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data.

(*4*) Monitoring data are insufficient to constitute a valid hour of data, as used in paragraphs (c)(2)(ii)(A)(2) and (c)(2)(ii)(A)(3) of this section, if measured values are unavailable for any of the 15-minute periods within the hour. For data compression systems approved under § 63.151(g)(4), monitoring data are insufficient to calculate a valid hour of data if there are less than 4 data values recorded during the hour.

(B) The number of excused excursions for each control device for each semiannual period is specified in paragraphs (c)(2)(ii)(B)(*1*) through (c)(2)(ii)(B)(*6*) of this section. This paragraph applies to sources required to submit Periodic Reports semiannually or quarterly. The first semi-annual period is the 6-month period starting the date the Notification of Compliance Status is due.

(*1*) For the first semiannual period - six excused excursions.

(*2*) For the second semiannual period - five excused excursions.

(*3*) For the third semiannual period - four excused excursions.

(*4*) For the fourth semiannual period - three excused excursions.

(*5*) For the fifth semiannual period - two excused excursions.

(*6*) For the sixth and all subsequent semiannual periods - one excused excursion.

(C) A monitored parameter that is outside its established range or monitoring data that are not collected are excursions. However, if the conditions in paragraph (c)(2)(ii)(C)(1) or (c)(2)(ii)(C)(2) of this section are met, these excursions are not violations and do not count toward the number of excused excursions for determining compliance.

(1) Periods of start-up, shutdown, or malfunction. During periods of start-up, shutdown, or malfunction when the source is operated during such periods in accordance with the source's start-up, shutdown, and malfunction plan as required by § 63.6(e)(3) of subpart A.

(2) Periods of nonoperation. During periods of nonoperation of the chemical manufacturing process unit, or portion thereof, that results in cessation of the emissions to which the monitoring applies.

(D) Nothing in paragraph (c)(2)(ii) of this section shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of subpart A, F, or G of this part.

(E) Paragraph (c)(2)(ii) of this section, except paragraph (c)(2)(ii)(C) of this section, shall apply only to emission points and control devices or recovery devices for which continuous monitoring is required by §§ 63.113 through 63.150.

(iii) Periodic Reports shall include the daily average values of monitored parameters for both excused and unexcused excursions, as defined in paragraph (c)(2)(ii)(A) of this section. For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be specified.

(iv) The provisions of paragraphs (c)(2), (c)(2)(i), (c)(2)(ii), and (c)(2)(iii) of this section do not apply to any storage vessel for which the owner or operator is not required, by the applicable monitoring plan established under Sec. 63.120(d)(2), to keep continuous records. If continuous records are required, the owner or operator shall specify, in the monitoring plan, whether the provisions of paragraphs (c)(2), (c)(2)(i), (c)(2)(ii), and (c)(2)(iii) of this section apply.

(3) If any performance tests are reported in a Periodic Report, the following information shall be included:

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(i) One complete test report shall be submitted for each test method used for a particular kind of emission point tested. A complete test report shall contain the information specified in paragraph (b)(1)(ii) of this section.

(ii) For additional tests performed for the same kind of emission point using the same method, results and any other information required in § 63.117 for process vents, § 63.129 for transfer, and § 63.146 for process wastewater shall be submitted, but a complete test report is not required.

(4) Periodic Reports shall include the information in paragraphs (c)(4)(i) through (c)(4)(iv) of this section, as applicable:

(i) For process vents, reports of process changes as required under § 63.118 (g), (h), (i), and (j) of this subpart,

(ii) Any supplements required under § 63.151 (i) and (j) of this subpart,

(iii) Notification if any Group 2 emission point becomes a Group 1 emission point, including a compliance schedule as required in § 63.100 of subpart F of this part, and

(iv) For gas streams sent for disposal pursuant to Sec. 63.133(i) or for process wastewater streams sent for treatment pursuant to § 63.132(g), reports of changes in the identity of the transferee.

(5) The owner or operator of a source shall submit quarterly reports for all emission points included in an emissions average.

(i) The quarterly reports shall be submitted no later than 60 calendar days after the end of each quarter. The first report shall be submitted with the Notification of Compliance Status no later than 5 months after the compliance date specified in § 63.100 of subpart F.

(ii) The quarterly reports shall include the information specified in this paragraph for all emission points included in an emissions average.

(A) The credits and debits calculated each month during the quarter;

(B) A demonstration that debits calculated for the quarter are not more than 1.30 times the credits calculated for the quarter, as required under § 63.150(e)(4) of this subpart.

(C) The values of any inputs to the credit and debit equations in § 63.150 (g) and (h) of this subpart that change from month to month during the quarter or that have changed since the previous quarter;

(D) Results of any performance tests conducted during the reporting period including one complete report for each test method used for a particular kind of emission point as described in paragraph (c)(3) of this section;

(E) Reports of daily average values of monitored parameters for both excused and unexcused excursions as defined in paragraph (c)(2)(ii)(A) of this section. For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be specified.

(iii) Paragraphs (c)(2)(i) through (c)(2)(iii) of this section shall govern the use of monitoring data to determine compliance for Group 1 and Group 2 points included in emissions averages. For storage vessels to which the provisions of paragraphs (c)(2)(i) through (c)(2)(iii) of this section do not apply (as specified in paragraph (c)(2)(iv) of this section), the owner or operator is required to comply with the provisions of the applicable monitoring plan, and monitoring records may be used to determine compliance.

(iv) Every fourth quarterly report shall include the following:

(A) A demonstration that annual credits are greater than or equal to annual debits as required by § 63.150(e)(3) of this subpart; and

(B) A certification of compliance with all the emissions averaging provisions in § 63.150 of this subpart.

(6) The owner or operator of a source shall submit reports quarterly for particular emission points not included in an emissions average under the circumstances described in paragraphs (c)(6)(i) through (c)(6)(v) of this section.

(i) The owner or operator of a source subject to this subpart shall submit quarterly reports for a period of one year for an emission point that is not included in an emissions average if:

(A) The emission point has more excursions, as defined in paragraph (c)(2)(ii) of this section, than the number of excused excursions allowed under paragraph (c)(2)(ii)(B) of this section for a semi-annual reporting period; and

(B) The Administrator requests the owner or operator to submit quarterly reports for the emission point.

(ii) The quarterly reports shall include all information in paragraphs (c)(2), (c)(3), and (c)(4) of this section applicable to the emission point(s) for which quarterly reporting is required under paragraph (c)(6)(i) of this section. Information applicable to other emission points within the source shall be submitted in the semiannual reports required under paragraph (c)(1) of this section.

(iii) Quarterly reports shall be submitted no later than 60 calendar days after the end of each quarter.

(iv) After quarterly reports have been submitted for an emission point for one year, the owner or operator may return to semiannual reporting for the emission point unless the Administrator requests the owner or operator to continue to submit quarterly reports.

(v) Paragraphs (c)(2)(i) through (c)(2)(iii) of this section shall govern the use of monitoring data to determine compliance for Group 1 emission points. For storage vessels to which the provisions of paragraphs (c)(2)(i) through (c)(2)(iii) of this section do not apply (as specified in paragraph (c)(2)(iv) of this section), the owner or operator is required to comply with the provisions of the applicable monitoring plan, and monitoring records may be used to determine compliance.

(d) Other reports shall be submitted as specified in subpart A of this part or in §§ 63.113 through 63.151 of this subpart. These reports are:

(1) Reports of start-up, shutdown, and malfunction required by § 63.10(d)(5) of subpart A. The start-up, shutdown and malfunction reports may be submitted on the same schedule as the Periodic Reports required under paragraph (c) of this section instead of the schedule specified in § 63.10(d)(5) of subpart A.

(2) For storage vessels, the notifications of inspections required by § 63.122 (h)(1) and (h)(2) of this subpart.

(3) For owners or operators of sources required to request approval for a nominal control efficiency for use in calculating credits for an emissions average, the information specified in § 63.150(i) of this subpart.

(4) If an owner or operator transfers for disposal a gas stream that has the characteristics specified in § 63.107(b) through (h) or meets the criteria specified in § 63.107(i) to an off-site location or an on-site location not owned or operated by the owner or operator of the source and the vent stream was not included in the information submitted with the Notification of Compliance Status or a previous periodic report, the owner or operator shall submit a supplemental report. The supplemental report shall be submitted no later than July 23, 2001 or with the next periodic report, whichever is later. The report shall provide the information listed in paragraphs (d)(4)(i) through (iv) of this section.

(i) The chemical manufacturing process unit(s) that is the origin of all or part of the vent stream that exits the process vent.

(ii) The type(s) of unit operations *(i.e.,* an air oxidation reactor, distillation unit, or reactor) that creates the vent stream that exits the process vent.

(iii) For a Group 2 process vent, the last recovery device, if any.

(iv) For a Group 1 process vent, the identity of the transferee.

(e) An owner or operator subject to this subpart shall submit the information specified in paragraphs (e)(1) through (e)(4) of this section with the operating permit application or as otherwise specified by the permitting authority. The owner or operator shall submit written updates as amendments to the operating permit application on the schedule and under the circumstances described in § 63.151(j) of this subpart. Notwithstanding, if the owner or operator has an operating permit under 40 CFR part 70 or 71, the owner or operator shall follow the schedule and format required by the permitting authority.

(1) The information specified in § 63.151 (f) or (g) of this subpart for any emission points for which the owner or operator requests approval to monitor a unique parameter or use an alternative monitoring and recording system, and

(2) The information specified in § 63.151(d) of this subpart for points included in an emissions average.

(3) The information specified in § 63.151(e) of this subpart for points not included in an emissions average.

(4) The information specified in § 63.151(h) as applicable.

(f) Owners or operators required to keep continuous records by §§ 63.118, 63.130, 63.147, 63.150, or other sections of this subpart shall keep records as specified in paragraphs (f)(1) through (f)(7) of this section, unless an alternative recordkeeping system has been requested and approved under § 63.151 (f) or (g) or § 63.152(e) or under § 63.8(f) of subpart A of this part, and except as provided in paragraph (c)(2)(ii)(C) of this section or in paragraph (g) of this section. If a monitoring plan for storage vessels pursuant to Sec. 63.120(d)(2)(i) requires continuous records, the monitoring plan shall specify which provisions, if any, of paragraphs (f)(1) through (f)(7) of this section apply.

(1) The monitoring system shall measure data values at least once every 15 minutes.

(2) The owner or operator shall record either:

(i) Each measured data value; or

(ii) Block average values for 15-minute or shorter periods calculated from all measured data values during each period or at least one measured data value per minute if measured more frequently than once per minute.

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(3) If the daily average value of a monitored parameter for a given operating day is within the range established in the Notification of Compliance Status or operating permit, the owner or operator shall either:

(i) Retain block hourly average values for that operating day for 5 years and discard, at or after the end of that operating day, the 15-minute or more frequent average values and readings recorded under paragraph (f)(2) of this section; or

(ii) Retain the data recorded in paragraph (f)(2) of this section for 5 years.

(4) If the daily average value of a monitored parameter for a given operating day is outside the range established in the Notification of Compliance Status or operating permit, the owner or operator shall retain the data recorded that operating day under paragraph (f)(2) of this section for 5 years.

(5) Daily average values of each continuously monitored parameter shall be calculated for each operating day, and retained for 5 years, except as specified in paragraphs (f)(6) and (f)(7) of this section.

(i) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per operating day if operation is not continuous.

(ii) The operating day shall be the period defined in the operating permit or the Notification of Compliance Status. It may be from midnight to midnight or another daily period.

(6) If all recorded values for a monitored parameter during an operating day are within the range established in the Notification of Compliance Status or operating permit, the owner or operator may record that all values were within the range and retain this record for 5 years rather than calculating and recording a daily average for that operating day. For these operating days, the records required in paragraph (f)(3) of this section shall also be retained for 5 years.

(7) Monitoring data recorded during periods identified in paragraphs (f)(7)(i) through (f)(7)(v) of this section shall not be included in any average computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control device operation when monitors are not operating.

(i) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments;

(ii) Start-ups;
(iii) Shutdowns;
(iv) Malfunctions;
(v) Periods of non-operation of the chemical manufacturing process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies.

(g) For any parameter with respect to any item of equipment, the owner or operator may implement the recordkeeping requirements in paragraph (g)(1) or (g)(2) of this section as alternatives to the continuous operating parameter monitoring and recordkeeping provisions listed in Secs. 63.114, 63.117, and 63.118 for process vents, Secs. 63.127, 63.129, and 63.130 for transfer operations, Secs. 63.143, 63.146, and 63.147 for wastewater, and/or Sec. 63.152(f), except that
Sec. 63.152(f)(7) shall apply. The owner or operator shall retain each record required by paragraph (g)(1) or (g)(2) of this section as provided in Sec. 63.103(c) of subpart F of this part, except as provided otherwise in paragraph (g)(1) or (g)(2) of this section.

(1) The owner or operator may retain only the daily average value, and is not required to retain more frequent monitored operating parameter values, for a monitored parameter with respect to an item of equipment, if the requirements of paragraphs (g)(1)(i) through (g)(1)(vi) of this section are met. An owner or operator electing to comply with the requirements of paragraph (g)(1) of this section shall notify the Administrator in the Notification of Compliance Status or, if the Notification of Compliance Status has already been submitted, in the periodic report immediately preceding implementation of the requirements of paragraph (g)(1) of this section.

(i) The monitoring system is capable of detecting unrealistic or impossible data during periods of operation other than startups, shutdowns, or malfunctions (e.g., a temperature reading of -200 deg. C on a boiler), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(ii) The monitoring system generates, updated at least hourly throughout each operating day, a running average of the monitoring values that have been obtained during that operating day, and the capability to observe this average is readily available to the Administrator on-site during the operating day. The owner or operator shall record the occurrence of any period meeting the criteria in paragraphs (g)(1)(ii)(A) through (g)(1)(iii)(C) of this section. All instances in an operating day constitute a single occurrence.

(A) The running average is above the maximum or below the minimum established limits;

(B) The running average is based on at least 6 1-hour average values; and

(C) The running average reflects a period of operation other than a startup, shutdown, or malfunction.

(iii) The monitoring system is capable of detecting unchanging data during periods of operation other than startups, shutdowns, or malfunctions, except in circumstances where the presence of unchanging data is the expected operating condition based on past experience (e.g., pH in some scrubbers), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(iv) The monitoring system will alert the owner or operator by an alarm or other means, if the running average parameter value calculated under paragraph (g)(1)(ii) of this section reaches a set point that is appropriately related to the established limit for the parameter that is being monitored.

(v) The owner or operator shall verify the proper functioning of the monitoring system, including its ability to comply with the requirements of paragraph (g)(1) of this section, at the times specified in paragraphs (g)(1)(v)(A) through (g)(1)(v)(C) of this section. The owner or operator shall document that the required verifications occurred.

(A) Upon initial installation.

(B) Annually after initial installation.

(C) After any change to the programming or equipment constituting the monitoring system, which might reasonably be expected to alter the monitoring system's ability to comply with the requirements of this section.

(vi) The owner or operator shall retain the records identified in paragraphs (g)(1)(vi) (A) through (C) of this section.

(A) Identification of each parameter, for each item of equipment, for which the owner or operator has elected to comply with the requirements of paragraph (g) of this section.

(B) A description of the applicable monitoring system(s), and of how compliance will be achieved with each requirement of paragraph (g)(1)(i) through (g)(1)(v) of this section. The description shall identify the location and format (e.g., on-line storage; log entries) for each required record. If the description changes, the owner or operator shall retain both the current and the most recent superseded description. The description, and the most recent superseded description, shall be retained as provided in Sec. 63.103(c) of subpart F of this part, except as provided in paragraph (g)(1)(vi)(D) of this section.

(C) A description, and the date, of any change to the monitoring system that would reasonably be expected to affect its ability to comply with the requirements of paragraph (g)(1) of this section.

(D) Owners and operators subject to paragraph (g)(1)(vi)(B) of this section shall retain the current description of the monitoring system as long as the description is current, but not less than 5 years from the date of its creation. The current description shall, at all times, be retained on-site or be accessible from a central location by computer or other means that provides access within 2 hours after a request. The owner or operator shall retain the most recent superseded description at least until 5 years from the date of its creation. The superseded description shall be retained on-site (or accessible from a central location by computer that provides access within 2 hours after a request) at least 6 months after its creation. Thereafter, the superseded description may be stored off-site.

(2) If an owner or operator has elected to implement the requirements of paragraph (g)(1) of this section, and a period of 6 consecutive months has passed without an excursion as defined in paragraph (g)(2)(iv) of this section, the owner or operator is no longer required to record the daily average value for that parameter for that unit of equipment, for any operating day when the daily average value is less than the maximum, or greater than the minimum established limit. With approval by the Administrator, monitoring data generated prior to the compliance date of this subpart shall be credited toward the period of 6 consecutive months, if the parameter limit and the monitoring was required and/or approved by the Administrator.

(i) If the owner or operator elects not to retain the daily average values, the owner or operator shall notify the Administrator in the next periodic report. The notification shall identify the parameter and unit of equipment.

(ii) If, on any operating day after the owner or operator has ceased recording daily averages as provided in paragraph (g)(2) of this section, there is an excursion as defined in paragraph (g)(2)(iv) of this section, the owner or operator shall immediately resume retaining the daily average value for each day, and shall notify the Administrator in the next periodic report. The owner or operator shall continue to retain each daily average value until another period of 6 consecutive months has passed without an excursion as defined in paragraph (g)(2)(iv) of this section.

(iii) The owner or operator shall retain the records specified in paragraphs (g)(1) (i), (ii), (iii), (iv), (v), and (vi) of this section. For any calendar week, if compliance with paragraphs (g)(1) (i), (ii), (iii), and (iv) of this section does not result in retention of a record of at least one occurrence or measured parameter value, the owner or operator shall record and retain at least one parameter value during a period of operation other than a startup, shutdown, or malfunction.

(iv) For purposes of paragraph (g) of this section, an excursion means that the daily average value of monitoring data for a parameter is greater than the maximum, or less than the minimum established value, except as provided in paragraphs (g)(2)(iv)(A) and (g)(2)(iv)(B)

of this section.

(A) The daily average value during any start-up, shutdown, or malfunction shall not be considered an excursion for purposes of this paragraph (g)(2), if the owner or operator follows the applicable provisions of the startup, shutdown, and malfunction plan required by Sec. 63.6(e)(3) of subpart A of this part.

(B) An excused excursion, as described in Sec. 63.152(c)(2)(ii) (B) and (C), shall not be considered an excursion for purposes of this paragraph (g)(2).

§ 63.153 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in Sec. Sec. 63.110, 63.112 through 63.113, 63.119, 63.126, 63.132 through 63.140, 63.148 through 63.149, and 63.150(i)(1) through (4). Follow the requirements in Sec. 63.121 to request permission to use an alternative means of emission limitation for storage vessels. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart. Where these standards reference another subpart and modify the requirements, the requirements shall be modified as described in this subpart. Delegation of the modified requirements will also occur according to the delegation provisions of the referenced subpart.

(2) Approval of major alternatives to test methods under Sec. 63.7(e)(2)(ii) and (f), as defined in Sec. 63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under Sec. 63.8(f), as defined in Sec. 63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under Sec. 63.10(f), as defined in Sec. 63.90, and as required in this subpart.

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T ABLE 1. - **PROCESS VENTS** - COEFFICIENTS FOR TOTAL RESOURCE EFFECTIVENESS FOR **EXISTING** SOURCE NONHALOGENATED AND HALOGENATED VENT STREAMS

Type of Stream	Control Device Basis	Values of Coefficients			
		a	b	c	d
Nonhalogenated	Flare.....	1.935	3.660×10^{-1}	-7.687×10^{-3}	-7.333×10^{-4}
	Thermal Incinerator - 0 Percent Heat Recovery	1.492	6.267×10^{-2}	3.177×10^{-2}	-1.159×10^{-3}
	Thermal Incinerator - 70 Percent Heat Recovery	2.519	1.183×10^{-2}	1.300×10^{-2}	4.790×10^{-2}
Halogenated	Thermal Incinerator and Scrubber	3.995	5.200×10^{-2}	-1.769×10^{-3}	9.700×10^{-4}

T ABLE 2. - PROCESS VENTS - COEFFICIENTS FOR TOTAL RESOURCE EFFECTIVENESS FOR **NEW** SOURCE NONHALOGENATED AND HALOGENATED VENT STREAMS

Type of Stream	Control Device Basis	Values of Coefficients			
		a	b	c	d
Nonhalogenated	Flare	0.5276	0.0998	-2.096×10^{-3}	-2.000×10^{-4}
	Thermal Incinerator - 0 Percent Heat Recovery	0.4068	0.0171	8.664×10^{-3}	-3.162×10^{-4}
	Thermal Incinerator - 70 Percent Heat Recovery..	0.6868	3.209×10^{-3}	3.546×10^{-3}	1.306×10^{-2}
Halogenated	Thermal Incinerator and Scrubber	1.0895	1.417×10^{-2}	-4.822×10^{-4}	2.645×10^{-4}

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TABLE 3. - PROCESS VENTS - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME

Control device	Parameters to be monitored[a]	Recordkeeping and reporting requirements for monitored parameters
Thermal Incinerator	Firebox temperature[b] [63.114(a)(1)(i)].	1. Continuous records[c]. 2. Record and report the firebox temperature averaged over the full period of the performance test NCS[d]. 3. Record the daily average firebox temperature for each operating day[e]. 4. Report all daily average temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected[f] - PR[g].
Catalytic incinerator	Temperature up-stream and down-stream of the catalyst bed [63.114(a)(1)(ii)].	1. Continuous records 2. Record and report the upstream and downstream temperatures and the temperature difference across the catalyst bed averaged over the full period of the performance test - NCS. 3. Record the daily average upstream temperature and temperature difference across catalyst bed for each operating day[e]. 4. Report all daily average upstream temperatures that are outside the range established in the NCS or operating permit - PR. 5. Report all daily average temperature differences across the catalyst bed that are outside the range established in the NCS or operating permit - PR. 6. Report all operating days when insufficient monitoring data are collected[f].
Boiler or process heater with a design heat input capacity less than 44 megawatts and vent stream is *not* introduced with or as the primary fuel.	Firebox temperature[b]. [63.114(a)(3)].	1. Continuous records. 2. Record and report the firebox temperature averaged over the full period of the performance test - NCS 3. Record the daily average firebox temperature for each operating day[e].

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TABLE 3. - PROCESS VENTS - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME - (Continued)

Control device	Parameters to be monitored[a]	Recordkeeping and reporting requirements for monitored parameters
		4. Report all daily average firebox temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected[f] - PR.
Flare	Presence of a flame at the pilot light [63.114(a)(2)].	1. Hourly records of whether the monitor was continuously operating and whether the pilot flame was continuously present during each hour. 2. Record and report the presence of a flame at the pilot light over the full period of the compliance determination - NCS. 3. Record the times and durations of all periods when all pilot flames are absent or the monitor is not operating. 4. Report the times and durations of all periods when all pilot flames of a flare are absent - PR
Recapture devices.....	The appropriate monitoring device indentified in table 4 when, in the table, the term “recapture” is substituted for “recovery.” [63.114(a)(5)].	1. The recordkeeping and reporting requirements for monitored parameters identified for the appropriate monitoring device in table 4 of this subpart.
Scrubber for halogenated vent streams (Note: Controlled by a combustion device other than a flare)	pH of scrubber effluent [63.114(a)(4)(i)], and.	1. Continuous records. 2. Record and report the pH of the scrubber effluent averaged over the full period of the performance test - NCS. 3. Record the daily average pH of the scrubber effluent for each operating day[e]. 4. Report all daily average pH values of the scrubber effluent that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected[f] - PR.

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TABLE 3. - PROCESS VENTS - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME - (Continued)

Control device	Parameters to be monitored[a]	Recordkeeping and reporting requirements for monitored parameters
Scrubber for Halogenated Vent Streams (Note: Controlled by a combustion device other than a flare) (Continued).	Scrubber liquid and gas flow rates [63.114(a)(4)(ii)].	1. Continuous records of scrubber liquid flow rate. 2. Record and report the scrubber liquid/gas ratio averaged over the full period of the performance test - NCS. 3. Record the daily average scrubber liquid/gas ratio for each operating day[e]. 4. Report all daily average scrubber liquid/gas ratios that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected[f] - PR.
All Control Devices	Presence of flow diverted to the atmosphere from the control device [63.114(d)(1)] *or*.	1. Hourly records of whether the flow indicator was operating and whether diversion was detected at any time during each hour. 2. Record and report the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating - PR.
	Monthly inspections of sealed valves [63.114(d)(2)].	1. Records that monthly inspections were performed. 2. Record and report all monthly inspections that show the valves are moved to the diverting position or the seal has been changed - PR.

NOTES:

[a] Regulatory citations are listed in brackets.
[b] Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.
[c] ‘‘Continuous records’’ is defined in § 63.111 of this subpart.
[d] NCS = Notification of Compliance Status described in § 63.152 of this subpart.
[e] The daily average is the average of all recorded parameter values for the operating day. If all recorded values during an operating day are within the range established in the NCS or operating permit, a statement to this effect can be recorded instead of the daily average.
[f] The periodic reports shall include the duration of periods when monitoring data is not collected for each excursion as defined in § 63.152(c)(2)(ii)(A) of this subpart.
[g] PR = Periodic Reports described in § 63.152 of this subpart.

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TABLE 4. - PROCESS VENTS - MONITORING , RECORDKEEPING , AND REPORTING REQUIREMENTS FOR MAINTAINING A TRE INDEX VALUE >1.0 AND ≤ 4.0

Final recovery device	Parameters to be monitored[a]	Recordkeeping and reporting requirements for monitored parameters
Absorber[b]	Exit temperature of the absorbing liquid [63.114(b)(1)], and	1. Continuous records.[c] 2. Record and report the exit temperature of the absorbing liquid averaged over the full period of the TRE determination - NCS.[d] 3. Record the daily average exit temperature of the absorbing liquid for each operating day.[e] 4. Report all the daily average exit temperatures of the absorbing liquid that are outside the range established in the NCS or operating permit - PR.[f]
	Exit specific gravity [63.114(b)(1)]	1. Continuous records. 2. Record and report the exit specific gravity averaged over the full full period of the TRE determination - NCS. 3. Record the daily average exit specific gravity for each operating day.[e] 4. Report all daily average exit specific gravity values that are outside the range established in the NCS or operating permit- PR.
Condenser[d]	Exit (product side) temperature [63.114(b)(2)]	1. Continuous records. 2. Record and report the exit temperature averaged over the full period of the TRE determination - NCS. 3. Record the daily average exit temperature for each operating day.[e] 4. Report all daily average exit temperatures that are outside the range established in the NCS or operating permit - PR.
Carbon adsorber[d]	Total regeneration stream mass or volumetric flow during carbon bed regeneration cycle(s) [63.114(b)(3)], and	1. Record of total regeneration stream mass or volumetric flow for each carbon bed regeneration cycle. 2. Record and report the total regeneration stream mass or volumetric flow during each carbon bed regeneration cycle during the period of the TRE determination - NCS. 3. Report all carbon bed regeneration cycles when the total regeneration stream mass or volumetric flow is outside the range established in the NCS or operating permit - PR.
	Temperature of the carbon bed after regeneration [and within 15 minutes of completing any cooling cycle(s)] [63.114(b)(3)].	1. Records of the temperature of the carbon bed after each regeneration. 2. Record and report the temperature of the carbon bed after each regeneration during the period of the TRE determination-NCS 3. Report all carbon bed regeneration cycles during which temperature of the carbon bed after regeneration is outside the range established in the NCS or operating permit - PR.

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All recovery devices (as an alternative to the above)	Concentration level or reading indicated by an organic monitoring device at the outlet of the recovery device [63.114(b)].	1. Continuous records. 2. Record and report the concentration level or reading averaged over the full period of the TRE determination - NCS. 3. Record the daily average concentration level or reading for each operating day.[e] 4. Report all daily average concentration levels or readings that are outside the range established in the NCS or operating permit - PR.

NOTES:

[a] Regulatory citations are listed in brackets.
[b] Alternatively, these devices may comply with the organic monitoring device provisions listed at the end of this table under ‘‘ All recovery devices. ’’
[c] ‘‘ Continuous records’’ is defined in § 63.111 of this subpart.
[d] NCS = Notification of Compliance Status described in § 63.152 of this subpart.
[e] The daily average is the average of all values recorded during the operating day. If all recorded values during an operating day are within the range established in the NCS or operating permit, a statement to this effect can be recorded instead of the daily average.
[f] PR = Periodic Reports described in § 63.152 of this subpart.

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TABLE 5. - GROUP 1 STORAGE VESSELS AT **EXISTING** SOURCES

Vessel capacity (cubic meters)	Vapor Pressure[1] (kilopascals)
75 ≤ capacity <151	≥ 13.1
151 ≤ capacity	≥ 5.2

[1] Maximum true vapor pressure of total organic HAP at storage temperature.

TABLE 6. - GROUP 1 STORAGE VESSELS AT **NEW** SOURCES

Vessel capacity (cubic meters)	Vapor pressure[a] (kilopascals)
38 ≤ capacity<151	≥13.1
151 ≤ capacity	≥ 0.7

[a] Maximum true vapor pressure of total organic HAP at storage temperature.

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TABLE 7. - TRANSFER OPERATIONS - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME

Control device	Parameters to be monitored[a]	Recordkeeping and reporting requirements for monitored parameters
Thermal Incinerator	Firebox temperature[b] [63.127(a)(1)(i)].	1. Continuous records[c] during loading. 2. Record and report the firebox temperature averaged over the full period of the performance test - NCS.[d] 3. Record the daily average firebox temperature for each operating day.[e] 4. Report daily average temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected[f] - Pr[g]
Catalytic Incinerator	Temperature upstream and downstream of the catalyst bed [63.127(a)(1)(ii)].	1. Continuous records during loading. 2. Record and report the upstream and downstream temperatures and the temperature difference across the catalyst bed averaged over the full period of the performance test - NCS. 3. Record the daily average upstream temperature and temperature difference across catalyst bed for each operating day.[e] 4. Report all daily average upstream temperatures that are outside the range established in the NCS or operating permit - PR. 5. Report all daily average temperature differences across the catalyst bed that are outside the range established in the NCS or operating permit - PR. 6. Report all operating days when insufficient monitoring data are collected.[f]
Boiler or process heater with a design heat input capacity less than 44 megawatts and vent stream is *not* introduced with or as the primary fuel.	Firebox temperature[b] [63.127(a)(3)].	1. Continuous records during loading. 2. Record and report the firebox temperature averaged over the full period of the performance test - NCS. 3. Record the daily average firebox temperature for each operating day.[e] 4. Report all daily average firebox temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient data are collected[f] - PR.

TABLE 7. - TRANSFER OPERATIONS - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (Continued)

Control device	Parameters to be monitored[a]	Recordkeeping and reporting requirements for monitored parameters
Flare	Presence of a flame at the pilot light [63.127(a)(2)].	1. Hourly records of whether the monitor was continuously operating and whether the pilot flame was continuously present during each hour. 2. Record and report the presence of a flame at the pilot light over the full period of the compliance determination - NCS. 3. Record the times and durations of all periods when all pilot flames are absent or the monitor is not operating. 4. Report the duration of all periods when all pilot flames of a flare are absent - PR.
Scrubber for halogenated vent streams (Note: Controlled by a combustion device other than a flare).	pH of scrubber effluent [63.127(a)(4)(i)], and.	1. Continuous records during loading. 2. Record and report the pH of the scrubber effluent averaged over the full period of the performance test - NCS. 3. Record the daily average pH of the scrubber effluent for each operating day.[e] 4. Report all daily average pH values of the scrubber effluent that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected [f] - PR.
	Scrubber liquid and gas flow rates [63.127(a)(4)(ii)].	1. Continuous records during loading of scrubber liquid flow rate. 2. Record and report the scrubber liquid/gas ratio averaged over the full period of the performance test - NCS. 3. Record the daily average scrubber liquid/gas ratio for each operating day.[e] 4. Report all daily average scrubber liquid/gas ratios that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected[f] -PR.

TABLE 7. - TRANSFER OPERATIONS - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (Continued)

Control device	Parameters to be monitored[a]	Recordkeeping and reporting requirements for monitored parameters
Absorber [h]	Exit temperature of the absorbing liquid [63.127(b)(1)], and	1. Continuous records during loading. 2. Record and report the exit temperature of the absorbing liquid averaged over the full period of the performance test - NCS. 3. Record the daily average exit temperature of the absorbing liquid for each operating day.[e] 4. Report all daily average exit temperatures of the absorbing liquid that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected [f] - PR.
	Exit specific gravity [63.127(b)(1)].	1. Continuous records during loading. 2. Record and report the exit specific gravity averaged over the full period of the performance test - NCS. 3. Record the daily average exit specific gravity for each operating day.[e] 4. Report all daily average exit specific gravity values that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected [f] - PR.
Condenser [h]	Exit (product side) temperature [63.127(b)(2)].	1. Continuous records during loading. 2. Record and report the exit temperature averaged over the full period of the performance test - NCS. 3. Record the daily average exit temperature for each operating day.[e] 4. Report all daily average exit temperatures that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected [f] - PR.

TABLE 7. - TRANSFER OPERATIONS - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (Continued)

Control device	Parameters to be monitored[a]	Recordkeeping and reporting requirements for monitored parameters
Carbon adsorber [h]	Total regeneration stream mass or volumetric flow during carbon bed regeneration cycle(s) [63.127(b)(3)], and	1. Record of total regeneration stream mass or volumetric flow for each carbon bed regeneration cycle. 2. Record and report the total regeneration stream mass and volumetric flow during each carbon bed regeneration cycle during the period of the performance test - NCS. 3. Report all carbon bed regeneration cycles when the total regeneration stream mass or volumetric flow is outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected [f] - PR.
	Temperature of the carbon bed afterafter regeneration (and within 15 minutes of completing any cooling cycle(s)) [63.127(b)(3)].	1. Records of the temperature of the carbon bed after each regeneration. 2. Record and report the temperature of the carbon bed after each regeneration during the period of the performance test - NCS. 3. Report all the carbon bed regeneration cycles during which the temperature of the carbon bed after regeneration is outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected [f] - PR.
All recovery devices (as an alternative to the above).	Concentration level or reading indicated by an organic monitoring device at the outlet of the recovery device [63.127(b)].	1. Continuous records during loading. 2. Record and report the concentration level or reading averaged over the full period of the performance test - NCS. 3. Record the daily average concentration level or reading for each operating day.[d] 4. Report all daily average concentration levels or readings that are outside the range established in the NCS or operating permit and all operating days when insufficient monitoring data are collected [f] - PR.

TABLE 7. - TRANSFER OPERATIONS - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS FOR COMPLYING WITH 98 WEIGHT-PERCENT REDUCTION OF TOTAL ORGANIC HAP EMISSIONS OR A LIMIT OF 20 PARTS PER MILLION BY VOLUME (Continued)

Control device	Parameters to be monitored[a]	Recordkeeping and reporting requirements for monitored parameters
All control devices and vapor balancing systems.	Presence of flow diverted to the atmosphere from the control device [63.127(d)(1)] *or*	1. Hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during each hour. 2. Record and report the duration of all periods when the vent stream is diverted through a bypass line or the monitor is not operating - PR.
	Monthly inspections of sealed valves [63.127(d)(2)].	1. Records that monthly inspections were performed. 2. Record and report all monthly inspections that show the valves are moved to the diverting position or the seal has been changed.

NOTES:

[a] Regulatory citations are listed in brackets.
[b] Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.
[c] ‘‘Continuous records’’ is defined in § 63.111 of this subpart.
[d] NCS = Notification of Compliance Status described in § 63.152 of this subpart.
[e] The daily average is the average of all recorded parameter values for the operating day. If all recorded values during an operating day are within the range established in the NCS or operating permit, a statement to this effect can be recorded instead of the daily average.
[f] The periodic reports shall include the duration of periods when monitoring data are not collected for each excursion as defined in § 63.152(c)(2)(ii)(A) of this subpart.
[g] PR = Periodic Reports described in § 63.152 of this subpart.
[h] Alternatively, these devices may comply with the organic monitoring device provisions listed near the end of this table under ‘‘All recovery devices.’’

TABLE 8. - ORGANIC HAPS SUBJECT TO THE WASTEWATER PROVISIONS FOR PROCESS UNITS AT **NEW** SOURCES

Chemical name	CAS No.[a]
Allyl chloride	107051
Benzene	71432
Butadiene (1,3-)	106990
Carbon disulfide	75150
Carbon tetrachloride	56235
Cumene	98828
Ethylbenzene	100414
Ethyl chloride (Chloroethane)	75003
Ethylidene dichloride (1,1-Dichloroethane).	75343
Hexachlorobutadiene	87683
Hexachloroethane	67721
Hexane	100543
Methyl bromide (Bromomethane)	74839
Methyl chloride (Chloromethane)	74873
Phosgene	75445
Tetrachloroethylene (Perchloroethylene)	127184
Toluene	108883
Trichloroethane (1,1,1-) (Methyl chloroform)	71556
Trichloroethylene	79016
Trimethylpentane (2,2,4-)	540841
Vinyl chloride (chloroethylene)	75014
Vinylidene chloride (1,1-Dichloroethylene).	75354
Xylene (m-)	108383
Xylene (p-)	106423

[a] CAS numbers refer to the Chemical Abstracts Service registry number assigned to specific compounds, isomers, or mixtures of compounds.

Note. - The list of organic HAPS on table 8 is a subset of the list of organic HAPS on table 9 of this subpart.

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TABLE 9. - ORGANIC HAPS SUBJECT TO THE WASTEWATER PROVISIONS FOR PROCESS UNITS AT **NEW AND EXISTING** SOURCES AND CORRESPONDING FRACTION REMOVED (FR) VALUES

Chemical name	CAS No.[a]	Fr
Acetaldehyde	75070	0.95
Acetonitrile	75058	0.62
Acetophenone	98862	0.72
Acrolein	07028	0.96
Acrylonitrile	107131	0.96
Allyl chloride	107051	0.99
Benzene	71432	0.99
Benzyl chloride	100447	0.99
Biphenyl	92524	0.99
Bromoform	75252	0.99
Butadiene (1,3-)	106990	0.99
Carbon disulfide	75150	0.99
Carbon tetrachloride	56235	0.99
Chlorobenzene	108907	0.99
Chloroform	67663	0.99
Chloroprene (2-Chloro-1,3-butadiene)	126998	0.99
Cumene	98828	0.99
Dichlorobenzene (p-)	106467	0.99
Dichloroethane (1,2-) (Ethylene dichloride)	107062	0.99
Dichloroethyl ether (Bis(2-chloroethyl)ether)	111444	0.87
Dichloropropene (1,3-)	542756	0.99
Diethyl sulfate	64675	0.90
Dimethyl sulfate	77781	0.53
Dimethylaniline (N,N-)	121697	0.99
Dimethylhydrazine (1,1-)	57147	0.57
Dinitrophenol (2,4-)	51285	0.99
Dinitrotoluene (2,4-)	121142	0.38
Dioxane (1,4-) (1,4-Diethyleneoxide)	123911	0.37
Epichlorohydrin(1-Chloro-2,3-epoxypropane)	106898	0.91
Ethyl acrylate	140885	0.99
Ethylbenzene	100414	0.99
Ethyl chloride (Chloroethane)	75003	0.99
Ethylene dibromide (Dibromomethane)	106934	0.99
Ethylene glycol dimethyl ether	110714	0.90
Ethylene glycol monobutyl ether acetate	112072	0.76
Ethylene glycol monomethyl ether acetate	110496	0.28
Ethylene oxide	75218	0.98
Ethylidene dichloride (1,1-Dichloroethane)	75343	0.99
Hexachlorobenzene	118741	0.99
Hexachlorobutadiene	87683	0.99
Hexachloroethane	67721	0.99

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TABLE 9. - ORGANIC HAPS SUBJECT TO THE WASTEWATER PROVISIONS FOR PROCESS UNITS AT **NEW AND EXISTING** SOURCES AND CORRESPONDING FRACTION REMOVED (FR) VALUES (Continued)

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Chemical name	CAS No.[a]		Fr
Hexane	110543	0.99	
Isophorone	78591		0.60
Methanol	67561		0.31
Methyl bromide (Bromomethane)	74839		0.99
Methyl chloride (Chloromethane)	74873		0.99
Methyl ethyl ketone (2-Butanone)	78933		0.95
Methyl isobutyl ketone (Hexone)	108101		0.99
Methyl methacrylate	80626		0.98
Methyl tert-butyl ether	1634044		0.99
Methylene chloride (Dichloromethane)	75092		0.99
Naphthalene	91203		0.99
Nitrobenzene	98953		0.80
Nitropropane (2-)	79469		0.98
Phosgene	75445		0.99
Propionaldehyde	123386	0.99	
Propylene dichloride (1,2-Dichloropropane)	78875		0.99
Propylene oxide	75569		0.99
Styrene	100425	0.99	
Tetrachloroethane (1,1,2,2-)	79345		0.99
Tetrachloroethylene (Perchloroethylene)	127184	0.99	
Toluene	108883	0.99	
Toluidine (o-)	95534		0.44
Trichlorobenzene (1,2,4-)	120821	0.99	
Trichloroethane (1,1,1-) (Methyl chloroform)	71556		0.99
Trichloroethane (1,1,2-) (Vinyl trichloride)	79005		0.99
Trichloroethylene	79016		0.99
Trichlorophenol (2,4,5-)	95954		0.96
Triethylamine	121448	0.99	
Trimethylpentane (2,2,4-)	540841	0.99	
Vinyl acetate	108054	0.99	
Vinyl chloride (Chloroethylene)	75014		0.99
Vinylidene chloride (1,1-Dichloroethylene)	75354		0.99
Xylene (m-)	108383	0.99	
Xylene (o-)	95476		0.99
Xylene (p-)	106423	0.99	

[a] CAS numbers refer to the Chemical Abstracts Service registry number assigned to specific compounds, isomers, or mixtures of compounds.

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TABLE 10. - WASTEWATER - COMPLIANCE OPTIONS FOR WASTEWATER TANKS

Capacity (m^3)	Maximum true vapor pressure (kPa)	Control requirements
<75	.....	§ 63.133(a)(1)
‘‘75 and <151	<13.1	§ 63.133(a)(1)
	’’13.1	§ 63.133(a)(2)
‘‘151	<5.2	§ 63.133(a)(1)
	’’5.2	§ 63.133(a)(2)

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TABLE 11. - WASTEWATER - INSPECTION AND MONITORING REQUIREMENTS FOR WASTE MANAGEMENT UNITS

To comply with	Inspection or monitoring requirement	Frequency	Method
Tanks:			
63.133(b)(1)	Inspect fixed roof and all openings for leaks ..	Initially Semi-annually.	Visual.
63.133(c)	Inspect floating roof in accordance with §§ 63.120(a)(2) and (a)(3).	See § 63.120(a)(2) and (a)(3).	Visual.
63.133(d)	Measure floating roof seal gaps in accordance with §§ 63.120(b)(2)(i) through (b)(4). - Primary seal gaps ..... - Secondary seal gaps	 Once every 5 years. Annually.	See §63.120(b)(2)(i) through (b)(4).
63.133(f), 63.133(g)	Inspect wastewater tank for control equipment failures and improper work practices.	Initially Semi-annually	Visual.
Surface impoundments:			
63.134(b)(1)	Inspect cover and all openings for leaks	Initially Semi-annually	Visual.
63.134(c)	Inspect surface impoundment for control equipment failures and improper work practices.	Initially Semi-annually	Visual.
Containers:			
63.135(b)(1), 63.135(b)(2)(ii).	Inspect cover and all openings for leaks	Initially Semi-annually	Visual.
63.135(d)(1).	Inspect enclosure and all openings for leaks	Initially Semi-annually	Visual.
63.135(e)	Inspect container for control equipment failures and improper work practices.	Initially Semi-annually	Visual.

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TABLE 11. - WASTEWATER - INSPECTION AND MONITORING REQUIREMENTS FOR WASTE MANAGEMENT UNITS (continued)

To comply with	Inspection or monitoring requirement	Frequency	Method
Individual drain systems [a] :			
63.136(b)(1)	Inspect cover and all openings to ensure there are no gaps, cracks, or holes.	Initially Semi-annually	Visual.
63.136(c)	Inspect individual drain system for control equipment failures and improper work practices.	Initially Semi-annually	Visual.
63.136(e)(1)	Verify that sufficient water is present to properly maintain integrity of water seals.	Initially Semi-annually	Visual.
63.136(e)(2), 63.136(f)(1)	Inspect all drains using tightly-sealed caps or plugs to ensure caps and plugs are in place and properly installed.	Initially Semi-annually	Visual.
63.136(f)(2)	Inspect all junction boxes to ensure covers are in place and have no visible gaps, cracks, or holes.	Initially Semi-annually	Visual.
63.136(f)(3)	Inspect unburied portion of all sewer lines for cracks and gaps.	Initially Semi-annually	Visual.
Oil-water separators:			
63.137(b)(1)	Inspect fixed roof and all openings for leaks	Initially, Semi-annually	Visual.
63.137(c)	Measure floating roof seal gaps in accordance with 40 CFR 60.696(d)(1).	Initially[b].....	See 40 CFR 60.696(d)(1).
	- Primary seal gaps	Once every 5 years.	
	- Secondary seal gaps	Initially[b] Annually.	
63.137(d)	Inspect oil-water separator for control equipment failures and improper work practices.	Initially, Semi-annually	Visual.

NOTES:

[a] As specified in § 63.136(a), the owner or operator shall comply with the requirements of either § 63.136(b) and (c) or § 63.136(e) and (f).

[b] Within 60 days of installation as specified in § 63.137(c).

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TABLE 12. - WASTEWATER - MONITORING REQUIREMENTS FOR TREATMENT PROCESSES

To comply with	Parameters to be monitored	Frequency	Methods
1. Required mass removal of Table 8 and/or Table 9 compound(s) from wastewater treated in a properly operated biological treatment unit. 63.138(f) & 63.138(g).	Appropriate parameters as specified in § 63.143(c) and approved by the permitting authority.	Appropriate frequency as specified in § 63.143 and as approved by permitting authority.	Appropriate methods as specified in § 63.143 and as approved by permitting authority.
2. Steam stripper	(i) steam flow rate	Continuously	Integrating steam flow monitoring device equipped with a continuous recorder.
	(ii)Wastewater feed mass flow rate; and	Continuously	Liquid flow meter installed at stripper influent and equipped with a continuous recorder.
	(iii)Wastewater feed temperature; or	Continuously	(A) Liquid temperature monitoring device installed at stripper influent and equipped with a continuous recorder.
	(iv) Column operating temperature		(B) Liquid temperature monitoring device installed in the column top tray liquid phase (i.e., at the downcomer) and equipped with a continuous recorder.
3. other treatment processes or alternative monitoring parameters to those listed in item 2 of this table.	Other parameters may be monitored upon approval from the Administrator in accordance with the requirements specified in § 63.151(f).		

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TABLE 13. - WASTEWATER - MONITORING REQUIREMENTS FOR CONTROL DEVICES

Control device	Monitoring equipment required	Parameters to be monitored	Frequency
All control devices	1. Flow indicator installed at all bypass lines to the atmosphere and equipped with continuous recorder [b] *or*.	1. Presence of flow diverted from the control device to the atmosphere *or*.	Hourly records of whether the flow indicator was operating and whether the flow was detected at any time during each hour.
	2. Valves sealed closed with car-seal or lock-and-key configuration.	2. Monthly inspections of sealed valves.	Monthly.
Thermal Incinerator	Temperature monitoring device installed in firebox or in ductwork immediately downstream of firebox [a] and equipped with a continuous recorder [b] .	Firebox temperature	Continuous.
Catalytic Incinerator	Temperature monitoring device installed in gas stream immediately before and after catalyst bed and equipped with a continuous recorder [b] .	1. Temperature upstream of catalyst bed *or*.	Continuous.
		2. Temperature difference across catalyst bed.	
Flare	Heat sensing device installed at the pilot light and equipped with a continuous recorder [b] .	Presence of a flame at the pilot light	Hourly records of whether the monitor was continuously operating and whether the pilot flame was continuously present during each hour.
Boiler or	Temperature monitoring	Combustion	Continuous.

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process heater <44 megawatts and vent stream is not mixed with the primary fuel.	device installed in firebox [a] and equipped with continuous recorder [b] .	temperature

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TABLE 13. - WASTEWATER - MONITORING REQUIREMENTS FOR CONTROL DEVICES (Continued)

Control device	Monitoring equipment required	Parameters to be monitored	Frequency
Condenser	Temperature monitoring device installed at condenser exit and equipped with continuous recorder [b] .	Condenser exit (product side) temperature.	Continuous.
Carbon adsorber (Regenerative).	Integrating regeneration stream flow monitoring device having an accuracy of ± 10 percent, *and*,	Total regeneration stream mass flow or volumetric flow during carbon bed regeneration cycle(s).	For each regeneration cycle, record the total regeneration stream. mass flow.
	Carbon bed temperature monitoring device	Temperature of carbon bed after regeneration [and within 15 minutes of completing any cooling cycle(s)].	For each regeneration cycle and within 15 minutes of completing any cooling cycle, record the carbon bed temperature.
Carbon adsorber (Non-regenerative)	Organic compound concentration monitoring device [c]	Organic compound concentration of adsorber exhaust.	Daily or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.
Alternative monitoring parameters.	Other parameters may be monitored upon approval from the Administrator in accordance with the requirements in § 63.143(e)(3).		

NOTES:

[a] Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.
[b] ‘‘ Continuous recorder’’ is defined in § 63.111 of this subpart.
[c] As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system.

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TABLES 14a -14b [Reserved]

TABLE 15. - WASTEWATER - INFORMATION ON **TABLE 8 AND/OR 9 COMPOUNDS** TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS FOR PROCESS UNITS AT **NEW AND/OR EXISTING** SOURCES [a,b]

Process unit identification code [c]	Stream identification code	Concentration of table 8 and/or table 9 compounds (ppmw)[d,e]	Flow rate (lpm)[e,f]	Group 1 or group 2[g]	Compliance approach[h]	Treatment process(es) identification	Waste management unit(s) identification	Intended control device

NOTES:

[a] The information specified in this table must be submitted; however, it may be submitted in any format. This table presents an example format.
[b] Other requirements for the Notification of Compliance Status are specified in § 63.152(b) of this subpart.
[c] Also include a description of the process unit (e.g., benzene process unit).
[d] Except when § 63.132(e) is used, annual average concentration as specified in § 63.132(c) or (d) and § 63.144.
[e] When § 63.132(e) is used, indicate the wastewater stream is a designated Group 1 wastewater stream.
[f] Except when § 63.132(e) is used, annual average flow rate as specified in § 63.132(c) or (d) and § 63.144.
[g] Indicate whether stream is Group 1 or Group 2. If Group 1, indicate whether it is Group 1 for Table 8 or Table 9 compounds or for both Table 8 and Table 9 compounds.
[h] Cite § 63.138 compliance option used.

TABLE 16 [Reserved]

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TABLE 17. - WASTEWATER - INFORMATION FOR TREATMENT PROCESSES TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS [a,b]

Treatment process identification [c]	Description [d]	Wastewater stream(s) treated [e]	Monitoring parameters [f]

NOTES:

[a] The information specified in this table must be submitted; however, it may be submitted in any format. This table presents an example format.
[b] Other requirements for the Notification of Compliance Status are specified in § 63.152(b) of this Subpart.
[c] Identification codes should correspond to those listed in Table 15.
[d] Description of treatment process.
[e] Stream identification code for each wastewater stream treated by each treatment unit. Identification codes should correspond to entries listed in Tables 15.
[f] Parameter(s) to be monitored or measured in accordance with Table 12 in § 63.143.

TABLE 18. - WASTEWATER - INFORMATION FOR WASTE MANAGEMENT UNITS TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS [a,b]

Waste management unit identification [c]	Description [d]	Wastewater stream(s) received or managed [e]

NOTES:

[a] The information specified in this table must be submitted; however, it may be submitted in any format. This table presents an example format.
[b] Other requirements for the Notification of Compliance Status are specified in § 63.152(b) of this Subpart.
[c] Identification codes should correspond to those listed in Table 15.
[d] Description of waste management unit.
[e] Stream identification code for each wastewater stream received or managed by each waste management unit. Identification codes should correspond to entries listed in Table 15.

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TABLE 19. - WASTEWATER - INFORMATION ON RESIDUALS TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS [a,b]

Control

Residual identification[c]	Residual description[d]	Wastewater stream identification[e]	Treatment process [f]	Fate [g]	device identification code	Control device description[h]	Control device efficiency [i]

NOTES:

[a] The information specified in this table must be submitted; however, it may be submitted in any format. This table presents an example format.
[b] Other requirements for the Notification of Compliance Status are specified in § 63.152(b) of this subpart.
[c] Name or identification code of residual removed from Group 1 wastewater stream.
[d] Description of residual (e.g., steam stripper A–13 overhead condensates).
[e] Identification of stream from which residual is removed.
[f] Treatment process from which residual originates.
[g] Indicate whether residual is sold, returned to production process, or returned to waste management unit or treatment process; or whether HAP mass of residual is destroyed by 99 percent.
[h] If the fate of the residual is such that the HAP mass is destroyed by 99 percent, give description of device used for HAP destruction.
[i] If the fate of the residual is such that the HAP mass is destroyed by 99 percent, provide an estimate of control device efficiency and attach substantiation in accordance with § 63.146(b)(9) of this subpart.

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TABLE 20. - WASTEWATER - PERIODIC REPORTING REQUIREMENTS FOR CONTROL DEVICES USED TO COMPLY WITH §§ 63.133 - 63.138

Control device	Reporting requirements
(1)Thermal incinerator	Report all daily average[a] temperatures that are outside the range established in the NCS[b] or operating permit and all operating days when insufficient monitoring data are collected[c]
(2) Catalytic incinerator	(i) Report all daily average [a] upstream temperatures that are outside the range established in the NCS[b] or operating permit (ii) Report all daily average [a] temperature differences across the catalyst bed that are outside the range established in the NCS[b] or operating permit (iii) Report all operating days when insufficient monitoring data are collected[c]
(3) Boiler or process heater with a design heat input capacity less than 44 megawatts and vent stream is not mixed with the primary fuel.	Report all daily average[a] firebox temperatures that are outside the range established in the NCS[b] or operating permit and all operating days when insufficient monitoring data are collected [c]
(4) Flare	Report the duration of all periods when the pilot flame is absent
(5) Condenser	Report all daily average[a] exit temperatures that are outside the range established in the NCS[b] or operating permit and all operating days when insufficient monitoring data are collected [c]
(6) Carbon adsorber (regenerative)	(i) Report all carbon bed regeneration cycles when the total regeneration stream mass flow or volumetric flow is outside the range established in the NCS [b] or operating permit (ii) Report all carbon bed regeneration cycles during which the temperature of the carbon bed after regeneration is outside the range established in the NCS[b] or operating permit (iii) Report all operating days when insufficient monitoring data are collected[c].
(7) Cargbon adsorber (non-regenerative)	(i) Report operating days when inspections not done according to the schedule developed as specified in table 13 of this subpart. (ii) Report all operating days when carbon has not been replaced at the frequency specified in table 13 of this subpart. (iii) Report all operating days when insufficient monitoring data are collected[c].

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(8) All control devices	(i) Report the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating, or (ii) Report all monthly inspections that show the valves are not moved to the diverting position or the seal has been changed

NOTES:

[a] The daily average is the average of all values recorded during the operating day, as specified in § 63.147(d) of this subpart.

[b] NCS = Notification of Compliance Status described in § 63.152 of this subpart.

[c] The periodic reports shall include the duration of periods when monitoring data are not collected for each excursion as defined in § 63.152(c)(2)(ii)(A) of this subpart.

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TABLE 21. - AVERAGE STORAGE TEMPERATURE(Ts) AS A FUNCTION OF TANK PAINT COLOR

Tank Color	AverageStorageTemperature(Ts)
White	TA [a] + 0
Aluminum	TA + 2.5
Gray	TA + 3.5
Black	TA + 5.0

[a] TA is the average annual ambient temperature in degrees Fahrenheit.

TABLE 22. - PAINT FACTORS FOR FIXED ROOF TANKS

Tank color: Roof	Tank color: Shell	Paint factors (Fp) Paint Condition: Good	Poor
White	White	1.00	1.15
Aluminum (specular)	White	1.04	1.18
White	Aluminum (specular)	1.16	1.24
Aluminum (specular)	Aluminum (specular)	1.20	1.29
White	Aluminum (diffuse)	1.30	1.38
Aluminum (diffuse)	Aluminum (diffuse)	1.39	1.46
White	Gray	1.30	1.38
Light gray	Light gray	1.33	1.44
Medium gray	Medium gray	1.40	1.58

TABLE 23. - AVERAGE CLINGAGE FACTORS (C) [a]

Liquid	Shell condition: Light rust [b]	Dense rust	Gunite lined
Gasoline	0.0015	0.0075	0.15
Single component stocks	0.0015	0.0075	0.15
Crude oil	0.0060	0.030	0.60

[a] Units for average clingage factors are barrels per 1,000 square feet.
[b] If no specific information is available, these values can be assumed to represent the most common condition of tanks currently in use.

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TABLE 24. - TYPICAL NUMBER OF COLUMNS AS A FUNCTION OF TANK DIAMETER FOR INTERNAL FLOATING ROOF TANKS WITH COLUMN SUPPORTED FIXED ROOFS [a]

Tank diameter range (D in feet)	Typical number of columns, (NC)
$0 < D \leq 85$	1
$85 < D \leq 100$	6
$100 < D \leq 120$	7
$120 < D \leq 135$	8
$135 < D \leq 150$	9
$150 < D \leq 170$	16
$170 < D \leq 190$	19
$190 < D \leq 220$	22
$220 < D \leq 235$	31
$235 < D \leq 270$	37
$270 < D \leq 275$	43
$275 < D \leq 290$	49
$290 < D \leq 330$	61
$330 < D \leq 360$	71
$360 < D \leq 400$	81

[a] Data in this table should not supersede information on actual tanks.

TABLE 25. - EFFECTIVE COLUMN DIAMETER (Fc)

Column type	Fc (feet)
9-inch by 7-inch built-up columns	1.1
8-inch-diameter pipe columns	0.7
No construction details known	1.0

TABLE 26. - SEAL RELATED FACTORS FOR INTERNAL FLOATING ROOF VESSELS

Seal type	K_S	n
Liquid mounted resilient seal:		
Primary seal only	3.0	0
With rim-mounted secondary seal [a]	1.6	0
Vapor mounted resilient seal:		
Primary seal only	6.7	0
With rim-mounted secondary seal [a]	2.5	0

[a] If vessel-specific information is not available about the secondary seal, assume only a primary seal is present.

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Table 27. - SUMMARY OF INTERNAL FLOATING DECK FITTING LOSS FACTORS (K_F) AND TYPICAL NUMBER OF FITTINGS (N_F)

Deck fitting type	Deck fitting loss factor (K_F)[a]	Typical number of fittings (N_F)
Access hatch	.....	1.
Bolted cover, gasketed.	1.6	
Unbolted cover, gasketed.	11	
Unbolted cover, ungasketed.	[b] 25	
Automatic gauge float well.	.....	1.
Bolted cover, gasketed.	5.1	
Unbolted cover, gasketed.	15	
Unbolted cover, ungasketed.	[b] 28	
Column well	.....	(see Table 24).
Builtup column-sliding cover, gasketed.	33	
Builtup column-sliding	[b] 47	10
Pipe column-flexible fabric sleeve seal.	19	
Pipe column-sliding cover, gasketed.	32	
Pipe column-sliding cover, ungasketed.		
Ladder well	.....	1.
Sliding cover, gasketed.	56	
Sliding cover, ungasketed.	[b] 76	
Roof leg or hanger well.	.....	$(5+D/10+D^2/600)$[c].
Adjustable	[b] 7.9	
Fixed	0	
Sample pipe or well.	.....	1.
Slotted pipe-sliding cover, gasketed.	44	
Slotted pipe-sliding cover, ungasketed.	57	
Sample well slit fabric seal, 10 percent open area.	[b]12	
Stub drain, 1-in diameter [d] .	1.2	$(D^2/125)$ [c].
Vacuum breaker ...	.....	1.
Weighted mechanical actuation, gasketed.	[b] 0.7	
Weighted mechanical actuation, ungasketed.	0.9	

NOTES:

[a] Units for K_F are pound-moles per year.
[b] If no specific information is available, this value can be assumed to represent the most common/typical deck fittings currently used.
[c] D = Tank diameter (feet).
[d] Not used on welded contact internal floating decks.

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TABLE 28. - DECK SEAM LENGTH FACTORS[a] (S_D) FOR INTERNAL FLOATING ROOF TANKS

Deck construction	Typical deck seam length factor
Continuous sheet construction [b] :	
5-feet wide sheets	0.2 [c]
6-feet wide sheets	0.17
7-feet wide sheets	0.14
Panel construction [d] :	
5 x 7.5 feet rectangular	0.33
5 x 12 feet rectangular	0.28

[a] Deck seam loss applies to bolted decks only. Units for S_D are feet per square feet.
[b] $S_D = 1/W$, where W = sheet width (feet).
[c] If no specific information is available, these factors can be assumed to represent the most common bolted decks currently in use.
[d] $S_D = (L+W)/LW$, where W = panel width (feet), and L = panel length (feet).

TABLE 29. - SEAL RELATED FACTORS FOR EXTERNAL FLOATING ROOF VESSELS

	--Welded vessels--		--Riveted vessels--	
Seal type	K_S	N	K_S	N
Metallic shoe seal:				
Primary seal only	1.2	1.5	1.3	1.5
With shoe-mounted secondary seal	0.8	1.2	1.4	1.2
With rim-mounted secondary seal	0.2	1.0	0.2	1.6
Liquid mounted resilient seal:				
Primary seal only	1.1	1.0 [a]	NA	NA
With weather shield	0.8	0.9	NA	NA
With rim-mounted secondary seal	0.7	0.4	NA	NA
Vapor mounted resilient seal:				
Primary seal only	1.2	2.3	NA	NA
With weather shield	0.9	2.2	NA	NA
With rim-mounted secondary seal	0.2	2.6	NA	NA

[a] NA = Not applicable.

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TABLE 30. - ROOF FITTING LOSS FACTORS , K_{Fa} , K_{Fb} , AND M,[a] AND TYPICAL NUMBER OF FITTINGS , N_T

Fitting type and construction details	Loss factors[b] K_{Fa} (lb-mole) (yr)	K_{Fb} (lb-mole) ([mi/hr]^m-yr)	m (dimension -less)	Typical number of fittings, N_T
Access hatch (24-in-diameter well).....	.....	.....	.....	1.
Bolted cover, gasketed.....	0	0	[c]0	
Unbolted cover, ungasketed.....	2.7	7. 1	1.0	
Unbolted cover, gasketed.....	2.9	0. 41	1.0	
Unslotted guide-pole well (8-in-diameter unslotted pole, 21-in-diameter well)	.....	.....	.....	1.
Ungasketed sliding cover.....	0	67	[c]0.98	
Gasketed sliding cover	0	3.0	1.4	
Slotted guide-pole/sample well (8-in-diameter unslotted pole, 21-in-diameter well).....	.....	.....	.....	(d).
Ungasketed sliding cover, without float..	0	310	1.2	
Ungasketed sliding cover, with float...	0	29	2.0	
Gasketed sliding cover, without float.....	0	260	1.2	
Gasketed sliding cover, with float.....	0	8.5	1.4	
Gauge-float well (20-inch diameter).....	.....	.....	.....	1.
Unbolted cover, ungasketed.....	2.3	5.9	[c]1.0	
Unbolted cover, gasketed.....	2.4	0.34	1.0	
Bolted cover, gasketed.....	0	0	0	
Gauge-hatch/sample well (8-inch diameter).....	.....	.....	....	1.
Weighted mechanical actuation, gasketed.....	0.95	0.14	[c]1.0	
Weighted mechanical actuation, ungasketed.....	0.91	2.4	1.0	
Vacuum breaker (10-in-diameter well).....	.....	.....	....	N_{F6} (Table 31).
Weighted mechanical actuation, gasketed	1.2	0.17	[c]1.0	
Weighted mechanical actuation, ungasketed....	1.2	3.0	1.0	
Roof drain (3-in-diameter).....	.....	.....	.....	N_{F7} (Table 31).
Open	0	7.0	[e]1.4	N_{F8} (Table 32[f]).
90 percent closed.....	0.51	0.81	1.0	
Roof leg (3-in-diameter).....	.....	.....	.....	N_{F8} (Table 32[f]).
Adjustable, pontoon area.....	1.5	0.20	[c]1.0	
Adjustable, center area.....	0.25	0.067	[c]1.0	
Adjustable, double-deck roofs.....	0.25	0.067	1.0	
Fixed.....	0	0	0	
Roof leg (2 1/2-in-diameter).....	.....	.....	.....	N_{F8} (Table 32[f]).
Adjustable, pontoon area.....	1.7	0	0	
Adjustable, center area.....	0.41	0	0	
Adjustable, double-deck roofs.....	0.41	0	0	
Fixed.....	0	0	0	

TABLE 30. - ROOF FITTING LOSS FACTORS , K_{Fa} , K_{Fb} , AND M,[a] AND TYPICAL NUMBER OF FITTINGS , N_T (Continued)

Fitting type and construction details	Loss factors[b] K_{Fa} (lb-mole)/(yr)	K_{Fb} (lb-mole)/([mi/hr]^m-yr)	m (dimension-less)	Typical number of fittings, N_T
Rim vent (6-in-diameter).....	.....	.....	.....	1 g .
Weighted mechanical actuation, gasketed...	0.71	0.10	[c]1.0	
Weighted mechanical actuation, ungasketed...	0.68	1.8 1.0		

NOTES:

[a] The roof fitting loss factors, K_{Fa} , K_{Fb} , and m, may only be used for wind speeds from 2 to 15 miles per hour.
[b] Unit abbreviations are as follows: lb = pound; mi = miles; hr = hour; yr = year.
[c] If no specific information is available, this value can be assumed to represent the most common or typical roof fittings currently in use.
[d] A slotted guide-pole/sample well is an optional fitting and is not typically used.
[e] Roof drains that drain excess rainwater into the product are not used on pontoon floating roofs. They are, however, used on double-deck floating roofs and are typically left open.
[f] The most common roof leg diameter is 3 inches. The loss factors for 2 1/2-inch diameter roof legs are provided for use if this smaller size roof is used on a particular floating roof.
[g] Rim vents are used only with mechanical-shoe primary seals.

TABLE 31. - TYPICAL NUMBER OF VACUUM BREAKERS, N_{F6} AND ROOF DRAINS,[a] N_{F7}

Tank diameter D (feet)[b]	No.of vacuum breakers, N_{F6}: Pontoon roof	Double-deck roof	No. of roof drains, N_{F7} double-deck roof[c]
50	1	1	1
100	1	1	1
150	2	2	2
200	3	2	3
250	4	3	5
300	5	3	7
350	6	4	[d]
400	7	4	[d]

[a] This table should not supersede information based on actual tank data.
[b] If the actual diameter is between the diameters listed, the closest diameter listed should be used. If the actual diameter is midway between the diameters listed, the next larger diameter should be used.
[c] Roof drains that drain excess rainwater into the product are not used on pontoon floating roofs. They are, however, used on double-deck floating roofs, and are typically left open.
[d] For tanks more than 300 feet in diameter, actual tank data or the manufacturer's recommendations may be needed for the number of roof drains.

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TABLE 32. - TYPICAL NUMBER OF ROOF LEGS,[a] N_{F8}

Tank diameter D (feet)[b]	--------Pontoon roof -------- No. of pontoon legs	No. of center legs	No. of legs on double-deck roof
30	4	2	6
40	4	4	7
50	6	6	8
60	9	7	10
70	13	9	13
80	15	10	16
90	16	12	20
100	17	16	25
110	18	20	29
120	19	24	34
130	20	28	40
140	21	33	46
150	23	38	52
160	26	42	58
170	27	49	66
180	28	56	74
190	29	62	82
200	30	69	90
210	31	77	98
220	32	83	107
230	33	92	115
240	34	101	127
250	34	109	138
260	36	118	149
270	36	128	162
280	37	138	173
290	38	148	186
300	38	156	200
310	39	168	213
320	39	179	226
330	40	190	240
340	41	202	255
350	42	213	270
360	44	226	285
370	45	238	300
380	46	252	315
390	47	266	330
400	48	281	345

[a] This table should not supersede information based on actual tank data.
[b] If the actual diameter is between the diameters listed, the closest diameter listed should be used. If the actual diameter is midway between the diameters listed, the next larger diameter should be used.

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TABLE 33. - SATURATION FACTORS

Cargo carrier	Mode of operation	S factor

Tank trucks and rail tank cars ...	Submerged loading of a clean cargo tank		0.50
	Submerged loading: dedicated normal service.....	0.60	
	Submerged loading: dedicated vapor balance service.....		1.00
	Splash loading of a clean cargo tank	1.45	
	Splash loading: dedicated normal service	1.45	
	Splash loading: dedicated vapor balance service	1.00	

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TABLE 34. - FRACTION MEASURED (F_m) AND FRACTION EMITTED (F_e) FOR HAP COMPOUNDS IN WASTEWATER STREAMS

Chemical name	CAS Number[a]	F_m	F_e

Acetaldehyde	75070	1.00	0.48
Acetonitrile	75058	0.99	0.36
Acetophenone	98862	0.31	0.14
Acrolein	107028	1.00	0.43
Acrylonitrile	107131	1.00	0.43
Allyl chloride	107051	1.00	0.89
Benzene	71432	1.00	0.80
Benzyl chloride	100447	1.00	0.47
Biphenyl	92524	0.86	0.45
Bromoform	75252	1.00	0.49
Butadiene (1,3-)	106990	1.00	0.98
Carbon disulfide	75150	1.00	0.92
Carbon tetrachloride	56235	1.00	0.94
Chlorobenzene	108907	1.00	0.73
Chloroform	67663	1.00	0.78
Chloroprene (2-Chloro-1,3-butadiene)	126998	1.00	0.68
Cumene	98828	1.00	0.88
Dichlorobenzene (p-)	106467	1.00	0.72
Dichloroethane (1,2-) (Ethylene dichloride)	107062	1.00	0.64
Dichloroethyl ether (Bis(2-Chloroethyl ether))	111444	0.76	0.21
Dichloropropene (1,3-)	542756	1.00	0.76
Diethyl sulfate	64675	0.0025	0.11
Dimethyl sulfate	77781	0.086	0.079
Dimethylaniline (N,N-)	121697	0.00080	0.34
Dimethylhydrazine (1,1-)	57147	0.38	0.054
Dinitrophenol (2,4-)	51285	0.0077	0.060
Dinitrotoluene (2,4-)	121142	0.085	0.18
Dioxane (1,4-) (1,4-Diethyleneoxide)	123911	0.87	0.18
Epichlorohydrin(1-Chloro-2,3-epoxypropane)	106898	0.94	0.35
Ethyl acrylate	140885	1.00	0.48
Ethylbenzene.	100414	1.00	0.83
Ethyl chloride (Chloroethane)	75003	1.00	0.90
Ethylene dibromide (Dibromomethane)	106934	1.00	0.57
Ethylene glycol dimethyl ether	110714	0.86	0.32
Ethylene glycol monobutyl ether acetate	112072	0.043	0.067
Ethylene glycol monomethyl ether acetate	110496	0.093	0.048
Ethylene oxide	75218	1.00	0.50
Ethylidene dichloride (1,1-Dichloroethane)	75343	1.00	0.79
Hexachlorobenzene	118741	0.97	0.64
Hexachlorobutadiene	87683	0.88	0.86
Hexachloroethane	67721	0.50	0.85
Hexane	110543	1.00	1.00

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TABLE 34. - FRACTION MEASURED (F_m) AND FRACTION EMITTED (F_e) FOR HAP COMPOUNDS IN WASTEWATER STREAMS (Continued)

Chemical name	CAS Number[a]	F_m	F_e

Isophorone	78591		0.51	0.11	
Methanol	67561		0.85	0.17	
Methyl bromide (Bromomethane)	74839		1.00	0.85	
Methyl chloride (Chloromethane)	74873		1.00	0.84	
Methyl ethyl ketone (2-Butanone)	78933		0.99	0.48	
Methyl isobutyl ketone (Hexone)	108101	0.98	0.53		
Methyl methacrylate	80626		1.00	0.37	
Methyl tert-butyl ether	1634044		1.00	0.57	
Methylene chloride (Dichloromethane)	75092		1.00		0.77
Naphthalene	91203		0.99	0.51	
Nitrobenzene	98953		0.39	0.23	
Nitropropane (2-)	79469		0.99	0.44	
Phosgene	75445		1.00	0.87	
Propionaldehyde	123386		1.00	0.41	
Propylene dichloride (1,2-Dichloropropane)	78875		1.00		0.72
Propylene oxide	75569		1.00	0.60	
Styrene	100425	1.00	0.80		
Tetrachloroethane (1,1,2,2-)	79345		1.00	0.46	
Tetrachloroethylene (Perchloroethylene)	127184		1.00	0.92	
Toluene	108883	1.00	0.80		
Toluidine (o-)	95534		0.15	0.052	
Trichlorobenzene (1,2,4-)	120821		1.00	0.64	
Trichloroethane (1,1,1-) (Methyl chloroform)	71556		1.00		0.91
Trichloroethane (1,1,2-) (Vinyl Trichloride)	79005		1.00	0.60	
Trichloroethylene	79016		1.00	0.87	
Trichlorophenol (2,4,5-)	95954		0.11	0.086	
Triethylamine	121448	1.00	0.38		
Trimethylpentane (2,2,4-)	540841	1.00	1.00		
Vinyl acetate	108054	1.00	0.59		
Vinyl chloride (Chloroethylene)	75014		1.00	0.97	
Vinylidene chloride (1,1-Dichloroethylene)	75354		1.00		0.94
Xylene (m-)	108383	1.00	0.82		
Xylene (o-)	95476		1.00	0.79	
Xylene (p-)	106423	1.00	0.82		

[a] CAS numbers refer to the Chemical Abstracts Service registry number assigned to specific compounds, isomers, or mixtures of compounds.

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TABLE 35. - CONTROL REQUIREMENTS FOR ITEMS OF EQUIPMENT THAT MEET THE CRITERIA OF SEC. 63.149 OF SUBPART G

Item of equipment	Control requirement [a]
Drain or drain hub	(a) Tightly fitting solid cover (TFSC); or

(b) TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the requirements of Sec. 63.139(c);

or

(c) Water seal with submerged discharge or barrier to protect discharge from wind.

Manhole [b]..... (a) TFSC; or

(b) TSFC with a vent to either a process, or to a fuel gas system, or to a control device meeting the requirements of Sec. 63.139(c);

or

(c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.

Lift station..... (a) TFSC; or

(b) TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the requirements of Sec. 63.139(c);

or

(c) If the lift station is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter. The lift station shall be level controlled to minimize changes in the liquid level.

Trench..... (a) TFSC; or

(b) TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the requirements of Sec. 63.139(c);

or

(c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.

Pipe..... Each pipe shall have no visible gaps in joints, seals, or other emission interfaces.

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TABLE 35. - CONTROL REQUIREMENTS FOR ITEMS OF EQUIPMENT THAT MEET THE CRITERIA OF SEC. 63.149 OF SUBPART G (CONTINUED)

Item of equipment	Control requirement [a]
Oil/Water separator.....	(a) Equip with a fixed roof and route vapors to a process or to a fuel gas system, or equip with a closed vent system that routes

vapors to a control device meeting the requirements of Sec. 63.139(c); or
(b) Equip with a floating roof that meets the equipment specifications of Sec. 60.693 (a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4).

Tank [c]..... Maintain a fixed roof.[d] If the tank is sparged [e] or used for heating or treating by means of an exothermic reaction, a fixed roof and a system shall be maintained that routes the organic hazardous air pollutants vapors to other process equipment or a fuel gas system, or a closed vent system that routes vapors to a control device that meets the requirements of 40 CFR Sec. 63.119 requirements of 40 CFR Sec. 63.119(e)(1) or (e)(2).

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[a] Where a tightly fitting solid cover is required, it shall be maintained with no visible gaps or openings, except during periods of sampling, inspection, or maintenance.
[b] Manhole includes sumps and other points of access to a conveyance system.
[c] Applies to tanks with capacities of 38 m\3\ or greater.
[d] A fixed roof may have openings necessary for proper venting of the tank, such as pressure/vacuum vent, j-pipe vent.
[e] The liquid in the tank is agitated by injecting compressed air or gas.

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TABLE 36. - COMPOUND LISTS USED FOR COMPLIANCE DEMONSTRATIONS FOR ENHANCED BIOLOGICAL TREATMENT PROCESSES (SEC. 63.145(H))

List 1	List 2
Acetonitrile.	Acetaldehyde.
Acetophenone.	Acrolein.
Acrylonitrile.	Allyl Chloride.
Biphenyl.	Benzene.

Chlorobenzene.	Benzyl Chloride.
Dichloroethyl Ether.	Bromoform.
Diethyl Sulfate.	Bromomethane.
Dimethyl Sulfate.	Butadiene 1,3.
Dimethyl Hydrazine 1,1.	Carbon Disulfide.
Dinitrophenol 2,4.	Carbon Tetrachloride.
Dinitrotoluene 2,4.	Chloroethane (ethyl chloride).
Dioxane 1,4.	Chloroform.
Ethylene Glycol Monobutyl Ether Acetate.	Chloroprene.
Ethylene Glycol Monomethyl Ether Acetate.	Cumene (isopropylbenzene).
Ethylene Glycol Dimethyl Ether.	Dibromoethane 1,2.
Hexachlorobenzene.	Dichlorobenzene 1,4.
Isophorone.	Dichloroethane 1,2.
Methanol.	Dichloroethane 1,1 (ethylidene dichloride).
Methacrylate.	Dichloroethene 1,1 (vinylidene chloride)
Nitrobenzene.	Dichloropropane 1,2.
Toluidine.	Dichloropropene 1,3.
Trichlorobenzene 1,2,4.	Dimethylaniline N,N.
Trichlorophenol 2,4,6.	Epichlorohydrin.
Triethylamine.	Ethyl Acrylate.
	Ethylbenzene.
	Ethylene Dibromide.
	Ethylene Oxide.
	Hexachlorobutadiene.
	Hexachloroethane.
	Hexane-n.
	Methyl Ethyl Ketone, (2 butanone).
	Methyl Isobutyl Ketone.
	Methyl Tertiary Butyl Ether.
	Methyl Chloride.
	Methylene Chloride (dichloromethane).
	Naphathalene.
	Nitropropane 2.
	Phosgene.
	Propionaldehyde.
	Propylene Oxide.
	Styrene.
	Tetrachloroethane 1,1,2,2.

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TABLE 36. - COMPOUND LISTS USED FOR COMPLIANCE DEMONSTRATIONS FOR ENHANCED BIOLOGICAL TREATMENT PROCESSES (SEC. 63.145(H))

List 1	List 2
	Methyl Methacrylate.
	Toluene.
	Trichloroethane 1,1,1 (methyl chloroform).
	Trichloroethane 1,1,2.
	Trichloroethylene.
	Trimethylpentane 2,2,4.

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Vinyl Acetate.
Vinyl Chloride.
Xylene-m.
Xylene-o.
Xylene-p.

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TABLE 37. - DEFAULT BIORATES FOR LIST 1 COMPOUNDS

Compound name	Biorate, K1 L/g MLVSS-hr
ACETONITRILE	0.100
ACETOPHENONE	0.538
ACRYLONITRILE	0.750
BIPHENYL	5.643
CHLOROBENZENE	10.000
DICHLOROETHYL ETHER	0.246
DIETHYL SULFATE	0.105
DIMETHYL HYDRAZINE(1,1)	0.227
DIMETHYL SULFATE	0.178
DINITROPHENOL 2,4	0.620
DINITROTOLUENE(2,4)	0.784
DIOXANE(1,4)	0.393
ETHYLENE GLYCOL DIMETHYL ETHER	0.364
ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE	0.159
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	0.496
HEXACHLOROBENZENE	16.179
ISOPHORONE	0.598
METHANOL	0.200
METHYL METHACRYLATE	4.300
NITROBENZENE	2.300
TOLUIDINE (-0)	0.859
TRICHLOROBENZENE 1,2,4	4.393
TRICHLOROPHENOL 2,4,5	4.477
TRIETHYLAMINE	1.064

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FIGURE 1. - DEFINITIONS OF TERMS USED IN WASTEWATER EQUATIONS

Main Terms

AMR = Actual mass removal of Table 8 and/or Table 9 compounds achieved by treatment process or a series of treatment processes, kg/hr.
C = Concentration of Table 8 and/or Table 9 compounds in wastewater, ppmw.
CG = Concentration of TOC (minus methane and ethane) or total organic hazardous air pollutants, in vented gas stream, dry basis, ppmv.
CG_c = Concentration of TOC or organic hazardous air pollutants corrected to 3-percent oxygen, in vented gas stream, dry basis, ppmv.
CGS = Concentration of sample compounds in vented gas stream, dry basis, ppmv.
E = Removal or destruction efficiency, percent.
F_{bio} = Site-specific fraction of Table 8 and/or Table 9 compounds biodegraded, unitless.
f_{bio} = Site-specific fraction of an individual Table 8 or Table 9 compound biodegraded, unitless.
Fm = Compound-specific fraction measured factor, unitless (listed in table 34).
Fr = Fraction removal value for Table 8 and/or Table 9 compounds, unitless (listed in Table 9).
Fr_{avg} = Flow-weighted average of the Fr values.
i = Identifier for a compound.
j = Identifier for a sample.
k = Identifier for a run.
K_2 = Constant, $41.57 * 10^{-9}$, $(ppm)^{-1}$ (gram-mole per standard m^3) (kg/g), where standard temperature (gram-mole per standard m3) is 20 deg.C.
m = Number of samples.
M = Mass, kg.
MW = Molecular weight, kg/kg-mole.
n = Number of compounds.
p = Number of runs.
$\%O_{2d}$ = Concentration of oxygen, dry basis, percent by volume.
Q = Volumetric flowrate of wastewater, m^3/hr.
QG = Volumetric flow rate of vented gas stream, dry standard, m^3/min.
QMG = Mass flowrate of TOC (minus methane and ethane) or organic hazardous air pollutants, in vented gas stream, kg/hr.
QMW = Mass flowrate of Table 8 and/or Table 9 compounds in wastewater, kg/hr.
ρ = Density, kg/m^3.
RMR = Required mass removal achieved by treatment process or a series of treatment processes, kg/hr.
t_T = Total time of all runs, hr.

Subscripts

a = Entering.
b = Exiting.
i = Identifier for a compound.
j = Identifier for a sample.
k = Identifier for a run.
m = Number of samples.
n = Number of compounds.
p = Number of runs.
T = Total; sum of individual.

Attachment to Subpart G- General Provisions to Subpart F, G, and H to Subpart F

§ 63.1 Applicability.

(a) *General.*

(1) Terms used throughout this part are defined in § 63.2 or in the Clean Air Act (Act) as amended in 1990, except that individual subparts of this part may include specific definitions in addition to or that supersede definitions in § 63.2. **Overlap clarified in Sec. 63.101, 63.111, 63.161.**

(2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in 40 CFR part 61. The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of enactment of the Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.

(3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act (section 111, part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard. **Sec. 63.110 and 63.160(b) of subparts G and H identify which standards are overridden.**

(4) **Subpart F specifies applicability of each paragraph in subpart A to Subparts F, G, and H.**

(5) [Reserved]

(6) **[Reserved]**

(7) [Reserved]

(8) [Reserved]

(9) [Reserved]

(10) **Subpart F, G, and H specify calendar or operating day.**

(11) **Subpart F Sec. 63.103(d) specifies acceptable methods for submitting reports.**

(12) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in § 63.9(i).

(13) [Reserved]

(14) [Reserved]

(b) *Initial applicability determination for this part.*

(1) **Subpart F specifies applicability**

(2) [Reserved]

(3) **[Reserved]**

(c) *Applicability of this part after a relevant standard has been set under this part.*

(1) Subpart F specifies applicability

(2) Area Sources are not subject to subparts F, G, and H.

(3) [Reserved]

(4) [Reserved]

(5) **Subpart G and H specify applicable notification requirements**

(d) [Reserved]

(e) **Subparts F, G, and H established before permit program.**

§ 63.2 Definitions.

Subpart F Sec. 63.101(a) specifies those subpart A definitions that apply to the HON, Subpart F definition of “source” is equivalent to subpart A definition of “affected source.”

The terms used in this part are defined in the Act or in this section as follows:

Act means the Clean Air Act (42 U.S.C. 7401 et seq., as amended by Pub. L. 101–549, 104 Stat. 2399).

Actual emissions is defined in subpart D of this part for the purpose of granting a compliance extension for an early reduction of hazardous air pollutants.

Administrator means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).

Affected source, for the purposes of this part, means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112 of the Act. Each relevant standard will define the "affected source," as defined in this paragraph unless a different definition is warranted based on a published justification as to why this definition would result in significant administrative, practical, or implementation problems and why the different definition would resolve those problems. The term "affected source," as used in this part, is separate and distinct from any other use of that term in EPA regulations such as those implementing title IV of the Act. Affected source may be defined differently for part 63 than affected facility and stationary source in parts 60 and 61, respectively. This definition of "affected source," and the procedures for adopting an alternative definition of "affected source," shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002.

Alternative emission limitation means conditions established pursuant to sections 112(i)(5) or 112(i)(6) of the Act by the Administrator or by a State with an approved permit program.

Alternative emission standard means an alternative means of emission limitation that, after notice and opportunity for public comment, has been demonstrated by an owner or operator to the Administrator’s satisfaction to achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such pollutant achieved under a relevant design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act.

Alternative test method means any method of sampling and analyzing for an air pollutant that is not a test method in this chapter and that has been demonstrated to the Administrator’s satisfaction, using Method 301 in Appendix A of this part, to produce results adequate for the Administrator’s determination that it may be used in place of a test method specified in this part.

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to title V of the Act (42 U.S.C. 7661).

Area source means any stationary source of hazardous air pollutants that is not a major source as defined in this part.

Commenced means, with respect to construction or reconstruction of an affected source, that an owner or operator has undertaken a continuous program of construction or reconstruction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or reconstruction.

Compliance date means the date by which an affected source is required to be in compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established by the Administrator (or a State with an approved permit program) pursuant to section 112 of the Act.

Compliance schedule means:

(1) In the case of an affected source that is in compliance with all applicable requirements established under this part, a statement that the source will continue to comply with such requirements; or

(2) In the case of an affected source that is required to comply with applicable requirements by a future date, a statement that the source will meet such requirements on a timely basis and, if required by an applicable requirement, a detailed schedule of the dates by which each step toward compliance will be reached; or

(3) In the case of an affected source not in compliance with all applicable requirements established under this part, a schedule of remedial measures, including an enforceable sequence of actions or operations with milestones and a schedule for the submission of certified progress reports, where applicable, leading to compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established pursuant to section 112 of the Act for which the affected source is not in compliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction non-compliance with, the applicable requirements on which it is based.

Construction means the on-site fabrication, erection, or installation of an affected source. Construction does not include the removal of all equipment comprising an affected source from an existing location and reinstallation of such equipment at a new location. The owner or operator of an existing affected source that is relocated may elect not to reinstall minor ancillary equipment including, but not limited to, piping, ductwork, and valves. However, removal and reinstallation of an affected source will be construed as reconstruction if it satisfies the criteria for reconstruction as defined in this section. The costs of replacing minor ancillary equipment must be considered in determining whether the existing affected source is reconstructed.

Continuous emission monitoring system (CEMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of emissions.

Continuous monitoring system (CMS) is a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by the regulation.

Continuous opacity monitoring system (COMS) means a continuous monitoring system that measures the opacity of emissions.

Continuous parameter monitoring system means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Effective date means:

(1) With regard to an emission standard established under this part, the date of promulgation in the FEDERAL REGISTER of such standard; or

(2) With regard to an alternative emission limitation or equivalent emission limitation determined by the Administrator (or a State with an approved permit program), the date that the alternative emission limitation or equivalent emission limitation becomes effective according to the provisions of this part.

Emission standard means a national standard, limitation, prohibition, or other regulation promulgated in a subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act.

Emissions averaging is a way to comply with the emission limitations specified in a relevant standard, whereby an affected source, if allowed under a subpart of this part, may create emission credits by

reducing emissions from specific points to a level below that required by the relevant standard, and those credits are used to offset emissions from points that are not controlled to the level required by the relevant standard.

EPA means the United States Environmental Protection Agency.

Equivalent emission limitation means any maximum achievable control technology emission limitation or requirements which are applicable to a major source of hazardous air pollutants and are adopted by the Administrator (or a State with an approved permit program) on a case-by-case basis, pursuant to section 112(g) or (j) of the Act.

Excess emissions and continuous monitoring system performance report is a report that must be submitted periodically by an affected source in order to provide data on its compliance with relevant emission limits, operating parameters, and the performance of its continuous parameter monitoring systems.

Existing source means any affected source that is not a new source.

Federally enforceable means all limitations and conditions that are enforceable by the Administrator and citizens under the Act or that are enforceable under other statutes administered by the Administrator. Examples of federally enforceable limitations and conditions include, but are not limited to:

(1) Emission standards, alternative emission standards, alternative emission limitations, and equivalent emission limitations established pursuant to section 112 of the Act as amended in 1990;

(2) New source performance standards established pursuant to section 111 of the Act, and emission standards established pursuant to section 112 of the Act before it was amended in 1990;

(3) All terms and conditions in a title V permit, including any provisions that limit a source’s potential to emit, unless expressly designated as not federally enforceable;

(4) Limitations and conditions that are part of an approved State Implementation Plan (SIP) or a Federal Implementation Plan (FIP);

(5) Limitations and conditions that are part of a Federal construction permit issued under 40 CFR 52.21 or any construction permit issued under regulations approved by the EPA in accordance with 40 CFR part 51;

(6) Limitations and conditions that are part of an operating permit where the permit and the permitting program pursuant to which it was issued meet all of the following criteria:

(i) The operating permit program has been submitted to and approved by EPA into a State implementation plan (SIP) under section 110 of the CAA;

(ii) The SIP imposes a legal obligation that operating permit holders adhere to the terms and limitations of such permits and provides that permits which do not conform to the operating permit program requirements and the requirements of EPA's underlying regulations may be deemed not "federally enforceable" by EPA;

(iii) The operating permit program requires that all emission limitations, controls, and other requirements imposed by such permits will be at least as stringent as any other applicable limitations and requirements contained in the SIP or enforceable under the SIP, and that the program may not issue permits that waive, or make less stringent, any limitations or requirements contained in or issued pursuant to the SIP, or that are otherwise "federally enforceable";

(iv) The limitations, controls, and requirements in the permit in question are permanent, quantifiable, and otherwise enforceable as a practical matter; and

(v) The permit in question was issued only after adequate and timely notice and opportunity for comment for EPA and the public.

(7) Limitations and conditions in a State rule or program that has been approved by the EPA under subpart E of this part for the purposes of implementing and enforcing section 112; and

(8) Individual consent agreements that the EPA has legal authority to create.

Fixed capital cost means the capital needed to provide all the depreciable components of an existing source.

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Fugitive emissions means those emissions from a stationary source that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Under section 112 of the Act, all fugitive emissions are to be considered in determining whether a stationary source is a major source.

Hazardous air pollutant means any air pollutant listed in or pursuant to section 112(b) of the Act.

Issuance of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Monitoring means the collection and use of measurement data or other information to control the operation of a process or pollution control device or to verify a work practice standard relative to assuring compliance with applicable requirements. Monitoring is composed of four elements:

(1) Indicator(s) of performance -- the parameter or parameters you measure or observe for demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates, and recorded findings of inspection of work practice activities, materials tracking, or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking), or an interdependency between two or among more than two variables.

(2) Measurement techniques -- the means by which you gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include continuous emission monitoring systems, continuous opacity monitoring systems, continuous parametric monitoring systems, and manual inspections that include making records of process conditions or work practices.

(3) Monitoring frequency -- the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems, and at least once per operating day (or week, month, etc.) for work practice or design inspections.

(4) Averaging time -- the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, and an instantaneous alarm.

New affected source means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory that is subject to a section 112(d) or other relevant standard for new sources. This definition of "new affected source," and the criteria to be utilized in implementing it, shall apply to each section 112(d) standard for

which the initial proposed rule is signed by the Administrator after June 30, 2002. Each relevant standard will define the term "new affected source," which will be the same as the "affected source" unless a different collection is warranted based on consideration of factors including:

(1) Emission reduction impacts of controlling individual sources versus groups of sources;

(2) Cost effectiveness of controlling individual equipment;

(3) Flexibility to accommodate common control strategies;

(4) Cost/benefits of emissions averaging;

(5) Incentives for pollution prevention;

(6) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices);

(7) Feasibility and cost of monitoring; and

(8) Other relevant factors.

New source means any affected source the construction or reconstruction of which is commenced after the Administrator first proposes a relevant emission standard under this part establishing an emission standard applicable to such source.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. For continuous opacity monitoring systems, opacity means the fraction of incident light that is attenuated by an optical medium.

Owner or operator means any person who owns, leases, operates, controls, or supervises a stationary source..

Performance audit means a procedure to analyze blind samples, the content of which is known by the Administrator, simultaneously with the analysis of performance test samples in order to provide a measure of test data quality.

Performance evaluation means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

Permit modification means a change to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permit program means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

Permit revision means any permit modification or administrative permit amendment to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permitting authority means:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

Reconstruction means the replacement of components of an affected or a previously unaffected stationary source to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and

(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

Regulation promulgation schedule means the schedule for the promulgation of emission standards under this part, established by the Administrator pursuant to section 112(e) of the Act and published in the FEDERAL REGISTER.

Relevant standard means:

(1) An emission standard;

(2) An alternative emission standard;

(3) An alternative emission limitation; or

(4) An equivalent emission limitation established pursuant to section 112 of the Act that applies to the collection of equipment, activities, or both regulated by such standard or limitation. A relevant standard may include or consist of a design, equipment, work practice, or operational requirement, or other measure, process, method, system, or technique (including prohibition of emissions) that the Administrator (or a State) establishes for new or existing sources to which such standard or limitation applies. Every relevant standard established pursuant to section 112 of the Act includes subpart A of this part, as provided by § 63.1(a)(4), and all applicable appendices of this part or of other parts of this chapter that are referenced in that standard.

Responsible official means one of the following:

(1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representative is approved in advance by the Administrator.

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.

(3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).

(4) For affected sources (as defined in this part) applying for or subject to a title V permit: ‘‘responsible official’’ shall have the same meaning as defined in part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever is applicable.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this part.

Shutdown means the cessation of operation of an affected source or portion of an affected source for any purpose.

Six-minute period means, with respect to opacity determinations, any one of the 10 equal parts of a 1-hour period.

Standard conditions means a temperature of 293 ^{o}K (68° F) and a pressure of 101.3 kilopascals (29.92 in. Hg).

Startup means the setting in operation of an affected source for any purpose.

State means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement:

(1) The provisions of this part and/or

(2) the permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant.

Test method means the validated procedure for sampling, preparing, and analyzing for an air pollutant specified in a relevant standard as the performance test procedure. The test method may include methods described in an appendix of this chapter, test methods incorporated by reference in this part, or methods validated for an application through procedures in Method 301 of appendix A of this part.

Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

Visible emission means the observation of an emission of opacity or optical density above the threshold of vision.

Working day means any day on which Federal Government offices (or State government offices for a State that has obtained delegation under section 112(l)) are open for normal business. Saturdays, Sundays, and official Federal (or where delegated, State) holidays are not working days.

§ 63.3 Units and abbreviations.

Units of Measure are spelled out in subparts F, G, and H.

§ 63.4 Prohibited activities and circumvention.

(a) *Prohibited activities*.

(1) No owner or operator subject to the provisions of this part must operate any affected source in violation of the requirements of this part. Affected sources subject to and in compliance with either an extension of compliance or an exemption from compliance are not in violation of the requirements of this part. An extension of compliance can be granted by the Administrator under this part; by a State with an approved permit program; or by the President under section 112(i)(4) of the Act.

(2) No owner or operator subject to the provisions of this part shall fail to keep records, notify, report, or revise reports as required under this part.

(3) [Reserved]

(4) [Reserved]

(5) [Reserved]

(b) *Circumvention.* No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to

(1) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere;

(2) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions; and

(3) [Reserved]

(c) *Severability*. Notwithstanding any requirement incorporated into a title V permit obtained by an owner or operator subject to the provisions of this part, the provisions of this part are federally enforceable.

§ 63.5 Preconstruction review and notification requirements.

(a) *Applicability.*

(1) This section implements the preconstruction review requirements of section 112(i)(1) for sources subject to a relevant emission standard that has been promulgated in this part. In addition, this section includes other requirements for constructed and reconstructed stationary sources that are or become subject to a relevant promulgated emission standard. **Except the terms "source" and "stationary source" in Sec. 63.5(a)(1) should be interpreted as having the same meaning as "affected source".**

(2) After the effective date of a relevant standard promulgated under this part, the requirements in this section apply to owners or operators who construct a new source or reconstruct a source after the proposal date of that standard. New or reconstructed sources that start up before the standard's effective date are not subject to the preconstruction review requirements specified in paragraphs (b)(3), (d), and (e) of this section.

(b) *Requirements for existing, newly constructed, and reconstructed sources.*

(1) A new affected source for which construction commences after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates. An affected source for which reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source. **Except Sec. 63.100(l) defines when construction or reconstruction is subject to standards for new sources.**

(2) [Reserved]

(3) After the effective date of any relevant standard promulgated by the Administrator under this part, no person may, without obtaining written approval in advance from the Administrator in accordance with the procedures specified in paragraphs (d) and (e) of this section, do any of the following:

(i) Construct a new affected source that is major-emitting and subject to such standard;

(ii) Reconstruct an affected source that is major-emitting and subject to such standard; or

(iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.

(4) After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in § 63.9(b). **Except the cross reference to Sec. 63.9(b) is limited to 63.9(b)(4) and (5). Subpart F overrides 63.9(b)(1) and (3).**

(5) [Reserved]

(6) After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source. **Except Sec. 63.100(l) defines when construction or reconstruction is subject to standards for new sources.**

(c) [Reserved]

(d) *Application for approval of construction or reconstruction.* The provisions of this paragraph implement section 112(i)(1) of the Act.

(1) *General application requirements.*

(i) **For subpart F, see Sec. 63.151(b)(2)(ii) and (2)(iii) for the applicability and timing of this submittal; for subpart H, see Sec. 63.182(b)(2)(ii) and (b)(2)(iii) for applicability and timing of this submittal.**

(ii) A separate application shall be submitted for each construction or reconstruction. Each application for approval of construction or reconstruction shall include at a minimum:

(A) The applicant's name and address;

(B) A notification of intention to construct a new major affected source or make any physical or operational change to a major affected source that may meet or has been determined to meet the criteria for a reconstruction, as defined in § 63.2 or in the relevant standard;

(C) The address (i.e., physical location) or proposed address of the source;

(D) An identification of the relevant standard that is the basis of the application;

(E) The expected date of the beginning of actual construction or reconstruction;

(F) The expected completion date of the construction or reconstruction;

(G) [Reserved]

(H) **[Reserved]**

(I) [Reserved]

(J) Other information as specified in paragraphs (d)(2) and (d)(3) of this section.

(iii) **Subpart G requires submittal of the Notification of Compliance Status in Sec. 63.152(b); subpart H specifies requirements in Sec. 63.182(c).**

(2) *Application for approval of construction.* Each application for approval of construction must include, in addition to the information required in paragraph (d)(1)(ii) of this section, technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including an identification of each type of emission point for each type of hazardous air pollutant that is emitted (or could reasonably be anticipated to be emitted) and a description of the planned air pollution control system (equipment or method) for each emission point. The description of the equipment to be used for the control of emissions must include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions must include an estimated control efficiency (percent) for that method. Such technical information must include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations.

(3) *Application for approval of reconstruction*. **[Not applicable for subpart H, except Sec. 63.5(d)(3)(ii) does not apply to subpart G.** Each application for approval of reconstruction shall include, in addition to the information required in paragraph (d)(1)(ii) of this section - (i) A brief description of the affected source and the components that are to be replaced;

(ii) A description of present and proposed emission control systems (i.e., equipment or methods). The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations;

(iii) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source;

(iv) The estimated life of the affected source after the replacements; and

(v) A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.

(vi) If in the application for approval of reconstruction the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or other requirements, the owner or operator need not submit the information required in paragraphs (d)(3)(iii) through (d)(3)(v) of this section.

(4) *Additional information*. The Administrator may request additional relevant information after the submittal of an application for approval of construction or reconstruction.

(e) *Approval of construction or reconstruction.*

(1) (i) If the Administrator determines that, if properly constructed, or reconstructed, and operated, a new or existing source for which an application under paragraph (d) of this section was submitted will not cause emissions in violation of the relevant standard(s) and any other federally enforceable requirements, the Administrator will approve the construction or reconstruction.

(ii) In addition, in the case of reconstruction, the Administrator's determination under this paragraph will be based on:

(A) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new source;

(B) The estimated life of the source after the re-placements compared to the life of a comparable entirely new source;

(C) The extent to which the components being replaced cause or contribute to the emissions from the source; and

(D) Any economic or technical limitations on compliance with relevant standards that are inherent in the proposed replacements.

(2) (i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of construction or reconstruction within 60 calendar days after receipt of sufficient information to evaluate an application submitted under paragraph (d) of this section. The 60-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(3) Before denying any application for approval of construction or reconstruction, the Administrator will notify the applicant of the Administrator's intention to issue the denial together with - (i) Notice of the information and findings on which the intended denial is based; and

(ii) Notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator to enable further action on the application.

(4) A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 calendar days of presentation of additional information or arguments (if the application is complete), or within 60 calendar days after the final date specified for presentation if no presentation is made.

(5) Neither the submission of an application for approval nor the Administrator's approval of construction or reconstruction shall -

(i) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or (ii) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(f) *Approval of construction or reconstruction based on prior State preconstruction review.*

(1) Preconstruction review procedures that a State utilizes for other purposes may also be utilized for purposes of this section if the procedures are substantially equivalent to those specified in this section. The Administrator will approve an application for construction or reconstruction specified in paragraphs (b)(3) and (d) of this section if the owner or operator of a new affected source or reconstructed affected source, who is subject to such requirement meets the following conditions:

(i) The owner or operator of the new affected source or reconstructed affected source has undergone a preconstruction review and approval process in the State in which the source is (or would be) located and has received a federally enforceable construction permit that contains a finding that the source will meet the relevant promulgated emission standard, if the source is properly built and operated.

(ii) Provide a statement from the State or other evidence (such as State regulations) that it considered the factors specified in paragraph (e)(1) of this section.

(2) The owner or operator must submit to the Administrator the request for approval of construction or reconstruction under this paragraph (f)(2) no later than the application deadline specified in paragraph (d)(1) of this section (see also § 63.9(b)(2)). The owner or operator must include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in paragraph (e) of this section. The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction under this paragraph (f)(2). **Except the cross-reference to Sec. 63.5(d)(1) is changed to Sec. 63.151(b)(2)(ii) of subpart G and to Sec. 63.182(b)(2)(ii) of subpart H. The cross-reference to Sec. 63.5(b)(2) does not apply.**

§ 63.6 Compliance with standards and maintenance requirements.

(a) *Applicability.*

(1) The requirements in this section apply to the owner or operator of affected sources for which any relevant standard has been established pursuant to section 112 of the Act and the applicability of such requirements is set out in accordance with § 63.1(a)(4) unless --

(i) The Administrator (or a State with an approved permit program) has granted an extension of compliance consistent with paragraph (i) of this section; or

(ii) The President has granted an exemption from compliance with any relevant standard in accordance with section 112(i)(4) of the Act.

(2) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source, such source shall be subject to the relevant emission standard or other requirement.

(b) *Compliance dates for new and reconstructed sources.*

(1) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source for which construction or reconstruction commences after proposal of a relevant standard that has an initial startup before the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard not later than the standard's effective date.

(2) **[Reserved]**

(3) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established under this part pursuant to section 112(d), 112(f), or 112(h) of the Act but before the effective date (that is, promulgation) of such standard shall comply with the relevant emission standard not later than the date 3 years after the effective date if:

(i) The promulgated standard (that is, the relevant standard) is more stringent than the proposed standard; for purposes of this paragraph, a finding that controls or compliance methods are "more stringent" must include control technologies or performance criteria and compliance or compliance assurance methods that are different but are substantially equivalent to those required by the promulgated rule, as determined by the Administrator (or his or her authorized representative); and

(ii) The owner or operator complies with the standard as proposed during the 3-year period immediately after the effective date.

(4) **May apply when standards are proposed under Section 112(f) of the Clean Air Act.**
(5) **Subparts G and H include notification requirements.**
(6) [Reserved]
(7) **[Reserved]**

(c) *Compliance dates for existing sources*.
(1) **Subpart F specifies the compliance dates for subparts G and H.**
(2) **[Reserved]**
(3)–(4) [Reserved]
(5) Except as provided in paragraph (b)(7) of this section, the owner or operator of an area source that increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source shall be subject to relevant standards for existing sources. Such sources must comply by the date specified in the standards for existing area sources that become major sources. If no such compliance date is specified in the standards, the source shall have a period of time to comply with the relevant emission standard that is equivalent to the compliance period specified in the relevant standard for existing sources in existence at the time the standard becomes effective.

(d) [Reserved]

(e) *Operation and maintenance requirements.* **Except as otherwise specified for individual paragraphs. Does not apply to Group 2 emission points unless they are included in an emissions average.**
(1) (i) **This addressed by Sec. 63.102(a)(4).**
(i) Malfunctions must be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.
(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.
(2) [Reserved]
(3) *Startup, shutdown, and malfunction plan.*
(i) The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard. –**For subpart H, the startup, shutdown, and malfunction plan requirement of Sec. 63.6(e)(3)(i) is limited to control devices subject to the provisions of subpart H and is optional for other equipment subject to subpart H. The startup, shutdown and malfunction plan may include written procedures that identify conditions that justify a delay of repair.**
(A) **This addressed by Sec. 63.102(a)(4).**
(B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
(C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).
(ii) During periods of startup, shutdown, and malfunction, the owner or operator of an affected source must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (e)(3)(i) of this section.

(iii) **Recordkeeping and reporting are specified in Sec. 63.103(c)(2) of subpart F and Sec 63.152(d)(1) of subpart G.**

(iv) **Recordkeeping and reporting are specified in Sec. 63.103(c)(2) of subpart F and Sec 63.152(d)(1) of subpart G.**

(v) **Record retention requirements are specified in Sec. 63.103(c).**

(vi) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Administrator.

(vii) Based on the results of a determination made under paragraph (e)(1)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

(A) Does not address a startup, shutdown, or malfunction event that has occurred;

(B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;**Except the plan must provide for operation in compliance with Sec. 63.102(a)(4).**

(C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or

(D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in § 63.2.

(viii) The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by § 63.10(d)(5). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

(ix) The title V permit for an affected source must require that the owner or operator adopt a startup, shutdown, and malfunction plan which conforms to the provisions of this part, and that the owner or operator operate and maintain the source in accordance with the procedures specified in the current startup, shutdown, and malfunction plan. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under part 70 or part 71 of this chapter. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act.

(f) *Compliance with nonopacity emission standards* -

(1) *Applicability*. **Sec. 63.102(a) for subpart F specifies when the standard applies.**

(2) *Methods for determining compliance*.

(i) The Administrator will determine compliance with nonopacity emission standards in this part based on the results of performance tests conducted according to the procedures in § 63.7, unless otherwise specified in an applicable subpart of this part.

(ii) The Administrator will determine compliance with nonopacity emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in § 63.6(e) and applicable subparts of this part. **Sec. 63.152(c)(2) of subpart G specifies the use of monitoring data in determining compliance with subpart G. [Not applicable for subpart H]**

(iii) If an affected source conducts performance testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if -

(A) The performance test was conducted within a reasonable amount of time before an initial performance test is required to be conducted under the relevant standard;

(B) The performance test was conducted under representative operating conditions for the source;

(C) The performance test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in § 63.7(e) of this subpart; and

(D) **[Reserved]**

(iv) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by review of records, inspection of the source, and other procedures specified in applicable subparts of this part.

(v) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, as specified in paragraph (e) of this section and applicable subparts of this part.

(3) *Finding of compliance*. The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard, as specified in paragraphs (f)(1) and (2) of this section, upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable), and information available to the Administrator pursuant to paragraph (e)(1)(i) of this section.

(g) *Use of an alternative nonopacity emission standard*.

Procedures specified in Sec. 63.102(b) of Subpart F.

(h) *Compliance with opacity and visible emission standards* -

[Reserved]

(i) *Extension of compliance with emission standards.*

(1) Until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph, the owner or operator of an affected source subject to the requirements of this section shall comply with all applicable requirements of this part.

(2) *Extension of compliance for early reductions and other reductions*

(i) *Early reductions*. Pursuant to section 112(i)(5) of the Act, if the owner or operator of an existing source demonstrates that the source has achieved a reduction in emissions of hazardous air pollutants in accordance with the provisions of subpart D of this part, the Administrator (or the State with an approved permit program) will grant the owner or operator an extension of compliance with specific requirements of this part, as specified in subpart D.

(ii) *Other reductions*. Pursuant to section 112(i)(6) of the Act, if the owner or operator of an existing source has installed best available control technology (BACT) (as defined in section 169(3) of the Act) or technology required to meet a lowest achievable emission rate (LAER) (as defined in section 171 of the Act) prior to the promulgation of an emission standard in this part applicable to such source and the same pollutant (or stream of pollutants) controlled pursuant to the BACT or LAER installation, the Administrator will grant the owner or operator an extension of compliance with such emission standard that will apply until the date 5 years after the date on which such installation was achieved, as determined by the Administrator.

(3) *Request for extension of compliance*. For **subpart G, Sec. 63.151(a)(6) specifies procedures; for subpart H, Sec. 63.182(a)(6)(i) specifies procedures.**

(4) (i) (A) The owner or operator of an existing source who is unable to comply with a relevant standard established under this part pursuant to section 112(d) of the Act may request that the Administrator (or a State, when the State has an approved part 70 permit program and the source is required to obtain a part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) grant an extension allowing the source up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. An additional extension of up to 3 years may be added for mining waste operations, if the 1-year extension of compliance is insufficient to dry and cover mining waste in order to reduce emissions of any hazardous air pollutant. The owner or operator of an affected source who has requested an extension of compliance under this paragraph and who is otherwise required to obtain a title V permit shall apply for such permit or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph will be incorporated into the affected source's title V permit according to the provisions of part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) **Dates are specified in Sec. 63.151(a)(6)(i) of subpart G and Sec. 63.182(a)(6)(i) of subpart H.**

(C) An owner or operator may submit a compliance extension request after the date specified in paragraph (i)(4)(i)(B) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in paragraph (i)(6)(i) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(ii) **[Reserved]**

(5) The owner or operator of an existing source that has installed BACT or technology required to meet LAER [as specified in paragraph (i)(2)(ii) of this section] prior to the promulgation of a relevant emission standard in this part may request that the Administrator grant an extension allowing the source 5 years from the date on which such installation was achieved, as determined by the Administrator, to comply with the standard. Any request for an extension of compliance with a relevant standard under this paragraph shall be submitted in writing to the Administrator not later than 120 days after the promulgation date of the standard. The Administrator may grant such an extension if he or she finds that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(6) (i) The request for a compliance extension under paragraph (i)(4) of this section shall include the following information:

(A) A description of the controls to be installed to comply with the standard;

(B) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(*1*) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated; and

(*2*) The date by which final compliance is to be achieved;

(C) [Reserved]

(D) [Reserved]

(ii) The request for a compliance extension under paragraph (i)(5) of this section shall include all information needed to demonstrate to the Administrator's satisfaction that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(7) Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(8) *Approval of request for extension of compliance*. Paragraphs (i)(9) through (i)(14) of this section concern approval of an extension of compliance requested under paragraphs (i)(4) through (i)(6) of this section.

(9) Based on the information provided in any request made under paragraphs (i)(4) through (i)(6) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with an emission standard, as specified in paragraphs (i)(4) and (i)(5) of this section.

(10) The extension will be in writing and will -

(i) Identify each affected source covered by the extension;

(ii) Specify the termination date of the extension;

(iii) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(iv) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests); and

(v) (A) Under paragraph (i)(4), specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period; or

(B) Under paragraph (i)(5), specify any additional conditions that the Administrator deems necessary to assure the proper operation and maintenance of the installed controls during the extension period.

(11) The owner or operator of an existing source that has been granted an extension of compliance under paragraph (i)(10) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached. The contents of the progress reports and the dates by which they shall be submitted will be specified in the written extension of compliance granted under paragraph (i)(10) of this section.

(12) (i) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(i) or (i)(5) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with -

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(iv) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(13) (i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(ii) of this section. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 15 calendar days after receipt of the original application and within 15 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 15 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator will notify the owner or operator in writing of the Administrator's intention to issue the denial, together with -

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator before further action on the request.

(iv) A final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(14) The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (i)(10)(iii) or (iv) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(i) Notice of the reason for termination; and

(ii) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(iii) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(15) [Reserved]

(16) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the Act.

(j) *Exemption from compliance with emission standards*. The President may exempt any stationary source from compliance with any relevant standard established pursuant to section 112 of the Act for a period of not

more than 2 years if the President determines that the technology to implement such standard is not available and that it is in the national security interests of the United States to do so. An exemption under this paragraph may be extended for 1 or more additional periods, each period not to exceed 2 years.

§ 63.7 Performance testing requirements.

(a) *Applicability and performance test dates.*

(1) **Subparts F, G, and H specify required testing and compliance demonstration procedures.**

(2) **For Subpart G, test results must be submitted in the Notification of Compliance Status due 150 days after compliance date, as specified in Sec. 63.152(b); for subpart H, all test results subject to reporting are reported in periodic reports.**

(3) The Administrator may require an owner or operator to conduct performance tests at the affected source at any other time when the action is authorized by section 114 of the Act.

(b) *Notification of performance test.*

[Reserved]

(c) *Quality assurance program.*

[Reserved]

(d) *Performance testing facilities*. If required to do performance testing, the owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source, shall provide performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such source. This includes:

(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures;

(2) Safe sampling platform(s);

(3) Safe access to sampling platform(s);

(4) Utilities for sampling and testing equipment; and

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

(e) *Conduct of performance tests*.

(1) Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected source. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the level of the relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant standard unless otherwise specified in the relevant standard or a determination of noncompliance is made under § 63.6(e). Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(2) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this section, in each relevant standard, and, if required, in applicable appendices of parts 51, 60, 61, and 63 of this chapter unless the Administrator -

(i) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology (see definition in § 63.90(a)). Such changes may be approved in conjunction with approval of the site-specific test plan (see paragraph (c) of this section); or

(ii) Approves the use of an intermediate or major change or alternative to a test method (see definitions in § 63.90(a)), the results of which the Administrator has determined to be adequate for indicating whether a specific affected source is in compliance; or

(iii) Approves shorter sampling times or smaller sample volumes when necessitated by process variables or other factors; or

(iv) Waives the requirement for performance tests because the owner or operator of an affected source has demonstrated by other means to the Administrator's satisfaction that the affected source is in compliance with the relevant standard.

(3) **Subparts F, G, and H specify applicable methods and provide alternatives.**

(4) Nothing in paragraphs (e)(1) through (e)(3) of this section shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(f) *Use of an alternative test method* -

Subparts F, G, and H specify test methods and procedures.

(g) *Data analysis, recordkeeping, and reporting.*

Performance test reporting specified in Sec. 63.152(b); for subpart G; Not applicable to subpart H because no performance test required by subpart H.

(h) *Waiver of performance tests*.

(1) Until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) Request to waive a performance test. **Sec. 63.103(b)(5) of subpart F specifies provisions for requests to waive performance tests.**

(4) Approval of request to waive performance test. **[Reserved]**

(5) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.8 Monitoring requirements.

(a) *Applicability.*

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) **[Reserved]**

(3) [Reserved]

(4) Additional monitoring requirements for control devices used to comply with provisions in relevant standards of this part are specified in § 63.11.

(b) *Conduct of monitoring.*

(1) Monitoring shall be conducted as set forth in this section and the relevant standard(s) unless the Administrator -

(i) Specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures (see § 63.90(a) for definition); or (ii) Approves the use of an intermediate or major change or alternative to any monitoring requirements or procedures (see § 63.90(a) for definition).

(iii) Owners or operators with flares subject to § 63.11(b) are not subject to the requirements of this section unless otherwise specified in the relevant standard.

(2) **Subparts G and H specify locations to conduct monitoring.**

(3) When more than one CMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CMS. However, when one CMS is used as a backup to another CMS, the owner or operator shall report the results from the CMS used to meet the monitoring requirements of this part. If both such CMS are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CMS for the relevant compliance period.

(c) Operation and maintenance of continuous monitoring systems.

(1) The owner or operator of an affected source shall maintain and operate each CMS as specified in this section, or in a relevant standard, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of an affected source must maintain and operate each CMS as specified in § 63.6(e)(1).

(ii) **For subpart G, submit as part of periodic report required by Sec. 63.152 ©; for subpart H, retain as required by Sec. 63.181(g)(2)(ii).**

(iii) The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan for CMS as specified in § 63.6(e)(3).

(2) (i) All CMS must be installed such that representative measures of emissions or process parameters from the affected source are obtained. In addition, CEMS must be located according to procedures contained in the applicable performance specification(s).

(ii) Unless the individual subpart states otherwise, the owner or operator must ensure the read out (that portion of the CMS that provides a visual display or record), or other indication of operation, from any CMS required for compliance with the emission standard is readily accessible on site for operational control or inspection by the operator of the equipment.

(3) All CMS shall be installed, operational, and the data verified as specified in the relevant standard either prior to or in conjunction with conducting performance tests under § 63.7. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(4) **Subpart G specifies monitoring frequency by kind of emission point and control technology used (e.g. Sec. 63.111, Sec. 63.120(d)(2) and Sec. 63.152(f)); subpart H does not require use of continuous monitoring systems.**

(5)-(8) [Reserved]

(d) *Quality control program.*

[Reserved]

(e) *Performance evaluation of continuous monitoring systems* -

[Reserved]

(f) *Use of an alternative monitoring method* -

(1) *General*. Until permission to use an alternative monitoring procedure (minor, intermediate, or major changes; see definition in § 63.90(a)) has been granted by the Administrator under this paragraph (f)(1), the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this part including, but not limited to, the following:

(i) Alternative monitoring requirements when installation of a CMS specified by a relevant standard would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases;

(ii) Alternative monitoring requirements when the affected source is infrequently operated;

(iii) Alternative monitoring requirements to accommodate CEMS that require additional measurements to correct for stack moisture conditions;

(iv) Alternative locations for installing CMS when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;

(v) Alternate methods for converting pollutant concentration measurements to units of the relevant standard;

(vi) Alternate procedures for performing daily checks of zero (low-level) and high-level drift that do not involve use of high-level gases or test cells;

(vii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified by any relevant standard;

(viii) Alternative CMS that do not meet the design or performance requirements in this part, but adequately demonstrate a definite and consistent relationship between their measurements and the measurements of opacity by a system complying with the requirements as specified in the relevant standard. The Administrator may require that such demonstration be performed for each affected source; or

(ix) Alternative monitoring requirements when the effluent from a single affected source or the combined effluent from two or more affected sources is released to the atmosphere through more than one point.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section or in the relevant standard. If the results of the specified and alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4) (i) *Request to use alternative monitoring procedure.* **Timeframe for submitting request specified in Sec. 63.151(f) or (g) of subpart G; not applicable to subpart H because subpart h specifies acceptable alternative methods.**

(ii) The application must contain a description of the proposed alternative monitoring system which addresses the four elements contained in the definition of monitoring in § 63.2 and a performance evaluation test plan, if required, as specified in paragraph (e)(3) of this section. In addition, the application must include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) **[Reserved]**

(iv) Application for minor changes to monitoring procedures, as specified in paragraph (b)(1) of this section, may be made in the site-specific performance evaluation plan.

(5) *Approval of request to use alternative monitoring procedure.*

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. If a request for a minor change is made in conjunction with site-specific performance evaluation plan, then approval of the plan will constitute approval of the minor change. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with --

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of

his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) **[Reserved]**

(iii) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (f)(5)(i) of this section, the owner or operator of such source shall continue to use the alternative monitoring method until he or she receives approval from the Administrator to use another monitoring method as allowed by § 63.8(f).

(6) Alternative to the relative accuracy test. **Subparts G and H do not require continuous emission monitoring.**

(g) *Reduction of monitoring data.* **Data reduction procedures specified in Sec. 63.152(f) and (g) of subpart G; not applicable to subpart H.**

§ 63.9 Notification requirements.

(a) *Applicability and general information*.

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a notice that contains all the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

(4) (i) Before a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each notification submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any notifications at its discretion.

(b) *Initial notifications*.

(1) **Specified in Sec. 63.151(b)(2) of Subpart G; in Sec. 63.182(b) of subpart H.**

(2) **Initial Notification provisions are specified in Sec. 63.151(b) of Subpart G; in Sec. 63.182(b) of subpart H.**

(3) [Reserved]

(4) **Except that the notification in Sec. 63.9(b)(4)(i) shall be submitted at the time specified in Sec. 63.151(b)(2)(ii) of subpart G; in Sec. 63.182(b)(2) of subpart H.** The owner or operator of a new or reconstructed major affected source for which an application for approval of construction or reconstruction is required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such that the source becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i); and

(ii) [Reserved]

(iii) [Reserved]

(iv) [Reserved]; and

(v) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(5) **Except that the notification in Sec. 63.9(b)(5) shall be submitted at the time specified in Sec. 63.151(b)(2)(ii) of subpart G; in Sec. 63.182(b)(2) of subpart H.** The owner or operator of a new or reconstructed affected source for which an application for approval of construction or reconstruction is not required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new affected source, reconstruct an affected source, or reconstruct a source such that the source becomes an affected source, and

(ii) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(iii) Unless the owner or operator has requested and received prior permission from the Administrator to submit less than the information in § 63.5(d), the notification must include the information required on the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i).

(c) *Request for extension of compliance*. If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with § 63.6(i)(5) of this subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in § 63.6(i)(4) through § 63.6(i)(6).

(d) *Notification that source is subject to special compliance requirements*. An owner or operator of a new source that is subject to special compliance requirements as specified in § 63.6(b)(3) and § 63.6(b)(4) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in paragraph (b) of this section for new sources that are not subject to the special provisions.

(e) *Notification of performance test*. **[Reserved]**

(f) *Notification of opacity and visible emission observations*. **[Reserved]**

(g) *Additional notification requirements for sources with continuous monitoring systems*.

[Reserved]

(h) *Notification of compliance status.*

Sec. 63.152(b) of subpart G and 63.182(c) of subpart H specify Notification of Compliance Status requirements.

(i) *Adjustment to time periods or postmark deadlines for submittal and review of required communications.*

(1) (i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (i)(2) and (i)(3) of this section, the owner or operator of an affected source remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (i)(2) and (i)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or

operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

(j) *Change in information already provided*. **[Reserved]**

§ 63.10 Recordkeeping and reporting requirements.

(a) *Applicability and general information*.

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a report that contains all the information required in a report listed in this section, an owner or operator may send the Administrator a copy of the report sent to the State to satisfy the requirements of this section for that report.

(4) (i) Before a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each report submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any reports at its discretion.

(5) If an owner or operator of an affected source in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such source under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. For each relevant standard established pursuant to section 112 of the Act, the allowance in the previous sentence applies in each State beginning 1 year after the affected source's compliance date for that standard. Procedures governing the implementation of this provision are specified in § 63.9(i).

(6) If an owner or operator supervises one or more stationary sources affected by more than one standard established pursuant to section 112 of the Act, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required for each source shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the latest compliance date for any relevant

standard established pursuant to section 112 of the Act for any such affected source(s). Procedures governing the implementation of this provision are specified in § 63.9(i).

(7) If an owner or operator supervises one or more stationary sources affected by standards established pursuant to section 112 of the Act (as amended November 15, 1990) and standards set under part 60, part 61, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required by each relevant (i.e., applicable) standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the relevant section 112 standard, or 1 year after the stationary source is required to be in compliance with the applicable part 60 or part 61 standard, whichever is latest. Procedures governing the implementation of this provision are specified in § 63.9(i).

(b) *General recordkeeping requirements*.

(1) **Sec. 63.103(c) of subpart F specifies record retention requirements.**

(2) **Sec. 63.103(c) of subpart F specifies required records.**

(3) *Recordkeeping requirement for applicability determinations.* **[Reserved]**

(c) *Additional recordkeeping requirements for sources with continuous monitoring systems*.

[Reserved]

(d) *General reporting requirements*.

(1) **[Reserved]**

(2) *Reporting results of performance tests*. **Sec. 152.(b) of subpart G specifies record retention requirements.**

(3) *Reporting results of opacity or visible emission observations.* **[Reserved]**

(4) *Progress reports*. The owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under § 63.6(i) shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

(5) (i) Periodic startup, shutdown, and malfunction reports. **Except that reports required by Sec. 63.10(d)(5) shall be submitted at the time specified in Sec. 63.152(d) of subpart G and in Sec. 63.182(d) in Subpart H.** If actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (see Sec. 63.6(e)(3)), the owner or operator shall state such information in a startup, shutdown, and malfunction report. Such a report shall identify any instance where any action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the affected source's startup, shutdown, and malfunction plan, but the source does not exceed any applicable emission limitation in the relevant emission standard. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually (or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit). The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system

performance (or other) reports. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in paragraph (e)(3) of this section.

(ii) Immediate startup, shutdown, and malfunction reports. Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under paragraph (d)(5)(i) of this section, any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this paragraph (d)(5)(ii) shall consist of a telephone call (or facsimile (FAX) transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred. Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph (d)(5)(ii) are specified in Sec. 63.9(i).

(e) *Additional reporting requirements for sources with continuous monitoring systems* -

[Reserved]

(f) *Waiver of recordkeeping or reporting requirements.*

(1) Until a waiver of a recordkeeping or reporting requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Recordkeeping or reporting requirements may be waived upon written application to the Administrator if, in the Administrator’s judgment, the affected source is achieving the relevant standard(s), or the source is operating under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) If an application for a waiver of record-keeping or reporting is made, the application shall accompany the request for an extension of compliance under § 63.6(i), any required compliance progress report or compliance status report required under this part (such as under § 63.6(i) and § 63.9(h)) or in the source’s title V permit, or an excess emissions and continuous monitoring system performance report required under paragraph (e) of this section, whichever is applicable. The application shall include whatever information the owner or operator considers useful to convince the Administrator that a waiver of recordkeeping or reporting is warranted.

(4) The Administrator will approve or deny a request for a waiver of recordkeeping or reporting requirements under this paragraph when he/she -

(i) Approves or denies an extension of compliance; or

(ii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iii) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) A waiver of any recordkeeping or reporting requirement granted under this paragraph may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator.

(6) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.11 Control device requirements.

(a) *Applicability*. The applicability of this section is set out in Sec. 63.1(a)(4).

(b) Flares.

(1) Owners or operators using flares to comply with the provisions of this part shall monitor these control devices to assure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators using flares shall monitor these control devices.

(2) Flares shall be steam-assisted, air-assisted, or non-assisted.

(3) Flares shall be operated at all times when emissions may be vented to them.

(4) Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Test Method 22 in appendix A of part 60 of this chapter shall be used to determine the compliance of flares with the visible emission provisions of this part. The observation period is 2 hours and shall be used according to Method 22.

(5) Flares shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(6) An owner/operator has the choice of adhering to the heat content specifications in paragraph (b)(6)(ii) of this section, and the maximum tip velocity specifications in paragraph (b)(7) or (b)(8) of this section, or adhering to the requirements in paragraph (b)(6)(i) of this section.

(i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity V_{max}, as determined by the following equation:

$$V_{max} = (X_{H2} - K_1) * K_2$$

Where:

V_{max} = Maximum permitted velocity, m/sec.

K_1 = Constant, 6.0 volume-percent hydrogen.

K_2 = Constant, 3.9 (m/sec)/volume-percent hydrogen.

X_{H2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 63.14).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(7)(i) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

Where:
H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.
K = Constant = 1.740×10^{-7} (1/ppmv)(g-mole/scm)(MJ/kcal); where the standard temperature for (g-mole/scm) is 20 °C.
C_i = Concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946–77 or 90 (Reapproved 1994) (incorporated by reference as specified in § 63.14).
H_i = Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809-95. (incorporated by reference as specified in § 63.14) if published values are not available or cannot be calculated.
n = Number of sample components.

(7) (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60 of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, less than the velocity V_{max}, as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, V_{max}, for flares complying with this paragraph shall be determined by the following equation:

$$\mathrm{Log}_{10}(V_{max})=(H_T+28.8)/31.7$$

Where:
V_{max} = Maximum permitted velocity, m/sec.
28.8 = Constant.
31.7 = Constant.
H_T = The net heating value as determined in paragraph (b)(6) of this section.

(8) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max}. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation:

$$V_{max} = 8.71 + 0.708(H_T)$$

Where:
V_{max} = Maximum permitted velocity, m/sec.
8.71 = Constant.
0.708 = Constant.
H_T = The net heating value as determined in paragraph (b)(6)(ii) of this section.

§ 63.12 State authority and delegations.

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from -

(1) Adopting and enforcing any standard, limitation, prohibition, or other regulation applicable to an affected source subject to the requirements of this part, provided that such standard, limitation, prohibition, or regulation is not less stringent than any requirement applicable to such source established under this part;

(2) Requiring the owner or operator of an affected source to obtain permits, licenses, or approvals prior to initiating construction, reconstruction, modification, or operation of such source; or

(3) Requiring emission reductions in excess of those specified in subpart D of this part as a condition for granting the extension of compliance authorized by section 112(i)(5) of the Act.

(b) (1) Section 112(l) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards and other requirements pursuant to section 112 for stationary sources located in that State. Because of the unique nature of radioactive material, delegation of authority to implement and enforce standards that control radionuclides may require separate approval.

(2) Subpart E of this part establishes procedures consistent with section 112(l) for the approval of State rules or programs to implement and enforce applicable Federal rules promulgated under the authority of section 112. Subpart E also establishes procedures for the review and withdrawal of section 112 implementation and enforcement authorities granted through a section 112(l) approval.

(c) All information required to be submitted to the EPA under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act, provided that each specific delegation may exempt sources from a certain Federal or State reporting requirement. The Administrator may permit all or some of the information to be submitted to the appropriate State agency only, instead of to the EPA and the State agency.

§ 63.13 Addresses of State air pollution control agencies and EPA Regional Offices.

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted to the appropriate Regional Office of the U.S. Environmental Protection Agency indicated as follows:

EPA Region IV; Director; Air, Pesticides and Toxics, Management Division; Atlanta Federal Center, 61 Forsyth Street; Atlanta, GA 30303.

(b) All information required to be submitted to the Administrator under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act. The owner or operator of an affected source may contact the appropriate EPA Regional Office for the mailing addresses for those States whose delegation requests have been approved.

(c) If any State requires a submittal that contains all the information required in an application, notification, request, report, statement, or other communication required in this part, an owner or operator may send the appropriate Regional Office of the EPA a copy of that submittal to satisfy the requirements of this part for that communication.

§ 63.14 Incorporations by reference.

(a) The materials listed in this section are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the Federal Register. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC, at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC, and at the EPA Library (MD-35), U.S. EPA, Research Triangle Park, North Carolina.

(b) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

(1) ASTM D523-89, Standard Test Method for Specular Gloss, IBR approved for § 63.782.

(2) ASTM D1193-77, 91, Standard Specification for Reagent Water, IBR approved for Appendix A: Method 306, Sections 7.1.1 and 7.4.2.

(3) ASTM D1331-89, Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface Active Agents, IBR approved for Appendix A: Method 306B, Sections 6.2, 11.1, and 12.2.2.

(4) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for § 63.788, Appendix A.

(5) ASTM D1946-77, 90, 94, Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for § 63.11(b)(6).

(6) ASTM D2369-93, 95, Standard Test Method for Volatile Content of Coatings, IBR approved for § 63.788, Appendix A.

(7) ASTM D2382-76, 88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for § 63.11(b)(6).

(8) ASTM D2879-83, 96, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for § 63.111 of Subpart G.

(9) ASTM D3257-93, Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography, IBR approved for § 63.786(b).

(10) ASTM 3695-88, Standard Test Method for Volatile Alcohols in Water by Direct Aqueous-Injection Gas Chromatography, IBR approved for § 63.365(e)(1) of Subpart O.

(11) ASTM D3792-91, Standard Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for § 63.788, Appendix A.

(12) ASTM D3912-80, Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(13) ASTM D4017-90, 96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for § 63.788, Appendix A.

(14) ASTM D4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(15) ASTM D4256-89, 94, Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(16) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for § 63.11(b)(6).

(17) ASTM E180-93, Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals, IBR approved for § 63.786(b).

(18) ASTM E260-91, 96, General Practice for Packed Column Gas Chromatography, IBR approved for §§ 63.750(b)(2) and 63.786(b)(5).

(19) Reserved

(20) Reserved

(21) ASTM D2099-00, Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Maeser Water Penetration Tester, IBR approved for § 63.5350.

(24) ASTM D2697-86(1998) (Reapproved 1998), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, IBR approved for §§63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(25) ASTM D6093-97, Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, IBR approved for §§63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(26) ASTM D1475-98, Standard Test Method for Density of Liquid Coatings, Inks, and Related Products, IBR approved for §§ 63.4141(b)(3) and 63.4141(c).

(27) ASTM D 6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide and Oxygen concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process heaters Using Portable Analyzers, IBR approved for Sec. 63.9307(c)(2).

(28) [Reserved]

(29) ASTM D6420-99, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, IBR approved for §§ 63.5799 and 63.5850.

(c) The materials listed below are available for purchase from the American Petroleum Institute (API), 1220 L Street, NW., Washington, DC 20005.

(1) API Publication 2517, Evaporative Loss from External Floating-Roof Tanks, Third Edition, February 1989, IBR approved for § 63.111 of subpart G of this part.

(2) API Publication 2518, Evaporative Loss from Fixed-roof Tanks, Second Edition, October 1991, IBR approved for § 63.150(g)(3)(i)(C) of subpart G of this part.

(3) API Manual of Petroleum Measurement Specifications (MPMS) Chapter 19.2, Evaporative Loss From Floating-Roof Tanks (formerly API Publications 2517 and 2519), First Edition, April 1997, IBR approved for § 63.1251 of subpart GGG of this part.

(d) *State and Local Requirements.* The materials listed below are available at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC.

(1) *California Regulatory Requirements Applicable to the Air Toxics Program,* January 5, 1999, IBR approved for § 63.99(a)(5)(ii) of subpart E of this part.

(2) New Jersey's *Toxic Catastrophe Prevention Act Program*, (July 20, 1998), Incorporation By Reference approved for § 63.99 (a)(30)(i) of subpart E of this part.

(3) (i) Letter of June 7, 1999 to the U.S. Environmental Protection Agency Region 3 from the Delaware Department of Natural Resources and Environmental Control requesting formal full delegation to take over primary responsibility for implementation and enforcement of the Chemical Accident Prevention Program under Section 112(r) of the Clean Air Act Amendments of 1990.

(ii) Delaware Department of Natural Resources and Environmental Control, Division of Air and Waste Management, Accidental Release Prevention Regulation, sections 1 through 5 and sections 7 through 14, effective January 11, 1999, IBR approved for § 63.99(a)(8)(i) of subpart E of this part.

(iii) State of Delaware Regulations Governing the Control of Air Pollution (October 2000), IBR approved for § 63.99(a)(8)(ii)-(v) of subpart E of this part.

(e) The materials listed below are available for purchase from the National Institute of Standards and Technology, Springfield, VA 22161, (800) 553-6847.

(1) Handbook 44, Specificiations, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998, IBR approved for § 63.1303(e)(3).

(2) [Reserved]

(f) The following material is available from the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), P. O. Box 133318, Research Triangle Park, NC 27709-3318 or at http://www.ncasi.org: NCASI Method DI/MEOH-94.02, Methanol in Process Liquids GC/FID (Gas Chromatography/Flame Ionization Detection), August 1998, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for § 63.457(c)(3)(ii) of subpart S of this part.

(g) The materials listed below are available for purchase from AOAC International, Customer Services, Suite 400, 2200 Wilson Boulevard, Arlington, Virginia, 22201-3301, Telephone (703) 522-3032, Fax (703) 522-5468.

(1) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(2) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(3) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(4) AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample Solution, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(5) AOAC Official Method 929.01 Sampling of Solid Fertilizers, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(6) AOAC Official Method 929.02 Preparation of Fertilizer Sample, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(7) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(h) The materials listed below are available for purchase from The Association of Florida Phosphate Chemists, P.O. Box 1645, Bartow, Florida, 33830, Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists, Seventh Edition 1991, IBR.

(1) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(2) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus -- P2O5 or Ca3(PO4)2, Method A-Volumetric Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(3) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method B -- Gravimetric Quimociac Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(4) Section IX, Methods of Analysis For Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method C -- Spectrophotometric Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(5) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method A -- Volumetric Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(6) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method B -- Gravimetric Quimociac Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(7) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method C -- Spectrophotometric Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(i) The following materials are available for purchase from at least one of the following addresses: ASME International, Orders/Inquiries, P.O. Box 2900, Fairfield, NJ 07007-2900; or Global Engineering Documents, Sales Department, 15 Inverness Way East,
Englewood, CO 80112.

(1) ASME standard number QHO-1-1994, ``Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators," IBR approved for Sec. 63.1206(c)(6)(iii).

(2) ASME standard number QHO-1a-1996 Addenda to QHO-1-1994, ``Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators," IBR approved for Sec. 63.1206(c)(6)(iii).

(3) ANSI/ASME PTC 19.10-1981, ``Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]," IBR approved for Sec. Sec. 63.865(b), 63.3360(e)(1)(iii), 63.4166(a)(3), 63.4362(a)(3), 63.4766(a)(3), 63.4965(a)(3), 63.5160(d)(1)(iii), 63.9307(c)(2), and 63.9323(a)(3).

(j) [Reserved]

(k) The following material may be obtained from U.S. EPA, Office of Solid Waste (5305W), 1200 Pennsylvania Avenue, NW., Washington, DC 20460:

(1) Method 9071B, ``n-Hexane Extractable Material(HEM) for Sludge, Sediment, and Solid Samples," (Revision 2, April 1998) as published in EPA Publication SW-846: ``Test Methods for Evaluating Solid Waste, Physical/Chemical Methods." The incorporation by reference of Method 9071B is approved for Section 63.7824(e) of Subpart FFFFF of this part.

§ 63.15 Availability of information and confidentiality.

(a) *Availability of information*.

(1) With the exception of information protected through part 2 of this chapter, all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), notification of compliance status, excess emissions and continuous monitoring systems performance report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.

(2) The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.

(b) *Confidentiality*.

(1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.

(2) The contents of a title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a title V permit may be entitled to protection from disclosure.

{Last updated 6/25/03}

Subpart H - National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks

§ 63.160 Standards: Applicability
§ 63.161 Standards: Definitions
§ 63.162 Standards: General;
§ 63.163 Standards: Pumps in light liquid service;
§ 63.164 Standards: Compressors;
§ 63.165 Standards: Pressure relief devices in gas/vapor service;
§ 63.166 Standards: Sampling connection systems;
§ 63.167 Standards: Open-ended valves or lines;
§ 63.168 Standards: Valves in gas/vapor service and in light liquid service;
§ 63.169 Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service;
§ 63.170 Standards: Surge control vessels and bottoms receivers;
§ 63.171 Standards: Delay of repair;
§ 63.172 Standards: Closed-vent systems and control devices;
§ 63.173 Standards: Agitators in gas/vapor service and in light liquid service;
§ 63.174 Standards: Connectors in gas/vapor service and in light liquid service;
§ 63.175 Quality improvement program for valves;
§ 63.176 Quality improvement program for pumps;
§ 63.177 Alternative means of emission limitation: General;
§ 63.178 Alternative means of emission limitation: Batch processes;
§ 63.179 Alternative means of emission limitation: Enclosed-vented process units;
§ 63.180 Test methods and procedures;
§ 63.181 Recordkeeping requirements;
§ 63.182 Reporting requirements.
§63.183 Implementation and enforcement.

Tables and Appendix
Table 1 to Subpart H- Batch Processes
Table 2 to Subpart H- Surge Control Vessels and Bottom Receivers at Existing Sources
Table 3 to Subpart H- Surge Control Vessels and Bottom Receivers at New Sources
Appendix to Subpart H- General Provisions for Subpart F, G, and H

§ 63.160 Applicability and designation of source.

(a) The provisions of this subpart apply to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems, and control devices or systems required by this subpart that are intended to operate in organic hazardous air pollutant service 300 hours or more during the calendar year within a source subject to the provisions of a specific subpart in 40 CFR part 63 that references this subpart.

(b) After the compliance date for a process unit, equipment to which this subpart applies that are also subject to the provisions of:

(1) 40 CFR part 60 will be required to comply only with the provisions of this subpart.

(2) 40 CFR part 61 will be required to comply only with the provisions of this subpart.

(c) If a process unit subject to the provisions of this subpart has equipment to which this subpart does not apply, but which is subject to a standard identified in paragraph (c)(1), (c)(2), or (c)(3) of this section, the owner or operator may elect to apply this subpart to all such equipment in the process unit. If the owner or operator elects this method of compliance, all VOC in such equipment shall be considered, for purposes of applicability and compliance with this subpart, as if it were organic hazardous air pollutant (HAP). Compliance with the provisions of this subpart, in the manner described in this paragraph, shall be deemed to constitute compliance with the standard identified in paragraph (c)(1), (c)(2), or (c)(3) of this section.

(1) 40 CFR part 60, subpart VV, GGG, or KKK;

(2) 40 CFR part 61, subpart F or J; or

(3) 40 CFR part 264, subpart BB or 40 CFR part 265, subpart BB.

(4) [Reserved]

(d) The provisions in § 63.1(a)(3) of subpart A of this part do not alter the provisions in paragraph (b) of this section.

(e) Except as provided in any subpart that references this subpart, lines and equipment not containing process fluids are not subject to the provisions of this subpart. Utilities, and other non-process lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process unit.

(f) The provisions of this subpart do not apply to research and development facilities or to bench-scale batch processes, regardless of whether the facilities or processes are located at the same plant site as a process subject to the provisions of this subpart.

(g) Alternative means of compliance.

(1) Option to comply with part 65. Owners or operators of CMPU that are subject to § 63.100 may choose to comply with the provisions of 40 CFR part 65 for all Group 1 and Group 2 process vents, Group 1 storage vessels, Group 1 transfer operations, and equipment that are subject to § 63.100, that are part of the CMPU. Other provisions applying to an owner or operator who chooses to comply with 40 CFR part 65 are provided in 40 CFR 65.1.

(i) For equipment, 40 CFR part 65 satisfies the requirements of §§ 63.102m 63.10, 63.162 through 63.182. When choosing to comply with 40 CFR part 65, the requirements of § 63.180(d) continue to apply.

(ii) For Group 1 and Group 2 process vents, Group 1 storage vessels, and Group 1 transfer operation, comply with § 63.110(i)(1).

(2) Part 65, subpart C or F. For owners or operators choosing to comply with 40 CFR part 65, each surge control vessel and bottoms receiver subject to § 63.100 that meets the conditions specified in table 2 or table 3 of this subpart shall meet the requirements for storage vessels in 40 CFR part 65, subpart C; all other equipment subject to § 63.100 shall meet the requirements in 40 CFR part 65, subpart F.

(3) Part 63, subpart A. Owners or operators who choose to comply with 40 CFR part 65, subpart C or F, for equipment subject to § 63.100 must also comply with te applicable general provisions of this part 63 listed in table 4 of this subpart. All sections and paragraphs of subpart A of this part that are not mentioned in Table 4 of this subpart do not apply to owners or operators of equipment subject to § 63.100 of subpart F complying with 40 CFR part 65, subpart C or F, except that provisions required to be met prior to implementing 40 CFR part 65 still

apply. Owners or operators who choose to comply with 40 CFR part 65, subpart C or F, must comply with 40 CFR part 65, subpart A.

§ 63.161 Definitions.

All terms used in this subpart shall have the meaning given them in the Act and in this section as follows, except as provided in any subpart that references this subpart.

Batch process means a process in which the equipment is fed intermittently or discontinuously. Processing then occurs in this equipment after which the equipment is generally emptied. Examples of industries that use batch processes include pharmaceutical production and pesticide production.

Batch product-process equipment train means the collection of equipment (e.g., connectors, reactors, valves, pumps, etc.) configured to produce a specific product or intermediate by a batch process.

Bench-scale batch process means a batch process (other than a research and development facility) that is operated on a small scale, such as one capable of being located on a laboratory bench top. This bench-scale equipment will typically include reagent feed vessels, a small reactor and associated product separator, recovery and holding equipment. These processes are only capable of producing small quantities of product.

Bottoms receiver means a tank that collects distillation bottoms before the stream is sent for storage or for further downstream processing.

Closed-loop system means an enclosed system that returns process fluid to the process and is not vented to the atmosphere except through a closed-vent system.

Closed-purge system means a system or combination of system and portable containers, to capture purged liquids. Containers must be covered or closed when not being filled or emptied.

Closed-vent system means a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back into a process.

Combustion device means an individual unit of equipment, such as a flare, incinerator, process heater, or boiler, used for the combustion of organic hazardous air pollutant emissions.

Compliance date means the dates specified in § 63.100(k) or § 63.100(l)(3) of subpart F of this part for process units subject to subpart F of this part; the dates specified in § 63.190(e) of subpart I of this part for process units subject to subpart I of this part. For sources subject to other subparts in 40 CFR part 63 that reference this subpart, compliance date will be defined in those subparts. However, the compliance date for § 63.170 shall be no later than 3 years after the effective date of those subparts unless otherwise specified in such other subparts.

Connector means flanged, screwed, or other joined fittings used to connect two pipe lines or a pipe line and a piece of equipment. A common connector is a flange. Joined fittings welded completely around the circumference of the interface are not considered connectors for the purpose of this regulation. For the purpose of reporting and recordkeeping, connector means joined fittings that are not inaccessible, glass, or glass-lined as described in § 63.174(h) of this subpart.

Control device means any equipment used for recovering, recapturing, or oxidizing organic hazardous air pollutant vapors. Such equipment includes, but is not limited to, absorbers, carbon adsorbers, condensers, flares, boilers, and process heaters.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Duct work means a conveyance system such as those commonly used for heating and ventilation systems. It is often made of sheet metal and often has sections connected by screws or crimping. Hard-piping is not ductwork.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, surge control vessel, bottoms receiver, and instrumentation system in organic hazardous air pollutant service; and any control devices or systems required by this subpart.

First attempt at repair means to take action for the purpose of stopping or reducing leakage of organic material to the atmosphere, followed by monitoring as specified in §63.180(b) and (c), as appropriate, to verify whether the leak is repaired, unless the owner or operator determines by other means that the leak is not repaired.

Flow indicator means a device which indicates whether gas flow is, or whether the valve position would allow gas flow to be, present in a line.

Fuel gas means gases that are combusted to derive useful work or heat.

Fuel gas system means the offsite and onsite piping and control system that gathers gaseous stream(s) generated by onsite operations, may blend them with other sources of gas, and transports the gaseous stream for use as fuel gas in combustion devices or in in-process combustion equipment such as furnaces and gas turbines, either singly or in combination.

Hard-piping means pipe or tubing that is manufactured and properly installed using good engineering judgement and standards, such as ANSI B31–3.

In food/medical service means that a piece of equipment in organic hazardous air pollutant service contacts a process stream used to manufacture a Food and Drug Administration regulated product where leakage of a barrier fluid into the process stream would cause any of the following:

(1) A dilution of product quality so that the product would not meet written specifications,

(2) An exothermic reaction which is a safety hazard,

(3) The intended reaction to be slowed down or stopped, or

(4) An undesired side reaction to occur.

In gas/vapor service means that a piece of equipment in organic hazardous air pollutant service contains a gas or vapor at operating conditions.

In heavy liquid service means that a piece of equipment in organic hazardous air pollutant service is not in gas/vapor service or in light liquid service.

In light liquid service means that a piece of equipment in organic hazardous air pollutant service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20 °C,

(2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20 °C is equal to or greater than 20 percent by weight of the total process stream, and

(3) The fluid is a liquid at operating conditions.

NOTE: Vapor pressures may be determined by the methods described in 40 CFR 60.485(e)(1).

In liquid service means that a piece of equipment in organic hazardous air pollutant service is not in gas/vapor service.

In organic hazardous air pollutant or *in organic*

HAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP's as determined according to the

provisions of § 63.180(d) of this subpart. The provisions of § 63.180(d) of this subpart also specify how to determine that a piece of equipment is not in organic HAP service.

In vacuum service means that equipment is operating at an internal pressure which is at least 5 kilopascals below ambient pressure.

In volatile organic compound or *in VOC service* means, for the purposes of this subpart, that:

(1) The piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight (see 40 CFR 60.2 for the definition of VOC, and 40 CFR 60.485(d) to determine whether a piece of equipment is not in VOC service); and

(2) The piece of equipment is not in heavy liquid service as defined in 40 CFR 60.481.

In-situ sampling systems means nonextractive samplers or in-line samplers.

Initial start-up means the first time a new or reconstructed source begins production. Initial start-up does not include operation solely for testing equipment. Initial start-up does not include subsequent start-ups (as defined in this section) of process units following malfunctions or process unit shutdowns.

Instrumentation system means a group of equipment components used to condition and convey a sample of the process fluid to analyzers and instruments for the purpose of determining process operating conditions (e.g., composition, pressure, flow, etc.). Valves and connectors are the predominant type of equipment used in instrumentation systems; however, other types of equipment may also be included in these systems. Only valves nominally 0.5 inches and smaller, and connectors nominally 0.75 inches and smaller in diameter are considered instrumentation systems for the purposes of this subpart. Valves greater than nominally 0.5 inches and connectors greater than nominally 0.75 inches associated with instrumentation systems are not considered part of instrumentation systems and must be monitored individually.

Liquids dripping means any visible leakage from the seal including dripping, spraying, misting, clouding, and ice formation. Indications of liquid dripping include puddling or new stains that are indicative of an existing evaporated drip.

Nonrepairable means that it is technically infeasible to repair a piece of equipment from which a leak has been detected without a process unit shutdown.

On-site or *On site* means, with respect to records required to be maintained by this subpart, that the records are stored at a location within a major source which encompasses the affected source. On-site includes, but is not limited to, storage at the chemical manufacturing process unit to which the records pertain, or storage in central files elsewhere at the major source.

Open-ended valve or line means any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Polymerizing monomer means a molecule or compound usually containing carbon and of relatively low molecular weight and simple structure (e.g., hydrogen cyanide, acrylonitrile, styrene), which is capable of conversion to polymers, synthetic resins, or elastomers by combination with itself due to heat generation caused by a pump mechanical seal surface, contamination by a seal fluid (e.g., organic peroxides or chemicals that will form organic peroxides), or a combination of both with the resultant polymer buildup causing rapid mechanical seal failure.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device. This release can be one release or a series of releases over a short time period due to a malfunction in the process.

Pressure relief device or valve means a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment. A common pressure relief device is a spring-loaded pressure relief valve. Devices that are actuated either by a pressure of less than or equal to 2.5 psig or by a vacuum are not pressure relief devices.

Process unit means a chemical manufacturing process unit as defined in subpart F of this part, a process subject to the provisions of subpart I of this part, or a process subject to another subpart in 40 CFR part 63 that references this subpart.

Process unit shutdown means a work practice or operational procedure that stops production from a process unit or part of a process unit during which it is technically feasible to clear process material from a process unit or part of a process unit consistent with safety constraints and during which repairs can be effected. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. An unscheduled work practice or operational procedure that would stop production from a process unit or part of a process unit for a shorter period of time than would be required to clear the process unit or part of the process unit of materials and start up the unit, and would result in greater emissions than delay of repair of leaking components until the next scheduled process unit shutdown, is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

Recapture device means an individual unit of equipment capable of and used for the purpose of recovering chemicals, but not normally for use, reuse, or sale. Recapture devices include, but are not limited to, absorbers, carbon absorbers, and condensers.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use or reuse. Recovery devices include, but are not limited to, absorbers, carbon absorbers, and condensers. For purposes of the monitoring, recordkeeping, and reporting requirements of this subpart, recapture devices are considered recovery devices.

Repaired means that equipment:

(1) Is adjusted, or otherwise altered, to eliminate a leak as defined in the applicable sections of this subpart, and

(2) Unless otherwise specified in applicable provisions of this subpart, is monitored as specified in § 63.180 (b) and (c), as appropriate, to verify that emissions from the equipment are below the applicable leak definition.

Routed to a process or route to a process means the emissions are conveyed by hard-piping or a closed vent system to any enclosed portion of a process unit where the emissions are predominately recycled and/or consumed in the same manner as a material that fulfills the same function in the process; and/or transformed by chemical reaction into materials that are not organic hazardous air pollutants; and/or incorporated into a product; and/or recovered.

Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. Equipment used to take non-routine grab samples is not considered a sampling connection system.

Screwed connector means a threaded pipe fitting where the threads are cut on the pipe wall and the fitting requires only two pieces to make the connection (i.e., the pipe and the fitting).

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Set pressure means the pressure at which a properly operating pressure relief device begins to open to relieve atypical process system operating pressure.

Start-up means the setting in operation of a piece of equipment or a control device that is subject to this subpart.

Surge control vessel means feed drums, recycle drums, and intermediate vessels. Surge control vessels are used within a process unit (as defined in the specific subpart that references this subpart) when in-process storage, mixing, or management of flow rates or volumes is needed to assist in production of a product.

§ 63.162 Standards: General.

(a) Compliance with this subpart will be determined by review of the records required by § 63.181 of this subpart and the reports required by § 63.182 of this subpart, review of performance test results, and by inspections.

(b) (1) An owner or operator may request a determination of alternative means of emission limitation to the requirements of §§ 63.163 through 63.170, and §§ 63.172 through 63.174 of this subpart as provided in § 63.177.

(2) If the Administrator makes a determination that a means of emission limitation is a permissible alternative to the requirements of §§ 63.163 through 63.170, and §§ 63.172 through 63.174 of this subpart, the owner or operator shall comply with the alternative.

(c) Each piece of equipment in a process unit to which this subpart applies shall be identified such that it can be distinguished readily from equipment that is not subject to this subpart. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process unit boundaries by some form of weatherproof identification.

(d) Equipment that is in vacuum service is excluded from the requirements of this subpart.

(e) Equipment that is in organic HAP service less than 300 hours per calendar year is excluded from the requirements of §§ 63.163 through 63.174 of this subpart and § 63.178 of this subpart if it is identified as required in § 63.181(j) of this subpart.

(f) When each leak is detected as specified in §§ 63.163 and 63.164; §§ 63.168 and 63.169; and §§ 63.172 through 63.174 of this subpart, the following requirements apply:

(1) Clearly identify the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored as specified in §§ 63.168(f)(3), and 63.175(e)(7)(i)(D) of this subpart, and no leak has been detected during the follow-up monitoring. If the owner or operator elects to comply using the provisions of §63.174(c)(1)(i) of this subpart, the identification on a connector may be removed after it is monitored as specified in § 63.174(c)(1)(i) and no leak is detected during that monitoring.

(3) The identification which has been placed on equipment determined to have a leak, except for a valve or for a connector that is subject to the provisions of § 63.174(c)(1)(i), may be removed after it is repaired.

(g) Except as provided in paragraph (g)(1) of this section, all terms in this subpart that define a period of time for completion of required tasks (e.g., weekly, monthly, quarterly, annual), refer to the standard calendar periods unless specified otherwise in the section or subsection that imposes the requirement.

(1) If the initial compliance date does not coincide with the beginning of the standard calendar period, an owner or operator may elect to utilize a period beginning on the compliance date, or may elect to comply in accordance with the provisions of paragraphs (g)(2) or (g)(3) of this section.

(2) Time periods specified in this subpart for completion of required tasks may be changed by mutual agreement between the owner or operator and the Administrator, as specified in subpart A of this part. For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(3) Except as provided in paragraph (g)(1) or (g)(2) of this section, where the period specified for compliance is a standard calendar period, if the initial compliance date does not coincide with the beginning of the calendar period, compliance shall be required according to the schedule specified in paragraphs (g)(3)(i) or (g)(3)(ii) of this section, as appropriate.

(i) Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs, if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(ii) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs.

(4) In all instances where a provision of this subpart requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during each period, provided the task is conducted at a reasonable interval after completion of the task during the previous period.

(h) In all cases where the provisions of this subpart require an owner or operator to repair leaks by a specified time after the leak is detected, it is a violation of this subpart to fail to take action to repair the leaks within the specified time. If action is taken to repair the leaks within the specified time, failure of that action to successfully repair the leak is not a violation of this subpart. However, if the repairs are unsuccessful, a leak is detected and the owner or operator shall take further action as required by applicable provisions of this subpart.

§ 63.163 Standards: Pumps in light liquid service.

(a) The provisions of this section apply to each pump that is in light liquid service.

(1) The provisions are to be implemented on the dates specified in the specific subpart in 40 CFR part 63 that references this subpart in the phases specified below:

(i) For each group of existing process units at existing sources subject to the provisions of subparts F or I of this part, the phases of the standard are:

(A) Phase I, beginning on the compliance date;

(B) Phase II, beginning no later than 1 year after the compliance date; and

(C) Phase III, beginning no later than 2 years after the compliance date.

(ii) For new sources subject to the provisions of subparts F or I of this part, the applicable phases of the standard are:

(A) After initial start-up, comply with the Phase II requirements; and

(B) Beginning no later than 1 year after initial start-up, comply with the Phase III requirements.

(2) The owner or operator of a source subject to the provisions of subparts F or I of this part may elect to meet the requirements of a later phase during the time period specified for an earlier phase.

(3) Sources subject to other subparts in 40 CFR part 63 that reference this subpart shall comply on the dates specified in the applicable subpart.

(b) (1) The owner or operator of a process unit subject to this subpart shall monitor each pump monthly to detect leaks by the method specified in § 63.180(b) of this subpart and shall comply with the requirements of paragraphs (a) through (d) of this section, except as provided in § 63.162(b) of this subpart and paragraphs (e) through (j) of this section.

(2) The instrument reading, as determined by the method as specified in § 63.180(b) of this subpart, that defines a leak in each phase of the standard is:

(i) For Phase I, an instrument reading of 10,000 parts per million or greater.

(ii) For Phase II, an instrument reading of 5,000 parts per million or greater.

(iii) For Phase III, an instrument reading of:

(A) 5,000 parts per million or greater for pumps handling polymerizing monomers;

(B) 2,000 parts per million or greater for pumps in food/medical service; and

(C) 1,000 parts per million or greater for all other pumps.

(3) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal,
a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (c)(3) of this section or § 63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

(i) Tightening of packing gland nuts.

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(3) For pumps in Phase III to which a 1,000 parts per million leak definition applies, repair is not required unless an instrument reading of 2,000 parts per million or greater is detected.

(d) (1) The owner or operator shall decide no later than the first monitoring period whether to calculate percent leaking pumps on a process unit basis or on a source-wide basis. Once the owner
or operator has decided, all subsequent percent calculations shall be made on the same basis.

(2) If, in Phase III, calculated on a 6-month rolling average, the greater of either 10 percent of the pumps in a process unit or three pumps in a process unit leak, the owner or operator shall implement a quality improvement program for pumps that complies with the requirements of § 63.176 of this subpart.

(3) The number of pumps at a process unit shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process unit within 1 month after start-up of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(4) Percent leaking pumps shall be determined by the following equation:

$$\%P_L = ((P_L - P_S)/(P_T - P_S)) \times 100$$

where:

$\%P_L$ = Percent leaking pumps

P_L = Number of pumps found leaking as determined through monthly monitoring as required in paragraphs (b)(1) and (b)(2) of this section.

P_T = Total pumps in organic HAP service, including those meeting the criteria in paragraphs (e) and (f) of this section.

P_S = Number of pumps leaking within 1 month of start-up during the current monitoring period.

(e) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraphs (a) through (d) of this section, provided the following requirements are met:

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of § 63.172 of this subpart; or

(iii) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(2) The barrier fluid is not in light liquid service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(i) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the pump shall be monitored as specified in § 63.180(b) of this subpart to determine if there is a leak of organic HAP in the barrier fluid.

(ii) If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected.

(5) Each sensor as described in paragraph (e)(3) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.

(6) (i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.

(ii) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (e)(6)(i) of this section, or if, based on the criteria established in paragraph (e)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(iii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 63.171 of this subpart.

(iv) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(f) Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of paragraphs (a) through (c) of this section.

(g) Any pump equipped with a closed-vent system capable of capturing and transporting any

leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of § 63.172 of this subpart is exempt from the requirements of paragraphs (b) through (e) of this section.

(h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(3) and (e)(4) of this section, and the daily requirements of paragraph (e)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.

(i) If more than 90 percent of the pumps at a process unit meet the criteria in either paragraph (e) or (f) of this section, the process unit is exempt from the requirements of paragraph (d) of this section.

(j) Any pump that is designated, as described in § 63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor pump is exempt from the requirements of paragraphs (b) through (e) of this section if:

(1) The owner or operator of the pump determines that the pump is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (b) through (d) of this section; and

(2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.

§ 63.164 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in § 63.162(b) of this subpart and paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of § 63.172 of this subpart; or

(3) Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

(c) The barrier fluid shall not be in light liquid service.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e) (1) Each sensor as required in paragraph (d) of this section shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) through (g) of this section if it is equipped with a closed-vent system to capture and transport leakage from the compressor drive shaft seal back to a process or a fuel gas system or to a control device that complies with the requirements of § 63.172 of this subpart.

(i) Any compressor that is designated, as described in § 63.181(b)(2)(ii) of this subpart, to operate with an instrument reading of less than 500 parts per million above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is demonstrated to be operating with an instrument reading of less than 500 parts per million above background, as measured by the method specified in § 63.180(c) of this subpart; and

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

§ 63.165 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with an instrument reading of less than 500 parts per million above background except as provided in paragraph (b) of this section, as measured by the method specified in § 63.180(c) of this subpart.

(b) (1) After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million above background, as soon as
practicable, but no later than 5 calendar days after each pressure release, except as provided in § 63.171 of this subpart.

(2) No later than 5 calendar days after the pressure release and being returned to organic HAP service, the pressure relief device shall be monitored to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in § 63.180(c) of this subpart.

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in § 63.172 of this subpart is exempt from the requirements of paragraphs (a) and (b) of this section.

(d) (1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 63.171 of this subpart.

§ 63.166 Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in § 63.162(b) of this subpart. Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport the purged process fluid to a control device that complies with the requirements of § 63.172 of this subpart; or

(4) Collect, store, and transport the purged process fluid to a system or facility identified in paragraph (b)(4)(i), (ii), or (iii) of this section.

(i) A waste management unit as defined in § 63.111 of subpart G of this part, if the waste management unit is subject to, and operated in compliance with the provisions of subpart G of this part applicable to group 1 wastewater streams. If the purged process fluid does not contain any organic HAP listed in Table 9 of subpart G of part 63, the waste management unit need not be subject to, and operated in compliance with the requirements of 40 CFR part 63, subpart G applicable to group 1 wastewater streams provided the facility has an NPDES permit or sends the wastewater to an NPDES permitted facility.

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(c) *In-situ* sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

§ 63.167 Standards: Open-ended valves or lines.

(a) (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 63.162(b) of this subpart and paragraphs (d) and (e) of this section.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.

(e) Open-ended valves or lines containing materials which would autocatalytically polymerize or, would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraph (a) through (c) of this section.

§ 63.168 Standards: Valves in gas/vapor service and in light liquid service.

(a) The provisions of this section apply to valves that are either in gas service or in light liquid service.

(1) The provisions are to be implemented on the dates set forth in the specific subpart in 40 CFR part 63 that references this subpart as specified in paragraph (a)(1)(i), (a)(1)(ii), or (a)(1)(iii) of this section.

(i) For each group of existing process units at existing sources subject to the provisions of subpart F or I of this part, the phases of the standard are:

(A) Phase I, beginning on the compliance date;

(B) Phase II, beginning no later than 1 year after the compliance date; and

(C) Phase III, beginning no later than 2 years after the compliance date.

(ii) For new sources subject to the provisions of subpart F or I of this part, the applicable phases of the standard are:

(A) After initial start-up, comply with the Phase II requirements; and

(B) Beginning no later than 1 year after initial start-up, comply with the Phase III requirements.

(iii) Sources subject to other subparts in 40 CFR part 63 that reference this subpart shall comply on the dates specified in the applicable subpart.

(2) The owner or operator of a source subject to this subpart may elect to meet the requirements of a later phase during the time period specified for an earlier phase.

(3) The use of monitoring data generated before April 22, 1994 to qualify for less frequent monitoring is governed by the provisions of § 63.180(b)(6) of this subpart.

(b) The owner or operator of a source subject to this subpart shall monitor all valves, except as provided in § 63.162(b) of this subpart and paragraphs (h) and (i) of this section, at the intervals specified in paragraphs (c) and (d) of this section and shall comply with all other provisions of this section, except as provided in § 63.171, § 63.177, § 63.178, and § 63.179 of this subpart.

(1) The valves shall be monitored to detect leaks by the method specified in § 63.180(b) of this subpart.

(2) The instrument reading that defines a leak in each phase of the standard is:

(i) For Phase I, an instrument reading of 10,000 parts per million or greater.

(ii) For Phase II, an instrument reading of 500 parts per million or greater.

(iii) For Phase III, an instrument reading of 500 parts per million or greater.

(c) In Phases I and II, each valve shall be monitored quarterly.

(d) In Phase III, the owner or operator shall monitor valves for leaks at the intervals specified below:

(1) At process units with 2 percent or greater leaking valves, calculated according to paragraph (e) of this section, the owner or operator shall either:

(i) Monitor each valve once per month; or (ii) Within the first year after the onset of Phase III, implement a quality improvement program for valves that complies with the requirements of § 63.175 (d) or (e) of this subpart and monitor quarterly.

(2) At process units with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (d)(3) and (d)(4) of this section.

(3) At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters.

(4) At process units with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters.

(e) (1) Percent leaking valves at a process unit shall be determined by the following equation:

$$\%V_L = (V_L/(V_T + V_C)) \times 100$$

where:

$\%V_L$ = Percent leaking valves as determined through periodic monitoring required in paragraphs (b) through (d) of this section.

V_L = Number of valves found leaking excluding nonrepairables as provided in paragraph (e)(3)(i) of this section.

V_T = Total valves monitored, in a monitoring period excluding valves monitored as required by (f)(3) of this section.

V_C = Optional credit for removed valves = 0.67 x net number (i.e., total removed - total added) of valves in organic HAP service removed from process unit after the date set forth in § 63.100(k) of subpart F for existing process units, and after the date of initial start-up for new sources. If credits are not taken, then $V_C = 0$.

(2) For use in determining monitoring frequency, as specified in paragraph (d) of this section, the percent leaking valves shall be calculated as a rolling average of two consecutive monitoring periods for monthly, quarterly, or semiannual monitoring programs; and as an average of any three out of four consecutive monitoring periods for annual monitoring programs.

(3) (i) Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and non-repairable and as required to comply with paragraph (e)(3)(ii) of this section. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of 1 percent of the total number of valves in organic HAP service at a process unit may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

(ii) If the number of nonrepairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process unit, the number of nonrepairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves.

(f) (1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in § 63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(3) When a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair.

(i) The monitoring shall be conducted as specified in § 63.180 (b) and (c), as appropriate, to determine whether the valve has resumed leaking.

(ii) Periodic monitoring required by paragraphs (b) through (d) of this section may be used to satisfy the requirements of this paragraph (f)(3), if the timing of the monitoring

period coincides with the time specified in this paragraph (f)(3). Alternatively, other monitoring may be performed to satisfy the requirements of this paragraph (f)(3), regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in this paragraph (f)(3).

(iii) If a leak is detected by monitoring that is conducted pursuant to paragraph (f)(3) of this section, the owner or operator shall follow the provisions of paragraphs (f)(3)(iii)(A) and (f)(3)(iii)(B) of this section, to determine whether that valve must be counted as a leaking valve for purposes of § 63.168(e) of this subpart.

(A) If the owner or operator elected to use periodic monitoring required by paragraphs (b) through (d) of this section to satisfy the requirements of paragraph (f)(3) of this section, then the valve shall be counted as a leaking valve.

(B) If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by paragraphs (b) through (d) of this section, to satisfy the requirements of paragraph (f)(3) of this section, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(g) First attempts at repair include, but are not limited to, the following practices where practicable:

(1) Tightening of bonnet bolts,
(2) Replacement of bonnet bolts,
(3) Tightening of packing gland nuts, and
(4) Injection of lubricant into lubricated packing.

(h) Any valve that is designated, as described in § 63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor valve is exempt from the requirements of paragraphs (b) through (f) of this section if:

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (b) through (d) of this section; and

(2) The owner or operator of the valve has a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.

(i) Any valve that is designated, as described in § 63.181(b)(7)(ii) of this subpart, as a difficult-to-monitor valve is exempt from the requirements of paragraphs (b) through (d) of this section if:

(1) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or it is not accessible at anytime in a safe manner;

(2) The process unit within which the valve is located is an existing source or the owner or operator designates less than 3 percent of the total number of valves in a new source as difficult-to-monitor; and

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(j) Any equipment located at a plant site with fewer than 250 valves in organic HAP service is exempt from the requirements for monthly monitoring and a quality improvement program specified in paragraph (d)(1) of this section. Instead, the owner or operator shall monitor each valve in organic HAP service for leaks once each quarter, or comply with paragraph (d)(3) or (d)(4) of this section except as provided in paragraphs (h) and (i) of this section.

§ 63.169 Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service.

(a) Pumps, valves, connectors, and agitators in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and instrumentation systems shall be monitored within 5 calendar days by the method specified in § 63.180(b) of this subpart if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired as required in paragraphs (c) and (d) of this section, it is not necessary to monitor the system for leaks by the method specified in § 63.180(b) of this subpart.

(b) If an instrument reading of 10,000 parts per million or greater for agitators, 5,000 parts per million or greater for pumps handling polymerizing monomers, 2,000 parts per million or greater for all other pumps (including pumps in food/medical service), or 500 parts per million or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 63.171 of this subpart.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(3) For equipment identified in paragraph (a) of this section that is not monitored by the method specified in § 63.180(b), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure.

(d) First attempts at repair include, but are not limited to, the practices described under §§ 63.163(c)(2) and 63.168(g) of this subpart, for pumps and valves, respectively.

§ 63.170 Standards: Surge control vessels and bottoms receivers.

Each surge control vessel or bottoms receiver that is not routed back to the process and that meets the conditions specified in table 2 or table 3 of this subpart shall be equipped with a closed-vent system that routes the organic vapors vented from the surge control vessel or bottoms receiver back to the process or to a control device that complies with the requirements in § 63.172 of this subpart, except as provided in § 63.162(b) of this subpart, or comply with the requirements of § 63.119(b) or (c) of subpart G of this part.

§ 63.171 Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected is allowed if the repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service.

(c) Delay of repair for valves, connectors, and agitators is also allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 63.172 of this subpart.

(d) Delay of repair for pumps is also allowed if:

(1) Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of § 63.176(d) of this subpart will provide better performance or:

(i) A dual mechanical seal system that meets the requirements of § 63.163(e) of this subpart,

(ii) A pump that meets the requirements of § 63.163(f) of this subpart, or

(iii) A closed-vent system and control device that meets the requirements of § 63.163(g) of this subpart; and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

§ 63.172 Standards: Closed-vent systems and control devices.

(a) Owners or operators of closed-vent systems and control devices used to comply with provisions
of this subpart shall comply with the provisions of this section, except as provided in
§ 63.162(b) of this subpart.

(b) Recovery or recapture devices (e.g., condensers and absorbers) shall be designed and operated to recover the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts par million by volume, whichever is less stringent. The 20 parts per million by volume performance
standard is not applicable to the provisions of § 63.179.

(c) Enclosed combustion devices shall be designed and operated to reduce the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency
of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of § 63.11(b) of subpart A of this part.

(e) Owners or operators of control devices that are used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their design.

{NOTE: The intent of this provision is to ensure proper operation and maintenance of the control device.}

(f) Except as provided in paragraphs (k) and (l) of this section, each closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the closed-vent system is constructed of hard-piping, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (g) of this section, and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed-vent system is constructed of duct work, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (g) of this section, and

(ii) Conduct annual inspections according to the procedures in paragraph (g) of this section.

(g) Each closed-vent system shall be inspected according to the procedures in § 63.180(b) of this subpart.

(h) Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in paragraph (i) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in paragraph (i) of this section.

(i) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(j) For each closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall comply with the provisions of either paragraph (j)(1) or (j)(2) of this section, except as provided in paragraph (j)(3) of this section.

(1) Install, set or adjust, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in § 63.118(a)(3) of subpart G of this part. The flow indicator shall be installed at the entrance to any bypass line; or

(2) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

(3) Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(k) Any parts of the closed-vent system that are designated, as described in paragraph 63.181(b)(7)(i), as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1) and (f)(2) of this section if:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (f)(1) or (f)(2) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times, but not more frequently than annually.

(l) Any parts of the closed-vent system that are designated, as described in § 63.181 (b)(7)(i) of this subpart, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1) and (f)(2) of this section if:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(m) Whenever organic HAP emissions are vented to a closed-vent system or control device used to comply with the provisions of this subpart, such system or control device shall be operating.

(n) After the compliance dates specified in § 63.100 of subpart F of this part, the owner or operator of any control device subject to this subpart that is also subject to monitoring, record-keeping, and reporting requirements in 40 CFR part 264, subpart BB, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart BB, may elect to comply either with the monitoring, recordkeeping, and reporting requirements of this subpart, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this paragraph, which shall constitute compliance with the monitoring, recordkeeping and reporting requirements of this subpart. The owner or operator shall identify which option has been chosen, in the next periodic report required by § 63.182(d).

§ 63.173 Standards: Agitators in gas/vapor service and in light liquid service.

(a) (1) Each agitator shall be monitored monthly to detect leaks by the methods specified in § 63.180(b) of this subpart, except as provided in § 63.162(b) of this subpart.

(2) If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

(b) (1) Each agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator.

(2) If there are indications of liquids dripping from the agitator, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the requirements specified in paragraphs (d)(1) through (d)(6) of this section are met:

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the agitator stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of § 63.172 of this subpart; or

(iii) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(2) The barrier fluid is not in light liquid organic HAP service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each agitator is checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal.

(i) If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the agitator shall be monitored as specified in § 63.180(b) of this subpart to determine the presence of organic HAP in the barrier fluid.

(ii) If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

(5) Each sensor as described in paragraph (d)(3) of this section is observed daily or is equipped with an alarm unless the agitator is located within the boundary of an unmanned plant site.

(6) (i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.

(ii) If indications of liquids dripping from the agitator seal exceed the criteria established in paragraph (d)(6)(i) of this section, or if, based on the criteria established in paragraph (d)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(iii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 63.171 of this subpart.

(iv) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from paragraphs (a) through (c) of this section.

(f) Any agitator equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or fuel gas system or to a control device that complies with the requirements of § 63.172 of this subpart is exempt from the requirements of paragraphs (a) through (c) of the section.

(g) Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(1) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each agitator is visually inspected as often as practical and at least monthly.

(h) Any agitator that is difficult-to-monitor is exempt from the requirements of paragraphs (a) through (d) of this section if:

(1) The owner or operator determines that the agitator cannot be monitored without elevating the monitoring personnel more than two meters above a support surface or it is not accessible at anytime in a safe manner;

(2) The process unit within which the agitator is located is an existing source or the owner or operator designates less than three percent of the total number of agitators in a new source as difficult-to-monitor; and

(3) The owner or operator follows a written plan that requires monitoring of the agitator at
least once per calendar year.

(i) Any agitator that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of paragraphs (a) through (d) of this section.

(j) Any agitator that is designated, as described in § 63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor agitator is exempt from the requirements of paragraphs (a) through (d) of this section if:

(1) The owner or operator of the agitator determines that the agitator is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (a) through (d) of this section; and

(2) The owner or operator of the agitator has a written plan that requires monitoring of the agitator as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.

§ 63.174 Standards: Connectors in gas/vapor service and in light liquid service.

(a) The owner or operator of a process unit subject to this subpart shall monitor all connectors in gas/vapor and light liquid service, except as provided in § 63.162(b) of this subpart, and in paragraphs (f) through (h) of this section, at the intervals specified in paragraph (b) of this section.

(1) The connectors shall be monitored to detect leaks by the method specified in § 63.180(b) of this subpart.

(2) If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected.

(b) The owner or operator shall monitor for leaks at the intervals specified in either paragraph (b)(1) or (b)(2) of this section and in paragraph (b)(3) of this section.

(1) For each group of existing process units within an existing source, by no later than 12 months after the compliance date, the owner or operator shall monitor all connectors, except as provided in paragraphs (f) through (h) of this section.

(2) For new sources, within the first 12 months after initial start-up or by no later than 12 months after the date of promulgation of a specific subpart that references this subpart, whichever is later, the owner or operator shall monitor all connectors, except as provided in paragraphs (f) through (h) of this section.

(3) After conducting the initial survey required in paragraph (b)(1) or (b)(2) of this section, the owner or operator shall perform all subsequent monitoring of connectors at the frequencies specified in paragraphs (b)(3)(i) through (b)(3)(v) of this section, except as provided in paragraph (c)(2) of this section:

(i) Once per year (i.e., 12-month period), if the percent leaking connectors in the process unit was 0.5 percent or greater during the last required annual or biennial monitoring period.

(ii) Once every 2 years, if the percent leaking connectors was less than 0.5 percent during the last required monitoring period. An owner or operator may comply with this paragraph by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The percent leaking connectors will be calculated for the total of all monitoring performed during the 2-year period.

(iii) If the owner or operator of a process unit in a biennial leak detection and repair program calculates less than 0.5 percent leaking connectors from the 2-year monitoring period, the owner or operator may monitor the connectors one time every 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 20 percent of the connectors each year until all connectors have been monitored within 4 years.

(iv) If a process unit complying with the requirements of paragraph (b) of this section using a 4-year monitoring interval program has greater than or equal to 0.5 percent but less than 1 percent leaking connectors, the owner or operator shall increase the monitoring frequency to one time every 2 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii) of this section when the percent leaking connectors decreases to less than 0.5 percent.

(v) If a process unit complying with requirements of paragraph (b)(3)(iii) of this section using a 4-year monitoring interval program has 1 percent or greater leaking connectors, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii) of this section when the percent leaking connectors decreases to less than 0.5 percent.

(4) The use of monitoring data generated before April 22, 1994 to qualify for less frequent monitoring is governed by the provisions of § 63.180(b)(6).

(c) (1) (i) Except as provided in paragraph (c)(1)(ii) of this section, each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks when it is reconnected or within the first 3 months after being returned to organic hazardous air pollutants service. If the monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section, unless it is determined to be non-repairable, in which case it is counted as a non-repairable connector for the purposes of paragraph (i)(2) of this section.

(ii) As an alternative to the requirements in paragraph (c)(1)(i) of this section, an owner or operator may choose not to monitor connectors that have been opened or otherwise had the seal broken. In this case, the owner or operator may not count nonrepairable connectors for the purposes of paragraph (i)(2) of this section. The owner or operator shall calculate the percent leaking connectors for the monitoring periods described in paragraph (b) of this section, by setting the nonrepairable component, CAN, in the equation in paragraph (i)(2) of this section to zero for all monitoring periods.

(iii) An owner or operator may switch alternatives described in paragraphs (c)(1)(i) and (ii) of this section at the end of the current monitoring period he is in, provided that it is reported as required in § 63.182 of this subpart and begin the new alternative in annual monitoring. The initial monitoring in the new alternative shall be completed no later than 12 months after reporting the switch.

(2) As an alternative to the requirements of paragraph (b)(3) of this section, each screwed connector 2 inches or less in nominal inside diameter installed in a process unit before the dates specified in paragraph (c)(2)(iii) or (c)(2)(iv) of this section may:

(i) Comply with the requirements of § 63.169 of this subpart, and

(ii) Be monitored for leaks within the first 3 months after being returned to organic hazardous air pollutants service after having been opened or otherwise had the seal broken. If that monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section.

(iii) For sources subject to subparts F and I of this part, the provisions of paragraph (c)(2) of this section apply to screwed connectors installed before December 31, 1992.

(iv) For sources not identified in paragraph (c)(2)(iii) of this section, the provisions of paragraph (c)(2) of this section apply to screwed connectors installed before the date of proposal of the applicable subpart of this part that references this subpart.

(d) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (g) of this section and in § 63.171 of this subpart. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(e) [Reserved]

(f) Any connector that is designated, as described in § 63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor connector is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator determines that the connector is unsafe to monitor because personnel would be exposed to an immediate danger as a result of complying with paragraphs (a) through (e) of this section; and

(2) The owner or operator has a written plan that requires monitoring of the connector as frequently as practicable during safe to monitor periods, but not more frequently than the periodic schedule otherwise applicable.

(g) Any connector that is designated, as described in § 63.181(b)(7)(iii) of this subpart, as an unsafe-to-repair connector is exempt from the requirements of paragraphs (a), (d), and (e) of this section if:

(1) The owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with paragraph (d) of this section; and

(2) The connector will be repaired before the end of the next scheduled process unit shutdown.

(h) (1) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (c) of this section and from the recordkeeping and reporting requirements of § 63.181 and § 63.182 of this subpart. An inaccessible connector is one that is:

(i) Buried;

(ii) Insulated in a manner that prevents access to the connector by a monitor probe;

(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(iv) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold which would allow access to connectors up to 7.6 meters (25 feet) above the ground;

(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold; or

(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(2) If any inaccessible or ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in § 63.171 of this subpart and paragraph (g) of this section.

(3) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(i) For use in determining the monitoring frequency, as specified in paragraph (b) of this section, the percent leaking connectors shall be calculated as specified in paragraphs (i)(1) and (i)(2) of this section.

(1) For the first monitoring period, use the following equation:

$$\% C_L = C_L/(C_t + C_C) \times 100$$

where:

$\% C_L$ = Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.

C_L = Number of connectors measured at 500 parts per million or greater, by the method specified in § 63.180(b) of this subpart.

C_t = Total number of monitored connectors in the process unit.

C_C = Optional credit for removed connectors = 0.67 x net (i.e., total removed - total added) number of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then $C_C = 0$.

(2) For subsequent monitoring periods, use the following equation:

$$\% C_L = [(C_L - C_{AN})/(C_t + C_C)] \times 100$$

where:

$\% C_L$ = Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.

C_L = Number of connectors, including nonrepairables, measured at 500 parts per million or greater, by the method specified in § 63.180(b) of this subpart.

C_{AN} = Number of allowable nonrepairable connectors, as determined by monitoring required in paragraphs (b)(3) and (c) of this section, not to exceed 2 percent of the total connector population, C_t.

C_t = Total number of monitored connectors, including nonrepairables, in the process unit.

C_C = Optional credit for removed connectors = 0.67 x net number (i.e., total removed - total added) of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then $C_C = 0$.

(j) Optional credit for removed connectors. If an owner or operator eliminates a connector subject to monitoring under paragraph (b) of this section, the owner or operator may receive credit for elimination of the connector, as described in paragraph (i) of this section, provided the requirements in paragraphs (j)(1) through (j)(4) are met.

(1) The connector was welded after the date of proposal of the specific subpart that references this subpart.

(2) The integrity of the weld is demonstrated by monitoring it according to the procedures in § 63.180(b) of this subpart or by testing using X-ray, acoustic monitoring, hydrotesting, or other applicable method.

(3) Welds created after the date of proposal but before the date of promulgation of a specific subpart that references this subpart are monitored or tested by 3 months after the compliance date specified in the applicable subpart.

(4) Welds created after promulgation of the subpart that references this subpart are monitored or tested within 3 months after being welded.

(5) If an inadequate weld is found or the connector is not welded completely around the circumference, the connector is not considered a welded connector and is therefore not exempt from the provisions of this subpart.

§ 63.175 Quality improvement program for valves.

(a) In Phase III, an owner or operator may elect to comply with one of the alternative quality improvement programs specified in paragraphs (d) and (e) of this section. The decision to use one of these alternative provisions to comply with the requirements of § 63.168(d)(1)(ii) of this subpart
must be made during the first year of Phase III for existing process units and for new process units.

(b) An owner or operator of a process unit subject to the requirements of paragraph (d) or (e) of this section shall comply with those requirements until the process unit has fewer than 2 percent leaking valves, calculated as a rolling average of 2 consecutive quarters, as specified in § 63.168(e)
of this subpart.

(c) After the process unit has fewer than 2 percent leaking valves, the owner or operator may elect to comply with the requirements in § 63.168 of this subpart, to continue to comply with the requirements in paragraph (e) (or (d), if appropriate) of this section, or comply with both the requirements in § 63.168 and § 63.175.

(1) If the owner or operator elects to continue the quality improvement program, the owner or operator is exempt from the requirements for performance trials as specified in paragraph (e)(6) of this section, or further progress as specified in paragraph (d)(4) of this section, as long as the
process unit has fewer than 2 percent leaking valves calculated according to § 63.168(e).

(2) If the owner or operator elects to comply with both paragraph (e) of this section and § 63.168 of this subpart, he may also take advantage of the lower monitoring frequencies associated with lower leak rates in § 63.168 (d)(2), (d)(3), and (d)(4) of this subpart.

(3) If the owner or operator elects not to continue the quality improvement program, the program is no longer an option if the process unit again exceeds 2 percent leaking valves, and in such case, monthly monitoring will be required.

(d) The following requirements shall be met if an owner or operator elects to use a quality improvement program to demonstrate further progress:

(1) The owner or operator shall continue to comply with the requirements in § 63.168 of this subpart except each valve shall be monitored quarterly.

(2) The owner or operator shall collect the following data, and maintain records as required in § 63.181(h)(1) of this subpart, for each valve in each process unit subject to the quality improvement program:

(i) The maximum instrument reading observed in each monitoring observation before repair, the response factor for the stream if appropriate, the instrument model number, and date of the observation.

(ii) Whether the valve is in gas or light liquid service.

(iii) If a leak is detected, the repair methods used and the instrument readings after repair.

(3) The owner or operator shall continue to collect data on the valves as long as the process unit remains in the quality improvement program.

(4) The owner or operator must demonstrate progress in reducing the percent leaking valves each quarter the process unit is subject to the requirements of paragraph (d) of this section, except as provided in paragraphs (d)(4)(ii) and (d)(4)(iii) of this section.

(i) Demonstration of progress shall mean that for each quarter there is at least a 10-percent reduction in the percent leaking valves from the percent leaking valves determined for the preceding monitoring period. The percent leaking valves shall be calculated as a rolling average of two consecutive quarters of monitoring data. The percent reduction shall be calculated using the rolling average percent leaking valves, according to the following:

$$\%LV_R = (\%LV_{AVG1} \cdot \%LV_{AVG2}) / \%LV_{AVG1} \quad x\ 100$$

where:

$\%LV_R =$ Percent leaking valve reduction.

$\%LV_{AVG1} = (\%V_{Li} + \%V_{Li+1})/2.$

$\%LV_{AVG2} = (\%V_{Li+1} + \%V_{Li+2})/2.$

where:

$\%V_{Li}$, $\%V_{Li+1}$, $\%V_{Li+2}$ are percent leaking valves calculated for subsequent monitoring periods, i, i +1, i +2.

(ii) An owner or operator who fails for two consecutive rolling averages to demonstrate at least a 10-percent reduction per quarter in percent leaking valves, and whose overall average percent reduction based on two or more rolling averages is less than 10 percent per quarter, shall either comply with the requirements in § 63.168(d)(1)(i) of this subpart using monthly monitoring or shall comply using a quality improvement program for technology review as specified in paragraph (e) of this section. If the owner or operator elects to comply with the requirements of paragraph (e) of this section, the schedule for performance trials and valve
replacements remains as specified in paragraph (e) of this section.

(iii) As an alternative to the provisions in paragraph (d)(4)(i), an owner or operator may use the procedure specified in paragraphs (d)(4)(iii)(A) and (d)(4)(iii)(B) of this section to demonstrate progress in reducing the percent leaking valves.

(A) The percent reduction that must be achieved each quarter shall be calculated as follows:

$$\%RR = \frac{\%V_L - 2\%}{0.10}$$

%RR = percent reduction required each quarter, as calculated according to § 63.168(e)
$\%V_L$ = percent leaking valves, calculated according to § 63.168(e), at the time elected to use provisions of § 63.168(d)(1)(ii)

(B) The owner or operator shall achieve less than 2 percent leaking valves no later than 2 years after electing to use the demonstration of progress provisions in § 63.175(d) of this subpart.

(e) The following requirements shall be met if an owner or operator elects to use a quality improvement program of technology review and improvement:

(1) The owner or operator shall comply with the requirements in § 63.168 of this subpart except the requirement for monthly monitoring in § 63.168(d)(1)(i) of this subpart does not apply.

(2) The owner or operator shall collect the data specified below, and maintain records as required in § 63.181(h)(2), for each valve in each process unit subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or group of process units basis. The data shall include the following:

(i) Valve type (e.g., ball, gate, check); valve manufacturer; valve design (e.g., external stem or actuating mechanism, flanged body); materials of construction; packing material; and year installed.

(ii) Service characteristics of the stream such as operating pressure, temperature, line diameter, and corrosivity.

(iii) Whether the valve is in gas or light liquid service.

(iv) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if adjusted, instrument model number, and date of the observation.

(v) If a leak is detected, the repair methods used and the instrument readings after repair.

(vi) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance.

(3) The owner or operator shall continue to collect data on the valves as long as the process unit remains in the quality improvement program.

(4) The owner or operator shall inspect all valves removed from the process unit due to leaks. The inspection shall determine which parts of the valve have failed and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

(5) (i) The owner or operator shall analyze the data collected to comply with the requirements of paragraph (e)(2) of this section to determine the services, operating or maintenance practices, and valve designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process specific factors.

(ii) The analysis shall also be used to identify any superior performing valve technologies that are applicable to the service(s), operating conditions, or valve designs associated with poorer than average emission performance. A superior performing valve technology is one for which a group of such valves has a leak frequency of less than 2 percent for specific applications in such a process unit. A candidate superior performing valve technology is one demonstrated or reported in the available literature or through a group study as having low

emission performance and as being capable of achieving less than 2 percent leaking valves in the process unit.

(iii) The analysis shall include consideration of:

(A) The data obtained from the inspections of valves removed from the process unit due to leaks,

(B) Information from the available literature and from the experience of other plant sites that will identify valve designs or technologies and operating conditions associated with low emission performance for specific services, and

(C) Information on limitations on the service conditions for the valve design and operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of Phase III. The first analysis shall be performed using a minimum of two quarters of data. An analysis of the data shall be done each year the process unit is in the quality improvement program.

(6) A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify superior performing valve designs or technologies that can be applied to the operating conditions and services identified as having poorer than average performance, except as provided in paragraph (e)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit the valve designs or technologies that have been identified by others as having low emission performance.

(i) The trial program shall include on-line trials of valves or operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 2 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing valve technologies is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in § 63.181(h)(5)(ii) of this subpart.

(ii) The number of valves in the trial evaluation program shall be the lesser of 1 percent or 20 valves for programs involving single process units and the lesser of 1 percent or 50 valves for programs involving groups of process units.

(iii) The trial evaluation program shall specify and include documentation of:

(A) The candidate superior performing valve designs or technologies to be evaluated, the stages for evaluating the identified candidate valve designs or technologies, including the estimated time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial valves.

(iv) The performance trials shall initially be not later than 18 months after the start of Phase III. Not later than 24 months after the start of Phase III, the owner or operator shall have
identified valve designs or technologies that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph

(e)(6)(vi) of this section. The compilation of candidate and demonstrated superior emission performance valve designs or technologies shall be amended in the future, as appropriate, as additional information and experience is obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 total employees shall be exempt from trial evaluations of valves. Plant sites exempt from the trial, evaluations of valves shall begin the program at the start of the fourth year of Phase III.

(vi) An owner or operator who has conducted performance trials on all candidate superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible candidate superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) Each owner or operator who elects to use a quality improvement program for technology review and improvement shall prepare and implement a valve quality assurance program that details purchasing specifications and maintenance procedures for all valves in the process unit. The quality assurance program may establish any number of categories, or classes, of valves as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (e)(5) of this section, if applicable, the findings of the trial evaluation required in paragraph (e)(6) of this section, and the operating conditions in the process unit. The quality assurance program shall be reviewed and, as appropriate, updated each year as long as the process unit has 2 percent or more leaking valves.

(i) The quality assurance program shall:

(A) Establish minimum design standards for each category of valves. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the valve;

(C) Include a written procedure for bench testing of valves that specifies performance criteria for acceptance of valves and specifies criteria for the precision and accuracy of the test apparatus. All valves repaired off-line after preparation of the quality assurance plan shall be bench-tested for leaks. This testing may be conducted by the owner or operator of the process unit, by the vendor, or by a designated representative. The owner or operator shall install only those valves that have been documented through bench-testing to be nonleaking.

(D) Require that all valves repaired on-line be monitored using the method specified in § 63.180(b) of this subpart for leaks for 2 successive months, after repair.

(E) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the process unit or by a designated representative.

(F) Detail off-line valve maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished valves will meet the design specifications for the valve type and will operate such that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of Phase III for plant sites with 400 or more valves or owned by a corporation with 100 or more employees; and no later than the start of the fourth year of Phase III for plant sites with less than 400 valves and owned by a corporation with less than 100 employees.

(8) Beginning at the start of the third year of Phase III for plant sites with 400 or more valves or owned by a corporation with 100 or more employees and at the start of the fourth year of Phase III for plant sites with less than 400 valves and owned by a corporation with less than 100 employees, each valve that is replaced for any reason shall be replaced with a new or modified valve that complies with the quality assurance standards for the valve category and that is identified as superior emission performance technology. Superior emission performance technology means valves or valve technologies identified with emission performance that, combined with appropriate process, operating, and maintenance practices, will result in less than 2 percent leaking valves for specific applications in a large population, except as provided in paragraph (e)(8)(ii) of this section.

(i) The valves shall be maintained as specified in the quality assurance program.

(ii) If a superior emission performance technology cannot be identified, then valve replacement shall be with one of (if several) the lowest emission performance technologies that has been identified for the specific application.

§ 63.176 Quality improvement program for pumps.

(a) In Phase III, if, on a 6-month rolling average, the greater of either 10 percent of the pumps in a process unit (or plant site) or three pumps in a process unit (or plant site) leak, the owner or operator shall comply with the requirements of this section as specified below:

(1) Pumps that are in food/medical service or in polymerizing monomer service shall comply with all requirements except for those specified in paragraph (d)(8) of this section.

(2) Pumps that are not in food/medical or polymerizing monomer service shall comply with
all requirements of this section.

(b) The owner or operator shall comply with the requirements of this section until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps, calculated as a 6-month rolling average, in the process unit (or plant site). Once the performance level is
achieved, the owner or operator shall comply with the requirements in § 63.163 of this subpart.

(c) If in a subsequent monitoring period, the process unit (or plant site) has greater than 10 percent
of the pumps leaking or three pumps leaking (calculated as a 6-month rolling average), the owner or operator shall resume the quality improvement program starting at performance trials.

(d) The quality improvement program shall include the following:

(1) The owner or operator shall comply with the requirements in § 63.163 of this subpart.

(2) The owner or operator shall collect the following data, and maintain records as required in § 63.181(h)(3), for each pump in each process unit (or plant site) subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or plant site basis.

(i) Pump type (e.g., piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (e.g., external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed.

(ii) Service characteristics of the stream such as discharge pressure, temperature, flow rate, corrosivity, and annual operating hours.

(iii) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation.

(iv) If a leak is detected, the repair methods used and the instrument readings after repair.

(v) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance.

(3) The owner or operator shall continue to collect data on the pumps as long as the process unit (or plant site) remains in the quality improvement program.

(4) The owner or operator shall inspect all pumps or pump seals which exhibited frequent seal failures and were removed from the process unit due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

(5) (i) The owner or operator shall analyze the data collected to comply with the requirements of paragraph (d)(2) of this section to determine the services, operating or maintenance practices, and pump or pump seal designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process specific factors.

(ii) The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the process unit or plant site. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit (or plant site).

(iii) The analysis shall include consideration of:

(A) The data obtained from the inspections of pumps and pump seals removed from the process unit due to leaks;

(B) Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services; and

(C) Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter- or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of the quality improvement program. The first analysis shall be performed using a minimum of 6 months of data. An analysis of the data shall be done each year the process unit is in the quality improvement program.

(6) A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify use of superior performing pump seal technology or pumps that can be applied to the areas identified as having poorer than average performance, except as provided in paragraph (d)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of

using in the process unit (or plant site) the pump designs or seal technologies, and operating and maintenance practices that have been identified by others as having low emission performance.

(i) The trial program shall include on-line trials of pump seal technologies or pump designs and operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 10 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing pump seal technologies or pumps is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in § 63.181(h)(5)(ii).

(ii) The number of pump seal technologies or pumps in the trial evaluation program shall be the lesser of 1 percent or two pumps for programs involving single process units and the lesser of 1 percent or five pumps for programs involving a plant site or groups of process units. The minimum number of pumps or pump seal technologies in a trial program shall be one.

(iii) The trial evaluation program shall specify and include documentation of:

(A) The candidate superior performing pump seal designs or technologies to be evaluated, the stages for evaluating the identified candidate pump designs or pump seal technologies, including the time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps.

(iv) The performance trials shall initially be conducted, at least, for a 6-month period beginning not later than 18 months after the start of the quality improvement program. No later than 24 months after the start of the quality improvement program, the owner or operator shall have identified pump seal technologies or pump designs that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph (d)(6)(vi) of this section. The initial list of superior emission performance pump designs or pump seal technologies shall be amended in the future, as appropriate, as additional information and experience is obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 employees shall be exempt from trial evaluations of pump seals or pump designs. Plant sites exempt from the trial evaluations of pumps shall begin the pump seal or pump replacement program at the start of the fourth year of the quality improvement program.

(vi) An owner or operator who has conducted performance trials on all alternative superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible alternative superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) Each owner or operator shall prepare and implement a pump quality assurance program that details purchasing specifications and maintenance procedures for all pumps and pump seals in the process unit. The quality assurance program may establish any number of categories, or classes, of pumps as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed

considering the findings of the data analysis required under paragraph (d)(5) of this section, if applicable, the findings of the trial evaluation required in paragraph (d)(6) of this section, and the operating conditions in the process unit. The quality assurance program shall be updated each year as long as the process unit has the greater of either 10 percent or more leaking pumps or has three leaking pumps.

(i) The quality assurance program shall:

(A) Establish minimum design standards for each category of pumps or pump seal technology. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or the pump seal;

(C) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the plant site or process unit or by a designated representative; and

(D) Detail off-line pump maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished pumps and pump seals will meet the design specifications for the pump category and will operate such that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees; and no later than the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees.

(8) Beginning at the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees and at the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees, the owner or operator shall replace, as described in paragraphs (d)(8)(i) and (d)(8)(ii) of this section, the pumps or pump seals that are not superior emission performance technology with pumps or pump seals that have been identified as superior emission performance technology and that comply with the quality assurance standards for the pump category. Superior emission performance technology is that category or design of pumps or pump seals with emission performance which, when combined with appropriate process, operating, and maintenance practices, will result in less than 10 percent leaking pumps for specific applications in the process unit or plant site. Superior emission performance technology includes material or design changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent, or pump replacement.

(i) Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in light liquid service. The calculated value shall be rounded to the nearest nonzero integer value. The minimum number of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of § 63.163 of this subpart are pumps determined to be superior performance technology.

(ii) The owner or operator may delay replacement of pump seals or pumps with superior technology until the next planned process unit shutdown, provided the number of pump seals and pumps replaced is equivalent to the 20 percent or greater annual replacement rate.

(iii) The pumps shall be maintained as specified in the quality assurance program.

§ 63.177 Alternative means of emission limitation: General.

(a) Permission to use an alternative means of emission limitation under section 112(h)(3) of the

Act shall be governed by the following procedures in paragraphs (b) through (e) of this section.

(b) Where the standard is an equipment, design, or operational requirement:

(1) Each owner or operator applying for permission to use an alternative means of emission limitation under § 63.6(g) of subpart A of this part shall be responsible for collecting and verifying emission performance test data for an alternative means of emission limitation.

(2) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Where the standard is a work practice:

(1) Each owner or operator applying for permission shall be responsible for collecting and verifying test data for an alternative means of emission limitation.

(2) For each kind of equipment for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months.

(3) For each kind of equipment for which permission is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for permission shall commit, in writing, for each kind of equipment to work practices that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practices.

(5) The Administrator will compare the demonstrated emission reduction for the alternative
means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4) of this section.

(6) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same or greater emission reduction as the required work practices of this subpart.

(d) An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation.

(e) (1) Manufacturers of equipment used to control equipment leaks of an organic HAP may apply to the Administrator for permission for an alternative means of emission limitation that achieves a reduction in emissions of the organic HAP achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will grant permission according to the provisions of paragraphs (b), (c), and (d) of this section.

§ 63.178 Alternative means of emission limitation: Batch processes.

(a) As an alternative to complying with the requirements of §§ 63.163 through 63.171 and §§ 63.173 through 63.176, an owner or operator of a batch process that operates in organic HAP service during the calendar year may comply with one of the standards specified in paragraphs (b) and (c) of this section, or the owner or operator may petition for approval of an alternative standard under the provisions of § 63.177 of this subpart. The alternative standards of this section provide the options of pressure testing or monitoring the equipment for leaks. The owner or operator may switch among the alternatives provided the change is documented as specified in

§ 63.181.

(b) The following requirements shall be met if an owner or operator elects to use pressure testing of batch product-process equipment to demonstrate compliance with this subpart. An owner or operator who complies with the provisions of this paragraph is exempt from the monitoring provisions of § 63.163, §§ 63.168 and 63.169, and §§ 63.173 through 63.176 of this subpart.

(1) Each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train shall be pressure-tested for leaks before organic HAP is first fed to the equipment and the equipment is placed in organic HAP service.

(i) When the batch product-process train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment.

(ii) Each batch product process that operates in organic HAP service during a calendar year shall be pressure tested at least once during that calendar year.

(iii) Pressure testing is not required for routine seal breaks, such as changing hoses or filters, which are not part of the reconfiguration to produce a different product or intermediate.

(2) The batch product process equipment shall be tested either using the procedures specified in § 63.180(f) of this subpart for pressure or vacuum loss or with a liquid using the procedures specified in § 63.180(g) of this subpart.

(3) (i) For pressure or vacuum tests, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 psig) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss.

(ii) For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss.

(4) (i) If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before start-up of the process.

(ii) If a batch product-process fails the retest or the second of two consecutive pressure tests, it shall be repaired as soon as practicable, but not later than 30 calendar days after the second pressure test, provided the conditions specified in paragraph (d) of this section are met.

(c) The following requirements shall be met if an owner or operator elects to monitor the equipment
to detect leaks by the method specified in § 63.180(b) of this subpart to demonstrate compliance with this subpart.

(1) The owner or operator shall comply with the requirements of §§ 63.163 through 63.170, and §§ 63.172 through 63.176 of this subpart.

(2) The equipment shall be monitored for leaks by the method specified in § 63.180(b) of this subpart when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor.

(3) The equipment shall be monitored for leaks as specified below:

(i) Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of start-up of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in the process unit.

(ii) Connectors shall be monitored in accordance with the requirements in § 63.174 of this subpart.

(iii) Equipment other than connectors shall be monitored at the frequencies specified in table 1 of this subpart. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of this subpart is operating.

(iv) The monitoring frequencies specified in table 1 of this subpart are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor anytime during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. For example, if the equipment is not operating during the scheduled monitoring period, the monitoring can be done during the next period when the process is operating.

(4) If a leak is detected, it shall be repaired as soon as practicable but not later than 15 calendar days after it is detected, except as provided in paragraph (d) of this section.

(d) Delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available providing the following conditions are met:

(1) Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted.

(2) The repair is made no later than 10 calendar days after delivery of the replacement equipment.

§ 63.179 Alternative means of emission limitation: Enclosed-vented process units.

Process units enclosed in such a manner that all emissions from equipment leaks are vented through a closed-vent system to a control device meeting the requirements of § 63.172 of this subpart are exempt from the requirements of § 63.163, through 63.171, and §§ 63.173 and 63.174 of this subpart. The enclosure shall be maintained under a negative pressure at all times while the process unit is in operation to ensure that all emissions are routed to a control device.

§ 63.180 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Monitoring, as required under this subpart, shall comply with the following requirements:

(1) Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A.

(2) (i) Except as provided for in paragraph (b)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in Section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, water, air, or other inerts which are not organic HAP's or VOC's, the average stream response factor may be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

(ii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (b)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) Calibration gases shall be:

(i) Zero air (less than 10 parts per million of hydrocarbon in air); and

(ii) Mixtures of methane in air at the concentrations specified in paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(C) of this section. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(A) For Phase I, a mixture of methane or other compounds, as applicable, in air at a concentration of approximately, but less than, 10,000 parts per million.

(B) For Phase II, a mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 10,000 parts per million for agitators, 5,000 parts per million for pumps, and 500 parts per million for all other equipment, except as provided in paragraph (b)(4)(iii) of this section.

(C) For Phase III, a mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 10,000 parts per million methane for agitators; 2,000 parts per million for pumps in food/medical service; 5,000 parts per million for pumps in polymerizing monomer service; 1,000 parts per million for all other pumps; and 500 parts per million for all other equipment, except as provided in paragraph (b)(4)(iii) of this section.

(iii) The instrument may be calibrated at a higher methane concentration than the concentration specified for that piece of equipment. The concentration of the calibration gas may exceed the concentration specified as a leak by no more than 2,000 parts per million. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(5) Monitoring shall be performed when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor.

(6) Monitoring data that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section may be used to qualify for less frequent monitoring under the provisions in § 63.168(d)(2) and (d)(3) or § 63.174(b)(3)(ii) or (b)(3)(iii) of this subpart provided the data meet the conditions specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section.

(i) The data were obtained before April 22, 1994.

(ii) The departures from the criteria specified in paragraphs (b)(1) through (b)(5) of this section or from the specified monitoring frequency of § 63.168(c) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every six weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2(a) of Method 21 of appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section, or monitoring at a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure.

(c) When equipment is monitored for compliance as required in §§ 63.164(i), 63.165(a), and 63.172(f) or when equipment subject to a leak definition of 500 ppm is monitored for leaks as required by this subpart, the owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects to not adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(4) of this section. In such case, all instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If

an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (c)(1) through (c)(4) of this section.

(1) The requirements of paragraphs (b) (1) through (4) of this section shall apply.

(2) The background level shall be determined, using the same procedures that will be used to determine whether the equipment is leaking.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 parts per million for determining compliance.

(d) (1) Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used.

(2) (i) An owner or operator may use good engineering judgment rather than the procedures in paragraph (d)(1) of this section to determine that the percent organic HAP content does not exceed 5 percent by weight. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in paragraph (d)(1) of this section shall be used to resolve the disagreement.

(ii) Conversely, the owner or operator may determine that the organic HAP content of the process fluid does not exceed 5 percent by weight by, for example, accounting for 98 percent of the content and showing that organic HAP is less than 3 percent.

(3) If an owner or operator determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in paragraph (d)(1) of this section, or by documenting that a change in the process or raw materials no longer causes the equipment to
be in organic HAP service.

(4) Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment.

(e) When a flare is used to comply with § 63.172(d) of this subpart, the compliance determination shall be conducted using Method 22 of 40 CFR part 60, appendix A to determine visible emissions.

(f) The following procedures shall be used to pressure test batch product-process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of § 63.178(b)(3)(i) of this subpart.

(1) The batch product-process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively, the equipment shall be placed under a vacuum.

(2) Once the test pressure is obtained, the gas source or vacuum source shall be shut off.

(3) The test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded.

The pressure in the batch product-process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

$$\Delta \frac{P}{t} = \frac{\left(\left|P_f - P_i\right|\right)}{\left(t_f - t_i\right)}$$

where:

$\Delta P/t$ = Change in pressure, psig/hr.
P_f = Final pressure, psig.
P_i = Initial pressure, psig.
$t_f - t_i$ = Elapsed time, hours.

(4) The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) which has a precision of ±2.5 millimeter mercury in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of at least +10 percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise that equals a rate of one psig per hour.

(5) An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise.

(g) The following procedures shall be used to pressure-test batch product-process equipment using a liquid to demonstrate compliance with the requirements of § 63.178(b)(3)(ii) of this subpart.

(1) The batch product-process equipment train, or section of the train, shall be filled with the test liquid (e.g., water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.

(2) The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure.

(3) Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

(4) An alternative procedure may be used for leak testing the equipment, if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid.

§ 63.181 Recordkeeping requirements.

(a) An owner or operator of more than one process unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these process units in one recordkeeping system if the system identifies each record by process unit and the program being implemented (e.g., quarterly monitoring, quality improvement) for each type of equipment. All records and information required by this section shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the
records from a central location by computer at the plant site.

(b) Except as provided in paragraph (e) of this section, the following information pertaining to all equipment in each process unit subject to the requirements in §§ 63.162 through 63.174 of this subpart shall be recorded:

(1) (i) A list of identification numbers for equipment (except connectors exempt from monitoring and recordkeeping identified in § 63.174 of this subpart and instrumentation systems) subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated. With respect to connectors, the list shall be complete no later than the completion of the initial survey required by § 63.174 (b)(1) or (b)(2) of this subpart.

(ii) A schedule by process unit for monitoring connectors subject to the provisions of § 63.174(a) of this subpart and valves subject to the provisions of § 63.168(d) of this subpart.

(iii) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(2) (i) A list of identification numbers for equipment that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of § 63.163(g), § 63.164(h), § 63.165(c), or § 63.173(f) of this subpart.

(ii) A list of identification numbers for compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of § 63.164(i) of this subpart.

(iii) Identification of surge control vessels or bottoms receivers subject to the provisions of this subpart that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of § 63.170 of this subpart.

(3) (i) A list of identification numbers for pressure relief devices subject to the provisions in § 63.165(a) of this subpart.

(ii) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of § 63.165(d) of this subpart.

(4) Identification of instrumentation systems subject to the provisions of this subpart. Individual components in an instrumentation system need not be identified.

(5) Identification of screwed connectors subject to the requirements of § 63.174(c)(2) of this subpart. Identification can be by area or grouping as long as the total number within each group or area is recorded.

(6) The following information shall be recorded for each dual mechanical seal system:

(i) Design criteria required in §§ 63.163(e)(6)(i), 63.164(e)(2), and 63.173(d)(6)(i) of this subpart and an explanation of the design criteria; and

(ii) Any changes to these criteria and the reasons for the changes.

(7) The following information pertaining to all pumps subject to the provisions of § 63.163(j), valves subject to the provisions of § 63.168(h) and (i) of this subpart, agitators subject to the provisions of § 63.173(h) through (j), and connectors subject to the provisions of § 63.174(f) and (g) of this subpart shall be recorded:

(i) Identification of equipment designated as unsafe to monitor, difficult to monitor, or unsafe to inspect and the plan for monitoring or inspecting this equipment.

(ii) A list of identification numbers for the equipment that is designated as difficult to monitor, an explanation of why the equipment is difficult to monitor, and the planned schedule for monitoring this equipment.

(iii) A list of identification numbers for connectors that are designated as unsafe to repair and an explanation why the connector is unsafe to repair.

(8) (i) A list of valves removed from and added to the process unit, as described in § 63.168(e)(1) of this subpart, if the net credits for removed valves is expected to be used.

(ii) A list of connectors removed from and added to the process unit, as described in § 63.174(i)(1) of this subpart, and documentation of the integrity of the weld for any removed connectors, as required in § 63.174(j) of this subpart. This is not required unless the net credits for removed connectors is expected to be used.

(9) (i) For batch process units that the owner or operator elects to monitor as provided under § 63.178(c) of this subpart, a list of equipment added to batch product process units since the last monitoring period required in § 63.178(c)(3)(ii) and (3)(iii) of this subpart.

(ii) Records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit. These records are not required if the owner or operator does not adjust monitoring frequency by the time in use, as provided in § 63.178(c)(3)(iii) of this subpart.

(10) For any leaks detected as specified in Sec. Sec. 63.163 and 63.164; Sec. Sec. 63.168 and 63.169; and Sec. Sec. 63.172 through 63.174 of this subpart, a weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(c) For visual inspections of equipment subject to the provisions of this subpart (e.g., § 63.163(b)(3), § 63.163(e)(4)(i)), the owner or operator shall document that the inspection was conducted and the date of the inspection. The owner or operator shall maintain records as specified in paragraph (d) of this section for leaking equipment identified in this inspection, except as provided in paragraph (e) of this section. These records shall be retained for 2 years.

(d) When each leak is detected as specified in §§ 63.163 and 63.164; §§ 63.168 and 63.169; and §§ 63.172 through 63.174 of this subpart, the following information shall be recorded and kept for
2 years:

(1) The instrument and the equipment identification number and the operator name, initials, or identification number.

(2) The date the leak was detected and the date of first attempt to repair the leak.

(3) The date of successful repair of the leak.

(4) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be non-repairable.

(5) ‘‘Repair delayed’’ and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by § 63.6(e)(3), for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(6) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(7) (i) Identification, either by list, location (area or grouping), or tagging of connectors that have been opened or otherwise had the seal broken since the last monitoring period required in § 63.174(b) of this subpart, as described in § 63.174(c)(1) of this subpart, unless the owner or operator elects to comply with the provisions of § 63.174(c)(1)(ii) of this subpart.

(ii) The date and results of monitoring as required in § 63.174(c) of this subpart. If identification of connectors that have been opened or otherwise had the seal broken is made by location under paragraph (d)(7)(i) of this section, then all connectors within the designated location shall be monitored.

(8) The date and results of the monitoring required in § 63.178(c)(3)(i) of this subpart for equipment added to a batch process unit since the last monitoring period required in § 63.178 (c)(3)(ii) and (c)(3)(iii) of this subpart. If no leaking equipment is found in this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring
results are not required.

(9) Copies of the periodic reports as specified in § 63.182(d) of this subpart, if records are not maintained on a computerized database capable of generating summary reports from the records.

(e) The owner or operator of a batch product process who elects to pressure test the batch product process equipment train to demonstrate compliance with this subpart is exempt from the requirements of paragraphs (b), (c), (d), and (f) of this section. Instead, the owner or operator shall
maintain records of the following information:

(1) The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in a batch product process equipment train.

(2) [Reserved]

(3) Physical tagging of the equipment to identify that it is in organic HAP service and subject to the provisions of this subpart is not required. Equipment in a batch product process subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(4) The dates of each pressure test required in § 63.178(b) of this subpart, the test pressure, and the pressure drop observed during the test.

(5) Records of any visible, audible, or olfactory evidence of fluid loss.

(6) When a batch product process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years:

(i) The date of each pressure test and the date of each leak repair attempt.

(ii) Repair methods applied in each attempt to repair the leak.

(iii) The reason for the delay of repair.

(iv) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment.

(v) The date of successful repair.

(f) The dates and results of each compliance test required for compressors subject to the provisions
in § 63.164(i) and the dates and results of the monitoring following a pressure release for each pressure relief device subject to the provisions in §§ 63.165 (a) and (b) of this subpart. The results shall include:

(1) The background level measured during each compliance test.

(2) The maximum instrument reading measured at each piece of equipment during each compliance test.

(g) The owner or operator shall maintain records of the information specified in paragraphs (g)(1) through (g)(3) of this section for closed-vent systems and control devices subject to the provisions
of § 63.172 of this subpart. The records specified in paragraph (g)(1) of this section shall be retained for the life of the equipment. The records specified in paragraphs (g)(2) and (g)(3) of this section shall be retained for 2 years.

(1) The design specifications and performance demonstrations specified in paragraphs (g)(1)(i) through (g)(1)(iv) of this section.

(i) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

(ii) The dates and descriptions of any changes in the design specifications.

(iii) The flare design (i.e., steam-assisted, air-assisted, or non-assisted) and the results of the compliance demonstration required by § 63.11(b) of subpart A of this part.

(iv) A description of the parameter or parameters monitored, as required in § 63.172(e) of this subpart, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(2) Records of operation of closed-vent systems and control devices, as specified in paragraphs (g)(2)(i) through (g)(2)(iii) of this section.

(i) Dates and durations when the closed-vent systems and control devices required in §§ 63.163 through 63.166, and § 63.170 of this subpart are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame.

(ii) Dates and durations during which the monitoring system or monitoring device is inoperative.

(iii) Dates and durations of start-ups and shutdowns of control devices required in §§ 63.163 through 63.166, and § 63.170 of this subpart.

(3) Records of inspections of closed-vent systems subject to the provisions of § 63.172, as specified in paragraphs (g)(3)(i) through (g)(3)(ii) of this section.

(i) For each inspection conducted in accordance with the provisions of § 63.172(f)(1) or (f)(2) of this subpart during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(ii) For each inspection conducted in accordance with the provisions of § 63.172(f)(1) or (f)(2) of this subpart during which leaks were detected, the information specified in paragraph (d) of this section shall be recorded.

(h) Each owner or operator of a process unit subject to the requirements of §§ 63.175 and 63.176 of this subpart shall maintain the records specified in paragraphs (h)(1) through (h)(9) of this section for the period of the quality improvement program for the process unit.

(1) For owners or operators who elect to use a reasonable further progress quality improvement program, as specified in § 63.175(d) of this subpart:

(i) All data required in § 63.175(d)(2) of this subpart.

(ii) The percent leaking valves observed each quarter and the rolling average percent reduction observed in each quarter.

(iii) The beginning and ending dates while meeting the requirements of § 63.175(d) of this subpart.

(2) For owners or operators who elect to use a quality improvement program of technology review and improvement, as specified in § 63.175(e) of this subpart:

(i) All data required in § 63.175(e)(2) of this subpart.

(ii) The percent leaking valves observed each quarter.

(iii) Documentation of all inspections conducted under the requirements of § 63.175(e)(4) of this subpart, and any recommendations for design or specification changes to reduce leak frequency.

(iv) The beginning and ending dates while meeting the requirements of § 63.175(e) of this subpart.

(3) For owners or operators subject to the requirements of the pump quality improvement program as specified in § 63.176 of this subpart:

(i) All data required in § 63.176(d)(2) of this subpart.

(ii) The rolling average percent leaking pumps.

(iii) Documentation of all inspections conducted under the requirements of § 63.176(d)(4) of this subpart, and any recommendations for design or specification changes to reduce leak frequency.

(iv) The beginning and ending dates while meeting the requirements of § 63.176(d) of this subpart.

(4) If a leak is not repaired within 15 calendar days after discovery of the leak, the reason for the delay and the expected date of successful repair.

(5) Records of all analyses required in §§ 63.175(e) and 63.176(d) of this subpart. The records will include the following:

(i) A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices.

(ii) The reasons for rejecting specific candidate superior emission performing valve or pump technology from performance trials.

(iii) The list of candidate superior emission performing valve or pump technologies, and documentation of the performance trial program items required under §§ 63.175(e)(6)(iii) and 63.176(d)(6)(iii) of this subpart.

(iv) The beginning date and duration of performance trials of each candidate superior emission performing technology.

(6) All records documenting the quality assurance program for valves or pumps as specified in §§ 63.175(e)(7) and 63.176(d)(7) of this subpart.

(7) Records indicating that all valves or pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance requirements in § 63.175(e)(7) and § 63.176(d)(7) of this subpart.

(8) Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in § 63.176(d)(8) of this subpart.

(9) Information and data to show the corporation has fewer than 100 employees, including employees providing professional and technical contracted services.

(i) The owner or operator of equipment in heavy liquid service shall comply with the requirements of either paragraph (i)(1) or (i)(2) of this section, as provided in paragraph (i)(3) of this section.

(1) Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service.

(2) When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service.

(3) A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of ‘‘in light liquid service.’’ Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

(j) Identification, either by list, location (area or group) of equipment in organic HAP service less than 300 hours per year within a process unit subject to the provisions of this subpart under § 63.160 of this subpart.

(k) Owners and operators choosing to comply with the requirements of § 63.179 of this subpart shall maintain the following records:

(1) Identification of the process unit(s) and the organic HAP's they handle.

(2) A schematic of the process unit, enclosure, and closed-vent system.

(3) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

§ 63.182 Reporting requirements.

(a) Each owner or operator of a source subject to this subpart shall submit the reports listed in paragraphs (a)(1) through (a)(5) of this section. Owners or operators requesting an extension of compliance shall also submit the report listed in paragraph (a)(6) of this section.

(1) An Initial Notification described in paragraph (b) of this section, and

(2) A Notification of Compliance Status described in paragraph (c) of this section,

(3) Periodic Reports described in paragraph (d) of this section, and

(4)–(5) [Reserved]

(6) Pursuant to section 112(i)(3)(B) of the Act, an owner or operator may request an extension allowing an existing source up to 1 additional year beyond the compliance date specified in the subpart that references this subpart.

(i) For purposes of this subpart, a request for an extension shall be submitted to the operating permit authority as part of the operating permit application. If the State in which the source is located does not have an approved operating permit program, a request for an extension shall be submitted to the Administrator as a separate submittal. The dates specified in § 63.6(i) of subpart A of this part for submittal of requests for extensions shall not apply to sources subject to this subpart.

(ii) A request for an extension of compliance must include the data described in § 63.6(i)(6)(i)(A), (B), and (D) of subpart A of this part.

(iii) The requirements in § 63.6(i)(8) through (i)(14) of subpart A of this part will govern the review and approval of requests for extensions of compliance with this subpart.

(b) Each owner or operator of an existing or new source subject to the provisions of this subpart shall submit a written Initial Notification to the Administrator, containing the information described in paragraph (b)(1), according to the schedule in paragraph (b)(2) of this section. The Initial Notification provisions in § 63.9(b)(1) through (b)(3) of subpart A of this part shall not apply to owners or operators of sources subject to this subpart.

(1) The Initial Notification shall include the following information:

(i) The name and address of the owner or operator;

(ii) The address (physical location) of the affected source;

(iii) An identification of the chemical manufacturing processes subject to this subpart; and

(iv) A statement of whether the source can achieve compliance by the applicable compliance date specified in the subpart in 40 CFR part 63 that references this subpart.

(2) The Initial Notification shall be submitted according to the schedule in paragraph (b)(2)(i), (b)(2)(ii), or (b)(2)(iii) of this section, as applicable.

(i) For an existing source, the Initial Notification shall be submitted within 120 days after the date of promulgation of the subpart that references this subpart.

(ii) For a new source that has an initial start-up 90 days after the date of promulgation of this subpart or later, the application for approval of construction or reconstruction required by § 63.5(d) of subpart A of this part shall be submitted in lieu of the Initial Notification. The application shall be submitted as soon as practicable before the construction or reconstruction is planned to commence (but it need not be sooner than 90 days after the date of promulgation of the subpart that references this subpart).

(iii) For a new source that has an initial start-up prior to 90 days after the date of promulgation of the applicable subpart, the Initial Notification shall be submitted within 90 days after the date of promulgation of the subpart that references this subpart.

(c) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status within 90 days after the compliance dates specified in the subpart in 40 CFR part 63 that references this subpart, except as provided in paragraph (c)(4) of this section.

(1) The notification shall provide the information listed in paragraphs (c)(1)(i) through (c)(1)(iv) of this section for each process unit subject to the requirements of § 63.163 through § 63.174 of this subpart.

(i) Process unit identification.

(ii) Number of each equipment type (e.g., valves, pumps) excluding equipment in vacuum service.

(iii) Method of compliance with the standard (for example, ‘‘monthly leak detection and repair’’ or ‘‘equipped with dual mechanical seals’’).

(iv) Planned schedule for each phase of the requirements in § 63.163 and § 63.168 of this subpart.

(2) The notification shall provide the information listed in paragraphs (c)(2)(i) and (c)(2)(ii) of this section for each process unit subject to the requirements of § 63.178(b) of this subpart.

(i) Batch products or product codes subject to the provisions of this subpart, and

(ii) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this subpart.

(3) The notification shall provide the information listed in paragraphs (c)(3)(i) and (c)(3)(ii) of this section for each process unit subject to the requirements in § 63.179 of this subpart.

(i) Process unit identification.

(ii) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of § 63.172 of this subpart.

(4) For existing sources subject to subpart F of this part, the Notification of Compliance Status shall be submitted for the group of process units with the earliest compliance date specified in § 63.100(k) of subpart F of this part, by no later than 90 days after the compliance date for that group. The Notification of Compliance Status for each subsequent group shall be submitted as part
of the first periodic report that is due not less than 90 days after the compliance date for that group.

(d) The owner or operator of a source subject to this subpart shall submit Periodic Reports.

(1) A report containing the information in paragraphs (d)(2), (d)(3), and (d)(4) of this section shall be submitted semiannually starting 6 months after the Notification of Compliance Status, as required in paragraph (c) of this section. The first periodic report shall cover the first 6

months after the compliance date specified in § 63.100(k)(3) of subpart F. Each subsequent periodic report shall cover the 6 month period following the preceding period.

(2) For each process unit complying with the provisions of § 63.163 through § 63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period.

(i) The number of valves for which leaks were detected as described in § 63.168(b) of this subpart, the percent leakers, and the total number of valves monitored;

(ii) The number of valves for which leaks were not repaired as required in § 63.168(f) of this subpart, identifying the number of those that are determined nonrepairable;

(iii) The number of pumps for which leaks were detected as described in § 63.163(b) of this subpart, the percent leakers, and the total number of pumps monitored;

(iv) The number of pumps for which leaks were not repaired as required in § 63.163(c) of this subpart;

(v) The number of compressors for which leaks were detected as described in § 63.164(f) of this subpart;

(vi) The number of compressors for which leaks were not repaired as required in § 63.164(g) of this subpart;

(vii) The number of agitators for which leaks were detected as described in § 63.173(a) and (b) of this subpart;

(viii) The number of agitators for which leaks were not repaired as required in § 63.173(c) of this subpart;

(ix) The number of connectors for which leaks were detected as described in § 63.174(a) of this subpart, the percent of connectors leaking, and the total number of connectors monitored;

(x) [Reserved]

(xi) The number of connectors for which leaks were not repaired as required in § 63.174(d) of this subpart, identifying the number of those that are determined nonrepairable;

(xii) [Reserved]

(xiii) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.

(xiv) The results of all monitoring to show compliance with §§ 63.164(i), 63.165(a), and 63.172(f) of this subpart conducted within the semiannual reporting period.

(xv) If applicable, the initiation of a monthly monitoring program under § 63.168(d)(1)(i) of this subpart, or a quality improvement program under either §§ 63.175 or 63.176 of this subpart.

(xvi) If applicable, notification of a change in connector monitoring alternatives as described in § 63.174(c)(1) of this subpart.

(xvii) If applicable, the compliance option that has been selected under § 63.172(n).

(3) For owners or operators electing to meet the requirements of § 63.178(b) of this subpart, the report shall include the information listed in paragraphs (i) through (v) of this paragraph for each process unit.

(i) Batch product process equipment train identification;

(ii) The number of pressure tests conducted;

(iii) The number of pressure tests where the equipment train failed the pressure test;

(iv) The facts that explain any delay of repairs; and

(v) The results of all monitoring to determine compliance with § 63.172(f) of this subpart.

(4) The information listed in paragraph (c) of this section for the Notification of Compliance Status for process units with later compliance dates. Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report.

§63.183 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in Sec. Sec. 63.160, 63.162 through 63.176, 63.178 through 63.179. Follow the applicable procedures of Sec. 63.177 to request an alternative means of emission limitation for batch processes and enclosed-vented process units. Where these standards reference another subpart, the cited provisions will be delegated according to the delegation provisions of the referenced subpart. Where these standards reference another subpart and modify the requirements, the requirements shall be modified as described in this subpart. Delegation of the modified requirements will also occur according to the delegation provisions of the referenced subpart.

(2) Approval of major alternatives to test methods under Sec. 63.7(e)(2)(ii) and (f), as defined in Sec. 63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under Sec. 63.8(f), as defined in Sec. 63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under Sec. 63.10(f), as defined in Sec. 63.90, and as required in this subpart.

TABLE 1 TO SUBPART H - BATCH PROCESSES

Monitoring Frequency for Equipment Other than Connectors

Operating time (% of year)	Equivalent continuous process monitoring frequency time in use		
	Monthly	Quarterly	Semiannually
0 to <25	Quarterly	Annually	Annually.
25 to <50	Quarterly	Semiannually	Annually.
50 to <75	Bimonthly	Three times	Semiannually.
75 to 100	Monthly	Quarterly	Semiannually.

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TABLE 2 TO SUBPART H - SURGE CONTROL VESSELS AND BOTTOMS RECEIVERS AT EXISTING SOURCES

Vessel capacity (cubic meters)	Vapor pressure[1] (kilopascals)
75 ≤ capacity < 151	≥ 13.1
151 ≤ capacity	≥ 5.2 a

[1] Maximum true vapor pressure of total organic HAP at operating temperature as defined in subpart G of this part.

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TABLE 3 TO SUBPART H - SURGE CONTROL VESSELS AND BOTTOMS RECEIVERS AT NEW SOURCES

Vessel capacity (cubic meters)	Vapor pressure[1] (kilopascals)
38 ≤ capacity < 151	≥ 13.1
151 ≤ capacity	≥ 0.7

[1] Maximum true vapor pressure of total organic HAP at operating temperature as defined in subpart G of this part.

Appendix to Subpart H- General Provisions to Subpart F, G, and H to Subpart F

§ 63.1 Applicability.

(a) *General.*

(1) Terms used throughout this part are defined in § 63.2 or in the Clean Air Act (Act) as amended in 1990, except that individual subparts of this part may include specific definitions in addition to or that supersede definitions in § 63.2. **Overlap clarified in Sec. 63.101, 63.111, 63.161.**

(2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in 40 CFR part 61. The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of enactment of the Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.

(3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act (section 111, part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard

under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard. **Sec. 63.110 and 63.160(b) of subparts G and H identify which standards are overridden.**

(4) **Subpart F specifies applicability of each paragraph in subpart A to Subparts F, G, and H.**

(5) [Reserved]

(6) **[Reserved]**

(7) [Reserved]

(8) [Reserved]

(9) [Reserved]

(10) **Subpart F, G, and H specify calendar or operating day.**

(11) **Subpart F Sec. 63.103(d) specifies acceptable methods for submitting reports.**

(12) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in § 63.9(i).

(13) [Reserved]

(14) [Reserved]

(b) *Initial applicability determination for this part.*

(1) **Subpart F specifies applicability**

(2) [Reserved]

(3) **[Reserved]**

(c) *Applicability of this part after a relevant standard has been set under this part.*

(1) Subpart F specifies applicability

(2) Area Sources are not subject to subparts F, G, and H.

(3) [Reserved]

(4) [Reserved]

(5) **Subpart G and H specify applicable notification requirements**

(d) [Reserved]

(e) **Subparts F, G, and H established before permit program.**

§ 63.2 Definitions.

Subpart F Sec. 63.101(a) specifies those subpart A definitions that apply to the HON, Subpart F definition of "source" is equivalent to subpart A definition of "affected source."

The terms used in this part are defined in the Act or in this section as follows:

Act means the Clean Air Act (42 U.S.C. 7401 et seq., as amended by Pub. L. 101–549, 104 Stat. 2399).

Actual emissions is defined in subpart D of this part for the purpose of granting a compliance extension for an early reduction of hazardous air pollutants.

Administrator means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).

Affected source, for the purposes of this part, means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112 of the Act. Each relevant standard will define the "affected source," as defined in this paragraph unless a different definition is warranted based on a published justification as to why this definition would result in significant administrative, practical, or implementation problems and why the different definition would resolve those problems. The term "affected source," as used in this part, is separate and distinct from any other use of that term in EPA regulations such as those implementing title IV of the Act. Affected source may be defined differently for part 63 than affected facility and stationary source in parts 60 and 61, respectively. This definition of "affected source," and the procedures for adopting an alternative definition of "affected source," shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002.

Alternative emission limitation means conditions established pursuant to sections 112(i)(5) or 112(i)(6) of the Act by the Administrator or by a State with an approved permit program.

Alternative emission standard means an alternative means of emission limitation that, after notice and opportunity for public comment, has been demonstrated by an owner or operator to the Administrator's satisfaction to achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such pollutant achieved under a relevant design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act.

Alternative test method means any method of sampling and analyzing for an air pollutant that is not a test method in this chapter and that has been demonstrated to the Administrator's satisfaction, using Method 301 in Appendix A of this part, to produce results adequate for the Administrator's determination that it may be used in place of a test method specified in this part.

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to title V of the Act (42 U.S.C. 7661).

Area source means any stationary source of hazardous air pollutants that is not a major source as defined in this part.

Commenced means, with respect to construction or reconstruction of an affected source, that an owner or operator has undertaken a continuous program of construction or reconstruction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or reconstruction.

Compliance date means the date by which an affected source is required to be in compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established by the Administrator (or a State with an approved permit program) pursuant to section 112 of the Act.

Compliance schedule means:

(1) In the case of an affected source that is in compliance with all applicable requirements established under this part, a statement that the source will continue to comply with such requirements; or

(2) In the case of an affected source that is required to comply with applicable requirements by a future date, a statement that the source will meet such requirements on a timely basis and, if required by an applicable requirement, a detailed schedule of the dates by which each step toward compliance will be reached; or

(3) In the case of an affected source not in compliance with all applicable requirements established under this part, a schedule of remedial measures, including an enforceable sequence of actions or operations with milestones and a schedule for the submission of certified progress

reports, where applicable, leading to compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established pursuant to section 112 of the Act for which the affected source is not in compliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction non-compliance with, the applicable requirements on which it is based.

Construction means the on-site fabrication, erection, or installation of an affected source. Construction does not include the removal of all equipment comprising an affected source from an existing location and reinstallation of such equipment at a new location. The owner or operator of an existing affected source that is relocated may elect not to reinstall minor ancillary equipment including, but not limited to, piping, ductwork, and valves. However, removal and reinstallation of an affected source will be construed as reconstruction if it satisfies the criteria for reconstruction as defined in this section. The costs of replacing minor ancillary equipment must be considered in determining whether the existing affected source is reconstructed.

Continuous emission monitoring system (CEMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of emissions.

Continuous monitoring system (CMS) is a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by the regulation.

Continuous opacity monitoring system (COMS) means a continuous monitoring system that measures the opacity of emissions.

Continuous parameter monitoring system means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Effective date means:

(1) With regard to an emission standard established under this part, the date of promulgation in the FEDERAL REGISTER of such standard; or

(2) With regard to an alternative emission limitation or equivalent emission limitation determined by the Administrator (or a State with an approved permit program), the date that the alternative emission limitation or equivalent emission limitation becomes effective according to the provisions of this part.

Emission standard means a national standard, limitation, prohibition, or other regulation promulgated in a subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act.

Emissions averaging is a way to comply with the emission limitations specified in a relevant standard, whereby an affected source, if allowed under a subpart of this part, may create emission credits by reducing emissions from specific points to a level below that required by the relevant standard, and those credits are used to offset emissions from points that are not controlled to the level required by the relevant standard.

EPA means the United States Environmental Protection Agency.

Equivalent emission limitation means any maximum achievable control technology emission limitation or requirements which are applicable to a major source of hazardous air pollutants and are adopted by the Administrator (or a State with an approved permit program) on a case-by-case basis, pursuant to section 112(g) or (j) of the Act.

Excess emissions and continuous monitoring system performance report is a report that must be submitted periodically by an affected source in order to provide data on its compliance with relevant emission limits, operating parameters, and the performance of its continuous parameter monitoring systems.

Existing source means any affected source that is not a new source.

Federally enforceable means all limitations and conditions that are enforceable by the Administrator and citizens under the Act or that are enforceable under other statutes administered by the Administrator. Examples of federally enforceable limitations and conditions include, but are not limited to:

(1) Emission standards, alternative emission standards, alternative emission limitations, and equivalent emission limitations established pursuant to section 112 of the Act as amended in 1990;

(2) New source performance standards established pursuant to section 111 of the Act, and emission standards established pursuant to section 112 of the Act before it was amended in 1990;

(3) All terms and conditions in a title V permit, including any provisions that limit a source's potential to emit, unless expressly designated as not federally enforceable;

(4) Limitations and conditions that are part of an approved State Implementation Plan (SIP) or a Federal Implementation Plan (FIP);

(5) Limitations and conditions that are part of a Federal construction permit issued under 40 CFR 52.21 or any construction permit issued under regulations approved by the EPA in accordance with 40 CFR part 51;

(6) Limitations and conditions that are part of an operating permit where the permit and the permitting program pursuant to which it was issued meet all of the following criteria:

(i) The operating permit program has been submitted to and approved by EPA into a State implementation plan (SIP) under section 110 of the CAA;

(ii) The SIP imposes a legal obligation that operating permit holders adhere to the terms and limitations of such permits and provides that permits which do not conform to the operating permit program requirements and the requirements of EPA's underlying regulations may be deemed not "federally enforceable" by EPA;

(iii) The operating permit program requires that all emission limitations, controls, and other requirements imposed by such permits will be at least as stringent as any other applicable limitations and requirements contained in the SIP or enforceable under the SIP, and that the program may not issue permits that waive, or make less stringent, any limitations or requirements contained in or issued pursuant to the SIP, or that are otherwise "federally enforceable";

(iv) The limitations, controls, and requirements in the permit in question are permanent, quantifiable, and otherwise enforceable as a practical matter; and

(v) The permit in question was issued only after adequate and timely notice and opportunity for comment for EPA and the public.

(7) Limitations and conditions in a State rule or program that has been approved by the EPA under subpart E of this part for the purposes of implementing and enforcing section 112; and

(8) Individual consent agreements that the EPA has legal authority to create.

Fixed capital cost means the capital needed to provide all the depreciable components of an existing source.

Fugitive emissions means those emissions from a stationary source that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Under section 112 of the Act, all fugitive emissions are to be considered in determining whether a stationary source is a major source.

Hazardous air pollutant means any air pollutant listed in or pursuant to section 112(b) of the Act.

Issuance of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Monitoring means the collection and use of measurement data or other information to control the operation of a process or pollution control device or to verify a work practice standard relative to assuring compliance with applicable requirements. Monitoring is composed of four elements:

(1) Indicator(s) of performance -- the parameter or parameters you measure or observe for demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates, and recorded findings of inspection of work practice activities, materials tracking, or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking), or an interdependency between two or among more than two variables.

(2) Measurement techniques -- the means by which you gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include continuous emission monitoring systems, continuous opacity monitoring systems, continuous parametric monitoring systems, and manual inspections that include making records of process conditions or work practices.

(3) Monitoring frequency -- the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems, and at least once per operating day (or week, month, etc.) for work practice or design inspections.

(4) Averaging time -- the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, and an instantaneous alarm.

New affected source means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory that is subject to a section 112(d) or other relevant standard for new sources. This definition of "new affected source," and the criteria to be utilized in implementing it, shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002. Each relevant standard will define the term "new affected source," which will

be the same as the "affected source" unless a different collection is warranted based on consideration of factors including:

(1) Emission reduction impacts of controlling individual sources versus groups of sources;

(2) Cost effectiveness of controlling individual equipment;

(3) Flexibility to accommodate common control strategies;

(4) Cost/benefits of emissions averaging;

(5) Incentives for pollution prevention;

(6) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices);

(7) Feasibility and cost of monitoring; and

(8) Other relevant factors.

New source means any affected source the construction or reconstruction of which is commenced after the Administrator first proposes a relevant emission standard under this part establishing an emission standard applicable to such source.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. For continuous opacity monitoring systems, opacity means the fraction of incident light that is attenuated by an optical medium.

Owner or operator means any person who owns, leases, operates, controls, or supervises a stationary source..

Performance audit means a procedure to analyze blind samples, the content of which is known by the Administrator, simultaneously with the analysis of performance test samples in order to provide a measure of test data quality.

Performance evaluation means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

Permit modification means a change to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permit program means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

Permit revision means any permit modification or administrative permit amendment to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permitting authority means:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

Reconstruction means the replacement of components of an affected or a previously unaffected stationary source to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and

(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

Regulation promulgation schedule means the schedule for the promulgation of emission standards under this part, established by the Administrator pursuant to section 112(e) of the Act and published in the FEDERAL REGISTER.

Relevant standard means:

(1) An emission standard;

(2) An alternative emission standard;

(3) An alternative emission limitation; or

(4) An equivalent emission limitation established pursuant to section 112 of the Act that applies to the collection of equipment, activities, or both regulated by such standard or limitation. A relevant standard may include or consist of a design, equipment, work practice, or operational requirement, or other measure, process, method, system, or technique (including prohibition of emissions) that the Administrator (or a State) establishes for new or existing sources to which such standard or limitation applies. Every relevant standard established pursuant to section 112 of the Act includes subpart A of this part, as provided by § 63.1(a)(4), and all applicable appendices of this part or of other parts of this chapter that are referenced in that standard.

Responsible official means one of the following:

(1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representative is approved in advance by the Administrator.

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.

(3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).

(4) For affected sources (as defined in this part) applying for or subject to a title V permit: ‘‘responsible official’’ shall have the same meaning as defined in part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever is applicable.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this part.

Shutdown means the cessation of operation of an affected source or portion of an affected source for any purpose.

Six-minute period means, with respect to opacity determinations, any one of the 10 equal parts of a 1-hour period.

Standard conditions means a temperature of 293 ^{o}K (68° F) and a pressure of 101.3 kilopascals (29.92 in. Hg).

Startup means the setting in operation of an affected source for any purpose.

State means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement:

(1) The provisions of this part and/or

(2) the permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant.

Test method means the validated procedure for sampling, preparing, and analyzing for an air pollutant specified in a relevant standard as the performance test procedure. The test method may include methods described in an appendix of this chapter, test methods incorporated by reference in this part, or methods validated for an application through procedures in Method 301 of appendix A of this part.

Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

Visible emission means the observation of an emission of opacity or optical density above the threshold of vision.

Working day means any day on which Federal Government offices (or State government offices for a State that has obtained delegation under section 112(l)) are open for normal business. Saturdays, Sundays, and official Federal (or where delegated, State) holidays are not working days.

§ 63.3 Units and abbreviations.

Units of Measure are spelled out in subparts F, G, and H.

§ 63.4 Prohibited activities and circumvention.

(a) *Prohibited activities.*

(1) No owner or operator subject to the provisions of this part must operate any affected source in violation of the requirements of this part. Affected sources subject to and in compliance with either an extension of compliance or an exemption from compliance are not in violation of the requirements of this part. An extension of compliance can be granted by the Administrator under this part; by a State with an approved permit program; or by the President under section 112(i)(4) of the Act.

(2) No owner or operator subject to the provisions of this part shall fail to keep records, notify, report, or revise reports as required under this part.

(3) [Reserved]

(4) [Reserved]

(5) [Reserved]

(b) *Circumvention.* No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to

(1) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere;

(2) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions; and

(3) [Reserved]

(c) *Severability*. Notwithstanding any requirement incorporated into a title V permit obtained by an owner or operator subject to the provisions of this part, the provisions of this part are federally enforceable.

§ 63.5 Preconstruction review and notification requirements.

(a) *Applicability*.

(1) This section implements the preconstruction review requirements of section 112(i)(1) for sources subject to a relevant emission standard that has been promulgated in this part. In addition, this section includes other requirements for constructed and reconstructed stationary sources that are or become subject to a relevant promulgated emission standard. **Except the terms "source" and "stationary source" in Sec. 63.5(a)(1) should be interpreted as having the same meaning as "affected source".**

(2) After the effective date of a relevant standard promulgated under this part, the requirements in this section apply to owners or operators who construct a new source or reconstruct a source after the proposal date of that standard. New or reconstructed sources that start up before the standard's effective date are not subject to the preconstruction review requirements specified in paragraphs (b)(3), (d), and (e) of this section.

(b) *Requirements for existing, newly constructed, and reconstructed sources*.

(1) A new affected source for which construction commences after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates. An affected source for which reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source. **Except Sec. 63.100(l) defines when construction or reconstruction is subject to standards for new sources.**

(2) [Reserved]

(3) After the effective date of any relevant standard promulgated by the Administrator under this part, no person may, without obtaining written approval in advance from the Administrator in accordance with the procedures specified in paragraphs (d) and (e) of this section, do any of the following:

(i) Construct a new affected source that is major-emitting and subject to such standard;

(ii) Reconstruct an affected source that is major-emitting and subject to such standard; or

(iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.

(4) After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in § 63.9(b). **Except the cross reference to Sec. 63.9(b) is limited to 63.9(b)(4) and (5). Subpart F overrides 63.9(b)(1) and (3).**

(5) [Reserved]

(6) After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source. **Except Sec. 63.100(l) defines when construction or reconstruction is subject to standards for new sources.**

(c) [Reserved]

(d) *Application for approval of construction or reconstruction*. The provisions of this paragraph implement section 112(i)(1) of the Act.

(1) *General application requirements*.

(i) **For subpart F, see Sec. 63.151(b)(2)(ii) and (2)(iii) for the applicability and timing of this submittal; for subpart H, see Sec. 63.182(b)(2)(ii) and (b)(2)(iii) for applicability and timing of this submittal.**

(ii) A separate application shall be submitted for each construction or reconstruction. Each application for approval of construction or reconstruction shall include at a minimum:

(A) The applicant's name and address;

(B) A notification of intention to construct a new major affected source or make any physical or operational change to a major affected source that may meet or has been determined to meet the criteria for a reconstruction, as defined in § 63.2 or in the relevant standard;

(C) The address (i.e., physical location) or proposed address of the source;

(D) An identification of the relevant standard that is the basis of the application;

(E) The expected date of the beginning of actual construction or reconstruction;

(F) The expected completion date of the construction or reconstruction;

(G) [Reserved]

(H) **[Reserved]**

(I) [Reserved]

(J) Other information as specified in paragraphs (d)(2) and (d)(3) of this section.

(iii) **Subpart G requires submittal of the Notification of Compliance Status in Sec. 63.152(b); subpart H specifies requirements in Sec. 63.182(c).**

(2) *Application for approval of construction.* Each application for approval of construction must include, in addition to the information required in paragraph (d)(1)(ii) of this section, technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including an identification of each type of emission point for each type of hazardous air pollutant that is emitted (or could reasonably be anticipated to be emitted) and a description of the planned air pollution control system (equipment or method) for each emission point. The description of the equipment to be used for the control of emissions must include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions must include an estimated control efficiency (percent) for that method. Such technical information must include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations.

(3) *Application for approval of reconstruction*. **[Not applicable for subpart H, except Sec. 63.5(d)(3)(ii) does not apply to subpart G.** Each application for approval of reconstruction shall include, in addition to the information required in paragraph (d)(1)(ii) of this section -

(i) A brief description of the affected source and the components that are to be replaced;

(ii) A description of present and proposed emission control systems (i.e., equipment or methods). The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations;

(iii) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source;

(iv) The estimated life of the affected source after the replacements; and

(v) A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.

(vi) If in the application for approval of reconstruction the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or other requirements, the owner or operator need not submit the information required in paragraphs (d)(3)(iii) through (d)(3)(v) of this section.

(4) *Additional information*. The Administrator may request additional relevant information after the submittal of an application for approval of construction or reconstruction.

(e) *Approval of construction or reconstruction.*

(1) (i) If the Administrator determines that, if properly constructed, or reconstructed, and operated, a new or existing source for which an application under paragraph (d) of this section was submitted will not cause emissions in violation of the relevant standard(s) and any other federally enforceable requirements, the Administrator will approve the construction or reconstruction.

(ii) In addition, in the case of reconstruction, the Administrator's determination under this paragraph will be based on:

(A) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new source;

(B) The estimated life of the source after the re-placements compared to the life of a comparable entirely new source;

(C) The extent to which the components being replaced cause or contribute to the emissions from the source; and

(D) Any economic or technical limitations on compliance with relevant standards that are inherent in the proposed replacements.

(2) (i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of construction or reconstruction within 60 calendar days after receipt of sufficient information to evaluate an application submitted under paragraph (d) of this section. The 60-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original

application and within 30 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(3) Before denying any application for approval of construction or reconstruction, the Administrator will notify the applicant of the Administrator's intention to issue the denial together with - (i) Notice of the information and findings on which the intended denial is based; and

(ii) Notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator to enable further action on the application.

(4) A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 calendar days of presentation of additional information or arguments (if the application is complete), or within 60 calendar days after the final date specified for presentation if no presentation is made.

(5) Neither the submission of an application for approval nor the Administrator's approval of construction or reconstruction shall -

(i) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or (ii) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(f) *Approval of construction or reconstruction based on prior State preconstruction review*.

(1) Preconstruction review procedures that a State utilizes for other purposes may also be utilized for purposes of this section if the procedures are substantially equivalent to those specified in this section. The Administrator will approve an application for construction or reconstruction specified in paragraphs (b)(3) and (d) of this section if the owner or operator of a new affected source or reconstructed affected source, who is subject to such requirement meets the following conditions:

(i) The owner or operator of the new affected source or reconstructed affected source has undergone a preconstruction review and approval process in the State in which the source is (or would be) located and has received a federally enforceable construction permit that contains a finding that the source will meet the relevant promulgated emission standard, if the source is properly built and operated.

(ii) Provide a statement from the State or other evidence (such as State regulations) that it considered the factors specified in paragraph (e)(1) of this section.

(2) The owner or operator must submit to the Administrator the request for approval of construction or reconstruction under this paragraph (f)(2) no later than the application deadline specified in paragraph (d)(1) of this section (see also § 63.9(b)(2)). The owner or operator must include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in paragraph (e) of this section. The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction under this paragraph (f)(2). **Except the cross-reference to Sec. 63.5(d)(1) is changed to Sec. 63.151(b)(2)(ii) of subpart G and to Sec. 63.182(b)(2)(ii) of subpart H. The cross-reference to Sec. 63.5(b)(2) does not apply.**

§ 63.6 Compliance with standards and maintenance requirements.

(a) *Applicability*.

(1) The requirements in this section apply to the owner or operator of affected sources for which any relevant standard has been established pursuant to section 112 of the Act and the applicability of such requirements is set out in accordance with § 63.1(a)(4) unless --

(i) The Administrator (or a State with an approved permit program) has granted an extension of compliance consistent with paragraph (i) of this section; or

(ii) The President has granted an exemption from compliance with any relevant standard in accordance with section 112(i)(4) of the Act.

(2) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source, such source shall be subject to the relevant emission standard or other requirement.

(b) *Compliance dates for new and reconstructed sources*.

(1) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source for which construction or reconstruction commences after proposal of a relevant standard that has an initial startup before the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard not later than the standard's effective date.

(2) **[Reserved]**

(3) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established under this part pursuant to section 112(d), 112(f), or 112(h) of the Act but before the effective date (that is, promulgation) of such standard shall comply with the relevant emission standard not later than the date 3 years after the effective date if:

(i) The promulgated standard (that is, the relevant standard) is more stringent than the proposed standard; for purposes of this paragraph, a finding that controls or compliance methods are "more stringent" must include control technologies or performance criteria and compliance or compliance assurance methods that are different but are substantially equivalent to those required by the promulgated rule, as determined by the Administrator (or his or her authorized representative); and

(ii) The owner or operator complies with the standard as proposed during the 3-year period immediately after the effective date.

(4) **May apply when standards are proposed under Section 112(f) of the Clean Air Act.**

(5) **Subparts G and H include notification requirements.**

(6) [Reserved]

(7) **[Reserved]**

(c) *Compliance dates for existing sources*.

(1) **Subpart F specifies the compliance dates for subparts G and H.**

(2) **[Reserved]**

(3)–(4) [Reserved]

(5) Except as provided in paragraph (b)(7) of this section, the owner or operator of an area source that increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source shall be subject to relevant standards for existing sources.

Such sources must comply by the date specified in the standards for existing area sources that become major sources. If no such compliance date is specified in the standards, the source shall have a period of time to comply with the relevant emission standard that is equivalent to the compliance period specified in the relevant standard for existing sources in existence at the time the standard becomes effective.

(d) [Reserved]

(e) *Operation and maintenance requirements.* **Except as otherwise specified for individual paragraphs. Does not apply to Group 2 emission points unless they are included in an emissions average.**

(1) (i) **This addressed by Sec. 63.102(a)(4).**

(i) Malfunctions must be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2) [Reserved]

(3) *Startup, shutdown, and malfunction plan.*

(i)The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard. –**For subpart H, the startup, shutdown, and malfunction plan requirement of Sec. 63.6(e)(3)(i) is limited to control devices subject to the provisions of subpart H and is optional for other equipment subject to subpart H. The startup, shutdown and malfunction plan may include written procedures that identify conditions that justify a delay of repair.**

(A) **This addressed by Sec. 63.102(a)(4).**

(B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and

(C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(ii) During periods of startup, shutdown, and malfunction, the owner or operator of an affected source must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (e)(3)(i) of this section.

(iii) **Recordkeeping and reporting are specified in Sec. 63.103(c)(2) of subpart F and Sec 63.152(d)(1) of subpart G.**

(iv) **Recordkeeping and reporting are specified in Sec. 63.103(c)(2) of subpart F and Sec 63.152(d)(1) of subpart G.**

(v) **Record retention requirements are specified in Sec. 63.103(c).**

(vi) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Administrator.

(vii) Based on the results of a determination made under paragraph (e)(1)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

(A) Does not address a startup, shutdown, or malfunction event that has occurred;

(B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;**Except the plan must provide for operation in compliance with Sec. 63.102(a)(4).**

(C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or

(D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in § 63.2.

(viii) The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by § 63.10(d)(5). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

(ix) The title V permit for an affected source must require that the owner or operator adopt a startup, shutdown, and malfunction plan which conforms to the provisions of this part, and that the owner or operator operate and maintain the source in accordance with the procedures specified in the current startup, shutdown, and malfunction plan. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under part 70 or part 71 of this chapter. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act.

(f) *Compliance with nonopacity emission standards* -

(1) *Applicability*. **Sec. 63.102(a) for subpart F specifies when the standard applies.**

(2) *Methods for determining compliance*.

(i) The Administrator will determine compliance with nonopacity emission standards in this part based on the results of performance tests conducted according to the procedures in § 63.7, unless otherwise specified in an applicable subpart of this part.

(ii) The Administrator will determine compliance with nonopacity emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in § 63.6(e) and applicable subparts of this part. **Sec. 63.152(c)(2) of subpart G specifies the use of monitoring data in determining compliance with subpart G. [Not applicable for subpart H]**

(iii) If an affected source conducts performance testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if -

(A) The performance test was conducted within a reasonable amount of time before an initial performance test is required to be conducted under the relevant standard;

(B) The performance test was conducted under representative operating conditions for the source;

(C) The performance test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in § 63.7(e) of this subpart; and

(D) **[Reserved]**

(iv) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by review of records, inspection of the source, and other procedures specified in applicable subparts of this part.

(v) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, as specified in paragraph (e) of this section and applicable subparts of this part.

(3) *Finding of compliance*. The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard, as specified in paragraphs (f)(1) and (2) of this section, upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable), and information available to the Administrator pursuant to paragraph (e)(1)(i) of this section.

(g) *Use of an alternative nonopacity emission standard*.

Procedures specified in Sec. 63.102(b) of Subpart F.

(h) *Compliance with opacity and visible emission standards* -

[Reserved]

(i) *Extension of compliance with emission standards.*

(1) Until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph, the owner or operator of an affected source subject to the requirements of this section shall comply with all applicable requirements of this part.

(2) *Extension of compliance for early reductions and other reductions*

(i) *Early reductions*. Pursuant to section 112(i)(5) of the Act, if the owner or

operator of an existing source demonstrates that the source has achieved a reduction in emissions of hazardous air pollutants in accordance with the provisions of subpart D of this part, the Administrator (or the State with an approved permit program) will grant the owner or operator an extension of compliance with specific requirements of this part, as specified in subpart D.

(ii) *Other reductions*. Pursuant to section 112(i)(6) of the Act, if the owner or operator of an existing source has installed best available control technology (BACT) (as defined in section 169(3) of the Act) or technology required to meet a lowest achievable emission rate (LAER) (as defined in section 171 of the Act) prior to the promulgation of an emission standard in this part applicable to such source and the same pollutant (or stream of pollutants) controlled pursuant to the BACT or LAER installation, the Administrator will grant the owner or operator an extension of compliance with such emission standard that will apply until the date 5 years after the date on which such installation was achieved, as determined by the Administrator.

(3) *Request for extension of compliance*. For **subpart G, Sec. 63.151(a)(6) specifies procedures; for subpart H, Sec. 63.182(a)(6)(i) specifies procedures.**

(4) (i) (A) The owner or operator of an existing source who is unable to comply with a relevant standard established under this part pursuant to section 112(d) of the Act may request that the Administrator (or a State, when the State has an approved part 70 permit program and the source is required to obtain a part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) grant an extension allowing the source up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. An additional extension of up to 3 years may be added for mining waste operations, if the 1-year extension of compliance is insufficient to dry and cover mining waste in order to reduce emissions of any hazardous air pollutant. The owner or operator of an affected source who has requested an extension of compliance under this paragraph and who is otherwise required to obtain a title V permit shall apply for such permit or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph will be incorporated into the affected source's title V permit according to the provisions of part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) **Dates are specified in Sec. 63.151(a)(6)(i) of subpart G and Sec. 63.182(a)(6)(i) of subpart H.**

(C) An owner or operator may submit a compliance extension request after the date specified in paragraph (i)(4)(i)(B) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in paragraph (i)(6)(i) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(ii) **[Reserved]**

(5) The owner or operator of an existing source that has installed BACT or technology required to meet LAER [as specified in paragraph (i)(2)(ii) of this section] prior to the promulgation of a relevant emission standard in this part may request that the Administrator grant an extension allowing the source 5 years from the date on which such installation was achieved, as determined by the Administrator, to comply with the standard. Any request for an extension of compliance with a relevant standard under this paragraph shall be submitted in writing to the Administrator not later than 120 days after the promulgation date of the standard. The Administrator may grant such an extension if he or she finds that the installation of BACT or

technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(6) (i) The request for a compliance extension under paragraph (i)(4) of this section shall include the following information:

(A) A description of the controls to be installed to comply with the standard;

(B) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(*1*) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated; and

(*2*) The date by which final compliance is to be achieved;

(C) [Reserved]

(D) [Reserved]

(ii) The request for a compliance extension under paragraph (i)(5) of this section shall include all information needed to demonstrate to the Administrator's satisfaction that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(7) Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(8) *Approval of request for extension of compliance*. Paragraphs (i)(9) through (i)(14) of this section concern approval of an extension of compliance requested under paragraphs (i)(4) through (i)(6) of this section.

(9) Based on the information provided in any request made under paragraphs (i)(4) through (i)(6) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with an emission standard, as specified in paragraphs (i)(4) and (i)(5) of this section.

(10) The extension will be in writing and will -

(i) Identify each affected source covered by the extension;

(ii) Specify the termination date of the extension;

(iii) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(iv) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests); and

(v) (A) Under paragraph (i)(4), specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period; or

(B) Under paragraph (i)(5), specify any additional conditions that the Administrator deems necessary to assure the proper operation and maintenance of the installed controls during the extension period.

(11) The owner or operator of an existing source that has been granted an extension of compliance under paragraph (i)(10) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached. The contents of the progress reports and the dates by which they shall be submitted will be specified in the written extension of compliance granted under paragraph (i)(10) of this section.

(12) (i) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(i) or (i)(5) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that

is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with -

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(iv) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(13) (i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(ii) of this section. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 15 calendar days after receipt of the original application and within 15 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 15 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator will notify the owner or operator in writing of the Administrator's intention to issue the denial, together with -

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator before further action on the request.

(iv) A final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(14) The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (i)(10)(iii) or (iv) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(i) Notice of the reason for termination; and

(ii) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(iii) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(15) [Reserved]

(16) The granting of an extension under this section shall not abrogate the Administrator’s authority under section 114 of the Act.

(j) *Exemption from compliance with emission standards*. The President may exempt any stationary source from compliance with any relevant standard established pursuant to section 112 of the Act for a period of not more than 2 years if the President determines that the technology to implement such standard is not available and that it is in the national security interests of the United States to do so. An exemption under this paragraph may be extended for 1 or more additional periods, each period not to exceed 2 years.

§ 63.7 Performance testing requirements.

(a) *Applicability and performance test dates.*

(1) **Subparts F, G, and H specify required testing and compliance demonstration procedures.**

(2) **For Subpart G, test results must be submitted in the Notification of Compliance Status due 150 days after compliance date, as specified in Sec. 63.152(b); for subpart H, all test results subject to reporting are reported in periodic reports.**

(3) The Administrator may require an owner or operator to conduct performance tests at the affected source at any other time when the action is authorized by section 114 of the Act.

(b) *Notification of performance test.*

[Reserved]

(c) *Quality assurance program*.

[Reserved]

(d) *Performance testing facilities*. If required to do performance testing, the owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source, shall provide performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such source. This includes:

(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures;

(2) Safe sampling platform(s);

(3) Safe access to sampling platform(s);

(4) Utilities for sampling and testing equipment; and

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

(e) *Conduct of performance tests*.

(1) Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected source. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the level of the relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant standard unless otherwise specified in the relevant standard or a determination of noncompliance is made under § 63.6(e). Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(2) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this section, in each relevant standard, and, if required, in applicable appendices of parts 51, 60, 61, and 63 of this chapter unless the Administrator -

(i) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology (see definition in § 63.90(a)). Such changes may be approved in conjunction with approval of the site-specific test plan (see paragraph (c) of this section); or

(ii) Approves the use of an intermediate or major change or alternative to a test method (see definitions in § 63.90(a)), the results of which the Administrator has determined to be adequate for indicating whether a specific affected source is in compliance; or

(iii) Approves shorter sampling times or smaller sample volumes when necessitated by process variables or other factors; or

(iv) Waives the requirement for performance tests because the owner or operator of an affected source has demonstrated by other means to the Administrator's satisfaction that the affected source is in compliance with the relevant standard.

(3) **Subparts F, G, and H specify applicable methods and provide alternatives.**

(4) Nothing in paragraphs (e)(1) through (e)(3) of this section shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(f) *Use of an alternative test method* -

Subparts F, G, and H specify test methods and procedures.

(g) *Data analysis, recordkeeping, and reporting.*

Performance test reporting specified in Sec. 63.152(b); for subpart G; Not applicable to subpart H because no performance test required by subpart H.

(h) *Waiver of performance tests*.

(1) Until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the

owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) Request to waive a performance test. **Sec. 63.103(b)(5) of subpart F specifies provisions for requests to waive performance tests.**

(4) Approval of request to waive performance test. **[Reserved]**

(5) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.8 Monitoring requirements.

(a) *Applicability.*

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) **[Reserved]**

(3) [Reserved]

(4) Additional monitoring requirements for control devices used to comply with provisions in relevant standards of this part are specified in § 63.11.

(b) *Conduct of monitoring.*

(1) Monitoring shall be conducted as set forth in this section and the relevant standard(s) unless the Administrator -

(i) Specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures (see § 63.90(a) for definition); or

(ii) Approves the use of an intermediate or major change or alternative to any monitoring requirements or procedures (see § 63.90(a) for definition).

(iii) Owners or operators with flares subject to § 63.11(b) are not subject to the requirements of this section unless otherwise specified in the relevant standard.

(2) **Subparts G and H specify locations to conduct monitoring.**

(3) When more than one CMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CMS. However, when one CMS is used as a backup to another CMS, the owner or operator shall report the results from the CMS used to meet the monitoring requirements of this part. If both such CMS are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CMS for the relevant compliance period.

(c) Operation and maintenance of continuous monitoring systems.

(1) The owner or operator of an affected source shall maintain and operate each CMS as specified in this section, or in a relevant standard, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of an affected source must maintain and operate each CMS as specified in § 63.6(e)(1).

(ii) **For subpart G, submit as part of periodic report required by Sec. 63.152 ©; for subpart H, retain as required by Sec. 63.181(g)(2)(ii).**

(iii) The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan for CMS as specified in § 63.6(e)(3).

(2) (i) All CMS must be installed such that representative measures of emissions or process parameters from the affected source are obtained. In addition, CEMS must be located according to procedures contained in the applicable performance specification(s).

(ii) Unless the individual subpart states otherwise, the owner or operator must ensure the read out (that portion of the CMS that provides a visual display or record), or other indication of operation, from any CMS required for compliance with the emission standard is readily accessible on site for operational control or inspection by the operator of the equipment.

(3) All CMS shall be installed, operational, and the data verified as specified in the relevant standard either prior to or in conjunction with conducting performance tests under § 63.7. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(4) **Subpart G specifies monitoring frequency by kind of emission point and control technology used (e.g. Sec. 63.111, Sec. 63.120(d)(2) and Sec. 63.152(f)); subpart H does not require use of continuous monitoring systems.**

(5)-(8) [Reserved]

(d) *Quality control program.*

[Reserved]

(e) *Performance evaluation of continuous monitoring systems* -

[Reserved]

(f) *Use of an alternative monitoring method* -

(1) *General*. Until permission to use an alternative monitoring procedure (minor, intermediate, or major changes; see definition in § 63.90(a)) has been granted by the Administrator under this paragraph (f)(1), the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this part including, but not limited to, the following:

(i) Alternative monitoring requirements when installation of a CMS specified by a relevant standard would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases;

(ii) Alternative monitoring requirements when the affected source is infrequently operated;

(iii) Alternative monitoring requirements to accommodate CEMS that require additional measurements to correct for stack moisture conditions;

(iv) Alternative locations for installing CMS when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;

(v) Alternate methods for converting pollutant concentration measurements to units of the relevant standard;

(vi) Alternate procedures for performing daily checks of zero (low-level) and high-level drift that do not involve use of high-level gases or test cells;

(vii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified by any relevant standard;

(viii) Alternative CMS that do not meet the design or performance requirements in this part, but adequately demonstrate a definite and consistent relationship between their measurements and the measurements of opacity by a system complying with the requirements as specified in the relevant standard. The Administrator may require that such demonstration be performed for each affected source; or

(ix) Alternative monitoring requirements when the effluent from a single affected source or the combined effluent from two or more affected sources is released to the atmosphere through more than one point.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section or in the relevant standard. If the results of the specified and alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4) (i) *Request to use alternative monitoring procedure.* **Timeframe for submitting request specified in Sec. 63.151(f) or (g) of subpart G; not applicable to subpart H because subpart h specifies acceptable alternative methods.**

(ii) The application must contain a description of the proposed alternative monitoring system which addresses the four elements contained in the definition of monitoring in § 63.2 and a performance evaluation test plan, if required, as specified in paragraph (e)(3) of this section. In addition, the application must include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) **[Reserved]**

(iv) Application for minor changes to monitoring procedures, as specified in paragraph (b)(1) of this section, may be made in the site-specific performance evaluation plan.

(5) *Approval of request to use alternative monitoring procedure.*

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. If a request for a minor change is made in conjunction with site-specific performance evaluation plan, then approval of the plan will constitute approval of the minor change. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with --

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator notifies the applicant of his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) **[Reserved]**

(iii) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (f)(5)(i) of this section, the owner or operator of such source shall continue to use the alternative monitoring method until he or she receives approval from the Administrator to use another monitoring method as allowed by § 63.8(f).

(6) Alternative to the relative accuracy test. **Subparts G and H do not require continuous emission monitoring.**

(g) *Reduction of monitoring data.* **Data reduction procedures specified in Sec. 63.152(f) and (g) of subpart G; not applicable to subpart H.**

§ 63.9 Notification requirements.

(a) *Applicability and general information*.

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a notice that contains all the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

(4) (i) Before a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each notification submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any notifications at its discretion.

(b) *Initial notifications*.

(1) **Specified in Sec. 63.151(b)(2) of Subpart G; in Sec. 63.182(b) of subpart H.**

(2) **Initial Notification provisions are specified in Sec. 63.151(b) of Subpart G; in Sec. 63.182(b) of subpart H.**

(3) [Reserved]

(4) **Except that the notification in Sec. 63.9(b)(4)(i) shall be submitted at the time specified in Sec. 63.151(b)(2)(ii) of subpart G; in Sec. 63.182(b)(2) of subpart H.** The owner or operator of a new or reconstructed major affected source for which an application for approval of construction or reconstruction is required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such that the source becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i); and

(ii) [Reserved]

(iii) [Reserved]

(iv) [Reserved]; and

(v) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(5) **Except that the notification in Sec. 63.9(b)(5) shall be submitted at the time specified in Sec. 63.151(b)(2)(ii) of subpart G; in Sec. 63.182(b)(2) of subpart H.** The owner or operator of a new or reconstructed affected source for which an application for approval of construction or reconstruction is not required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new affected source, reconstruct an affected source, or reconstruct a source such that the source becomes an affected source, and

(ii) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(iii) Unless the owner or operator has requested and received prior permission from the Administrator to submit less than the information in § 63.5(d), the notification must include the information required on the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i).

(c) *Request for extension of compliance*. If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with § 63.6(i)(5) of this subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in § 63.6(i)(4) through § 63.6(i)(6).

(d) *Notification that source is subject to special compliance requirements*. An owner or operator of a new source that is subject to special compliance requirements as specified in § 63.6(b)(3) and § 63.6(b)(4) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in paragraph (b) of this section for new sources that are not subject to the special provisions.

(e) *Notification of performance test*. **[Reserved]**

(f) *Notification of opacity and visible emission observations*. **[Reserved]**

(g) *Additional notification requirements for sources with continuous monitoring systems*.
[Reserved]

(h) *Notification of compliance status.*
Sec. 63.152(b) of subpart G and 63.182(c) of subpart H specify Notification of Compliance Status requirements.

(i) *Adjustment to time periods or postmark deadlines for submittal and review of required communications.*

(1) (i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (i)(2) and (i)(3) of this section, the owner or operator of an affected source remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (i)(2) and (i)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or

disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

(j) *Change in information already provided*. **[Reserved]**

§ 63.10 Recordkeeping and reporting requirements.

(a) *Applicability and general information*.

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a report that contains all the information required in a report listed in this section, an owner or operator may send the Administrator a copy of the report sent to the
State to satisfy the requirements of this section for that report.

(4) (i) Before a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each report submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any reports at its discretion.

(5) If an owner or operator of an affected source in a State with delegated authority is required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such source under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. For each relevant standard established pursuant to section 112 of the Act, the allowance in the previous sentence applies in each State beginning 1 year after the affected source's compliance date for that standard. Procedures governing the implementation of this provision are specified in § 63.9(i).

(6) If an owner or operator supervises one or more stationary sources affected by more than one standard established pursuant to section 112 of the Act, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required for each source shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the latest compliance date for any relevant standard established pursuant to section 112 of the Act for any such affected source(s). Procedures governing the implementation of this provision are specified in § 63.9(i).

(7) If an owner or operator supervises one or more stationary sources affected by standards established pursuant to section 112 of the Act (as amended November 15, 1990) and standards set under part 60, part 61, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required by each relevant (i.e., applicable) standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the relevant section 112 standard, or 1 year after the stationary source is required to be in compliance with the applicable part 60 or part 61 standard, whichever is latest. Procedures governing the implementation of this provision are specified in § 63.9(i).

(b) *General recordkeeping requirements*.

(1) **Sec. 63.103(c) of subpart F specifies record retention requirements.**

(2) **Sec. 63.103(c) of subpart F specifies required records.**

(3) *Recordkeeping requirement for applicability determinations.* **[Reserved]**

(c) *Additional recordkeeping requirements for sources with continuous monitoring systems*.

[Reserved]

(d) *General reporting requirements*.

(1) **[Reserved]**

(2) *Reporting results of performance tests*. **Sec. 152.(b) of subpart G specifies record retention requirements.**

(3) *Reporting results of opacity or visible emission observations*. **[Reserved]**

(4) *Progress reports*. The owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under § 63.6(i) shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

(5) (i) Periodic startup, shutdown, and malfunction reports. **Except that reports required by Sec. 63.10(d)(5) shall be submitted at the time specified in Sec. 63.152(d) of subpart G and in Sec. 63.182(d) in Subpart H.** If actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (see Sec. 63.6(e)(3)), the owner or operator shall state such information in a startup, shutdown, and malfunction report. Such a report shall identify any instance where any action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the affected source's startup, shutdown, and malfunction plan, but the source does not exceed any applicable emission limitation in the relevant emission standard. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually (or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit). The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup,

shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in paragraph (e)(3) of this section.

(ii) Immediate startup, shutdown, and malfunction reports. Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under paragraph (d)(5)(i) of this section, any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this paragraph (d)(5)(ii) shall consist of a telephone call (or facsimile (FAX) transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred. Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph (d)(5)(ii) are specified in Sec. 63.9(i).

(e) *Additional reporting requirements for sources with continuous monitoring systems* -

[Reserved]

(f) *Waiver of recordkeeping or reporting requirements.*

(1) Until a waiver of a recordkeeping or reporting requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Recordkeeping or reporting requirements may be waived upon written application to the Administrator if, in the Administrator’s judgment, the affected source is achieving the relevant standard(s), or the source is operating under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) If an application for a waiver of record-keeping or reporting is made, the application shall accompany the request for an extension of compliance under § 63.6(i), any required compliance progress report or compliance status report required under this part (such as under § 63.6(i) and § 63.9(h)) or in the source’s title V permit, or an excess emissions and continuous monitoring system performance report required under paragraph (e) of this section, whichever is applicable. The application shall include whatever information the owner or operator considers useful to convince the Administrator that a waiver of recordkeeping or reporting is warranted.

(4) The Administrator will approve or deny a request for a waiver of recordkeeping or reporting requirements under this paragraph when he/she -

(i) Approves or denies an extension of compliance; or

(ii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iii) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) A waiver of any recordkeeping or reporting requirement granted under this paragraph may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator.

(6) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.11 Control device requirements.

(a) *Applicability*. The applicability of this section is set out in Sec. 63.1(a)(4).

(b) Flares.

(1) Owners or operators using flares to comply with the provisions of this part shall monitor these control devices to assure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators using flares shall monitor these control devices.

(2) Flares shall be steam-assisted, air-assisted, or non-assisted.

(3) Flares shall be operated at all times when emissions may be vented to them.

(4) Flares shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Test Method 22 in appendix A of part 60 of this chapter shall be used to determine the compliance of flares with the visible emission provisions of this part. The observation period is 2 hours and shall be used according to Method 22.

(5) Flares shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

(6) An owner/operator has the choice of adhering to the heat content specifications in paragraph (b)(6)(ii) of this section, and the maximum tip velocity specifications in paragraph (b)(7) or (b)(8) of this section, or adhering to the requirements in paragraph (b)(6)(i) of this section.

(i) (A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity V_{max}, as determined by the following equation:

$$V_{max} = (X_{H2} - K_1) * K_2$$

Where:

V_{max} = Maximum permitted velocity, m/sec.

K_1 = Constant, 6.0 volume-percent hydrogen.

K_2 = Constant, 3.9 (m/sec)/volume-percent hydrogen.

X_{H2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77. (Incorporated by reference as specified in § 63.14).

(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (b)(7)(i) of this section.

(ii) Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

Where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C.

K = Constant = 1.740×10^{-7} (1/ppmv)(g-mole/scm)(MJ/kcal); where the standard temperature for (g-mole/scm) is 20 °C.

C_i = Concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946–77 or 90 (Reapproved 1994) (incorporated by reference as specified in § 63.14).

H_i = Net heat of combustion of sample component i, kcal/g-mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809-95. (incorporated by reference as specified in § 63.14) if published values are not available or cannot be calculated.

n = Number of sample components.

(7) (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section. The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in appendix A to 40 CFR part 60 of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in paragraph (b)(7)(i) of this section, less than the velocity V_{max}, as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, V_{max}, for flares complying with this paragraph shall be determined by the following equation:

$$\mathrm{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

Where:

V_{max} = Maximum permitted velocity, m/sec.
28.8 = Constant.
31.7 = Constant.
H_T = The net heating value as determined in paragraph (b)(6) of this section.

(8) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity V_{max}. The maximum permitted velocity, V_{max}, for air-assisted flares shall be determined by the following equation:

$$V_{max} = 8.71 + 0.708(H_T)$$

Where:
V_{max} = Maximum permitted velocity, m/sec.
8.71 = Constant.
0.708 = Constant.
H_T = The net heating value as determined in paragraph (b)(6)(ii) of this section.

§ 63.12 State authority and delegations.

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from -

(1) Adopting and enforcing any standard, limitation, prohibition, or other regulation applicable to an affected source subject to the requirements of this part, provided that such standard, limitation, prohibition, or regulation is not less stringent than any requirement applicable to such source established under this part;

(2) Requiring the owner or operator of an affected source to obtain permits, licenses, or approvals prior to initiating construction, reconstruction, modification, or operation of such source; or

(3) Requiring emission reductions in excess of those specified in subpart D of this part as a condition for granting the extension of compliance authorized by section 112(i)(5) of the Act.

(b) (1) Section 112(l) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards and other requirements pursuant to section 112 for stationary sources located in that State. Because of the unique nature of radioactive material, delegation of authority to implement and enforce standards that control radionuclides may require separate approval.

(2) Subpart E of this part establishes procedures consistent with section 112(l) for the approval of State rules or programs to implement and enforce applicable Federal rules promulgated under the authority of section 112. Subpart E also establishes procedures for the review and withdrawal of section 112 implementation and enforcement authorities granted through a section 112(l) approval.

(c) All information required to be submitted to the EPA under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act, provided that each specific delegation may exempt sources from a certain Federal or State reporting requirement. The Administrator may permit all or some of the information to be submitted to the appropriate State agency only, instead of to the EPA and the State agency.

§ 63.13 Addresses of State air pollution control agencies and EPA Regional Offices.

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted to the appropriate Regional Office of the U.S. Environmental Protection Agency indicated as follows:

EPA Region IV; Director; Air, Pesticides and Toxics, Management Division; Atlanta Federal Center, 61 Forsyth Street; Atlanta, GA 30303.

(b) All information required to be submitted to the Administrator under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act. The owner or operator of an affected source may contact the appropriate EPA Regional Office for the mailing addresses for those States whose delegation requests have been approved.

(c) If any State requires a submittal that contains all the information required in an application, notification, request, report, statement, or other communication required in this part, an owner or operator may send the appropriate Regional Office of the EPA a copy of that submittal to satisfy the requirements of this part for that communication.

§ 63.14 Incorporations by reference.

(a) The materials listed in this section are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the Federal Register. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC, at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC, and at the EPA Library (MD-35), U.S. EPA, Research Triangle Park, North Carolina.

(b) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

(1) ASTM D523-89, Standard Test Method for Specular Gloss, IBR approved for § 63.782.

(2) ASTM D1193-77, 91, Standard Specification for Reagent Water, IBR approved for Appendix A: Method 306, Sections 7.1.1 and 7.4.2.

(3) ASTM D1331-89, Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface Active Agents, IBR approved for Appendix A: Method 306B, Sections 6.2, 11.1, and 12.2.2.

(4) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for § 63.788, Appendix A.

(5) ASTM D1946-77, 90, 94, Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for § 63.11(b)(6).

(6) ASTM D2369-93, 95, Standard Test Method for Volatile Content of Coatings, IBR approved for § 63.788, Appendix A.

(7) ASTM D2382-76, 88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for § 63.11(b)(6).

(8) ASTM D2879-83, 96, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for § 63.111 of Subpart G.

(9) ASTM D3257-93, Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography, IBR approved for § 63.786(b).

(10) ASTM 3695-88, Standard Test Method for Volatile Alcohols in Water by Direct Aqueous-Injection Gas Chromatography, IBR approved for § 63.365(e)(1) of Subpart O.

(11) ASTM D3792-91, Standard Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for § 63.788, Appendix A.

(12) ASTM D3912-80, Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(13) ASTM D4017-90, 96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for § 63.788, Appendix A.

(14) ASTM D4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(15) ASTM D4256-89, 94, Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(16) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for § 63.11(b)(6).

(17) ASTM E180-93, Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals, IBR approved for § 63.786(b).

(18) ASTM E260-91, 96, General Practice for Packed Column Gas Chromatography, IBR approved for §§ 63.750(b)(2) and 63.786(b)(5).

(19) Reserved

(20) Reserved

(21) ASTM D2099-00, Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Maeser Water Penetration Tester, IBR approved for § 63.5350.

(24) ASTM D2697-86(1998) (Reapproved 1998), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, IBR approved for §§63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(25) ASTM D6093-97, Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, IBR approved for §§63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(26) ASTM D1475-98, Standard Test Method for Density of Liquid Coatings, Inks, and Related Products, IBR approved for §§ 63.4141(b)(3) and 63.4141(c).

(27) ASTM D 6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide and Oxygen concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process heaters Using Portable Analyzers, IBR approved for Sec. 63.9307(c)(2).

(28) [Reserved]

(29) ASTM D6420-99, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, IBR approved for §§ 63.5799 and 63.5850.

(c) The materials listed below are available for purchase from the American Petroleum Institute (API), 1220 L Street, NW., Washington, DC 20005.

(1) API Publication 2517, Evaporative Loss from External Floating-Roof Tanks, Third Edition, February 1989, IBR approved for § 63.111 of subpart G of this part.

(2) API Publication 2518, Evaporative Loss from Fixed-roof Tanks, Second Edition, October 1991, IBR approved for § 63.150(g)(3)(i)(C) of subpart G of this part.

(3) API Manual of Petroleum Measurement Specifications (MPMS) Chapter 19.2, Evaporative Loss From Floating-Roof Tanks (formerly API Publications 2517 and 2519), First Edition, April 1997, IBR approved for § 63.1251 of subpart GGG of this part.

(d) *State and Local Requirements.* The materials listed below are available at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC.

(1) *California Regulatory Requirements Applicable to the Air Toxics Program,* January 5, 1999, IBR approved for § 63.99(a)(5)(ii) of subpart E of this part.

(2) New Jersey's *Toxic Catastrophe Prevention Act Program,* (July 20, 1998), Incorporation By Reference approved for § 63.99 (a)(30)(i) of subpart E of this part.

(3) (i) Letter of June 7, 1999 to the U.S. Environmental Protection Agency Region 3 from the Delaware Department of Natural Resources and Environmental Control requesting formal full delegation to take over primary responsibility for implementation and enforcement of the Chemical Accident Prevention Program under Section 112(r) of the Clean Air Act Amendments of 1990.

(ii) Delaware Department of Natural Resources and Environmental Control, Division of Air and Waste Management, Accidental Release Prevention Regulation, sections 1 through 5 and sections 7 through 14, effective January 11, 1999, IBR approved for § 63.99(a)(8)(i) of subpart E of this part.

(iii) State of Delaware Regulations Governing the Control of Air Pollution (October 2000), IBR approved for § 63.99(a)(8)(ii)-(v) of subpart E of this part.

(e) The materials listed below are available for purchase from the National Institute of Standards and Technology, Springfield, VA 22161, (800) 553-6847.

(1) Handbook 44, Specificiations, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998, IBR approved for § 63.1303(e)(3).

(2) [Reserved]

(f) The following material is available from the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), P. O. Box 133318, Research Triangle Park, NC 27709-3318 or at http://www.ncasi.org: NCASI Method DI/MEOH-94.02, Methanol in Process Liquids GC/FID (Gas Chromatography/Flame Ionization Detection), August 1998, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for § 63.457(c)(3)(ii) of subpart S of this part.

(g) The materials listed below are available for purchase from AOAC International, Customer Services, Suite 400, 2200 Wilson Boulevard, Arlington, Virginia, 22201-3301, Telephone (703) 522-3032, Fax (703) 522-5468.

(1) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(2) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(3) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(4) AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample Solution, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(5) AOAC Official Method 929.01 Sampling of Solid Fertilizers, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(6) AOAC Official Method 929.02 Preparation of Fertilizer Sample, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(7) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(h) The materials listed below are available for purchase from The Association of Florida Phosphate Chemists, P.O. Box 1645, Bartow, Florida, 33830, Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists, Seventh Edition 1991, IBR.

(1) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(2) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus -- P2O5 or Ca3(PO4)2, Method A-Volumetric Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(3) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method B -- Gravimetric Quimociac Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(4) Section IX, Methods of Analysis For Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method C -- Spectrophotometric Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(5) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method A -- Volumetric Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(6) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method B -- Gravimetric Quimociac Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(7) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method C -- Spectrophotometric Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(i) The following materials are available for purchase from at least one of the following addresses: ASME International, Orders/Inquiries, P.O. Box 2900, Fairfield, NJ 07007-2900; or Global Engineering Documents, Sales Department, 15 Inverness Way East, Englewood, CO 80112.

(1) ASME standard number QHO-1-1994, ``Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators," IBR approved for Sec. 63.1206(c)(6)(iii).

(2) ASME standard number QHO-1a-1996 Addenda to QHO-1-1994, ``Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators," IBR approved for Sec. 63.1206(c)(6)(iii).

(3) ANSI/ASME PTC 19.10-1981, ``Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]," IBR approved for Sec. Sec. 63.865(b), 63.3360(e)(1)(iii), 63.4166(a)(3), 63.4362(a)(3), 63.4766(a)(3), 63.4965(a)(3), 63.5160(d)(1)(iii), 63.9307(c)(2), and 63.9323(a)(3).

(j) [Reserved]

(k) The following material may be obtained from U.S. EPA, Office of Solid Waste (5305W), 1200 Pennsylvania Avenue, NW., Washington, DC 20460:

(1) Method 9071B, ``n-Hexane Extractable Material(HEM) for Sludge, Sediment, and Solid Samples," (Revision 2, April 1998) as published in EPA Publication SW-846: ``Test Methods for Evaluating Solid Waste, Physical/Chemical Methods." The incorporation by reference of Method 9071B is approved for Section 63.7824(e) of Subpart FFFFF of this part.

§ 63.15 Availability of information and confidentiality.

(a) *Availability of information*.

(1) With the exception of information protected through part 2 of this chapter, all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), notification of compliance status, excess emissions and continuous monitoring systems performance report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.

(2) The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.

(b) *Confidentiality*.

(1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.

(2) The contents of a title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a title V permit may be entitled to protection from disclosure.

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Federal Register

Monday,
September 13, 2004

Part II

Environmental Protection Agency

40 CFR Part 63

National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters; Final Rule

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[OAR–2002–0058; FRL–7633–9]

RIN 2060–AG69

National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The EPA is promulgating national emission standards for hazardous air pollutants (NESHAP) for industrial, commercial, and institutional boilers and process heaters. The EPA has identified industrial, commercial, and institutional boilers and process heaters as major sources of hazardous air pollutants (HAP) emissions. The final rule will implement section 112(d) of the Clean Air Act (CAA) by requiring all major sources to meet HAP emissions standards reflecting the application of the maximum achievable control technology (MACT). The final rule is expected to reduce HAP emissions by 50,600 to 58,000 tons per year (tpy).

The HAP emitted by facilities in the boiler and process heater source category include arsenic, cadmium, chromium, hydrogen chloride (HCl), hydrogen fluoride, lead, manganese, mercury, nickel, and various organic HAP. Exposure to these substances has been demonstrated to cause adverse health effects such as irritation to the lung, skin, and mucus membranes, effects on the central nervous system, kidney damage, and cancer. These adverse health effects associated with the exposure to these specific HAP are further described in this preamble. In general, these findings only have been shown with concentrations higher than those typically in the ambient air.

The final rule contains numerous compliance provisions including health-based compliance alternatives for the hydrogen chloride and total selected metals emission limits.

DATES: The final rule is effective November 12, 2004. The incorporation by reference of certain publications listed in the final rule is approved by the Director of the Federal Register as of November 12, 2004.

ADDRESSES: The official public docket is the collection of materials that is available for public viewing at the Office of Air and Radiation Docket and Information Center (Air Docket) in the EPA Docket Center, Room B–102, 1301 Constitution Avenue, NW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: For information concerning applicability and rule determinations, contact your State or local representative or appropriate EPA Regional Office representative. For information concerning rule development, contact Jim Eddinger, Combustion Group, Emission Standards Division (C439–01), U.S. EPA, Research Triangle Park, North Carolina 27711, telephone number (919) 541–5426, fax number (919) 541–5450, electronic mail address *eddinger.jim@epa.gov.*

SUPPLEMENTARY INFORMATION: Regulated Entities. Categories and entities potentially regulated by this action include:

Category	NAICS code	SIC code	Examples of potentially regulated entities
Any industry using a boiler or process heater as defined in the final rule.	211	13	Extractors of crude petroleum and natural gas.
	321	24	Manufacturers of lumber and wood products.
	322	26	Pulp and paper mills.
	325	28	Chemical manufacturers.
	324	29	Petroleum refineries, and manufacturers of coal products.
	316, 326, 339	30	Manufacturers of rubber and miscellaneous plastic products.
	331	33	Steel works, blast furnaces.
	332	34	Electroplating, plating, polishing, anodizing, and coloring.
	336	37	Manufacturers of motor vehicle parts and accessories.
	221	49	Electric, gas, and sanitary services.
	622	80	Health services.
	611	82	Educational services.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists examples of the types of entities EPA is now aware could potentially be regulated by this action. Other types of entities not listed could also be affected. To determine whether your facility, company, business, organization, etc., is regulated by this action, you should examine the applicability criteria in § 63.7485 of the final rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Docket. The EPA has established an official public docket for this action under Docket ID No. OAR–2002–0058 and Docket ID No. A–96–47. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. All items may not be listed under both docket numbers, so interested parties should inspect both docket numbers to ensure that they have received all materials relevant to the final rule. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. The official public docket is the collection of materials that is available for public viewing at the Office of Air and Radiation Docket and Information Center (Air Docket) in the EPA Docket Center, Room B102, 1301 Constitution Ave., NW., Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket is (202)

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566–1742. A reasonable fee may be charged for copying docket materials.

Electronic Access. You may access this **Federal Register** document electronically through the EPA Internet under the ''**Federal Register**'' listings at *http://www.epa.gov/fedrgstr/.*

An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at *http://www.epa.gov/edocket/* to view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Once in the system, select ''search,'' then key in the appropriate docket identification number.

Worldwide Web (WWW). In addition to being available in the docket, an electronic copy of the final rule is also available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of the final rule will be posted on the TTN policy and guidance page for newly proposed or promulgated rules at the following address: *http://www.epa.gov/ttn/oarpg.* The TTN provides information and technology exchange in various areas of air pollution control. If more information regarding the TTN is needed, call the TTN HELP line at (919) 541–5384.

Judicial Review. Under section 307(b)(1) of the CAA, judicial review of the NESHAP is available by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by November 12, 2004. Only those objections to the final rule that were raised with reasonable specificity during the period for public comment may be raised during judicial review. Under section 307(b)(2) of the CAA, the requirements that are the subject of the final rule may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

Background Information Document. The EPA proposed the NESHAP for industrial, commercial, and institutional boilers and process heaters on January 13, 2003 (68 FR 1660) and received 218 comment letters on the proposal. A memorandum ''National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, Summary of Public Comments and Responses,'' containing EPA's responses to each public comment is available in Docket No. OAR–2002–0058.

Outline. The information presented in this preamble is organized as follows:

I. Background Information
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B. What criteria are used in the development of NESHAP?
C. How was the final rule developed?
D. What is the relationship between the final rule and other combustion rules?
E. What are the health effects of pollutants emitted from industrial, commercial, and institutional boilers and process heaters?
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H. Executive Order 13211: Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use
I. National Technology Transfer and Advancement Act
J. Congressional Review Act

I. Background Information

A. What Is the Statutory Authority for the Final Rule?

Section 112 of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. Industrial boilers, commercial and institutional boilers, and process heaters were listed on July 16, 1992 (57 FR 31576). Major sources of HAP are those that have the potential to emit greater than 10 tpy of any one HAP or 25 tpy of any combination of HAP.

B. What Criteria Are Used in the Development of NESHAP?

Section 112(c)(2) of the CAA requires that we establish NESHAP for control of HAP from both existing and new major sources, based upon the criteria set out in CAA section 112(d). The CAA requires the NESHAP to reflect the maximum degree of reduction in emissions of HAP that is achievable, taking into consideration the cost of achieving the emission reduction, any non-air quality health and environmental impacts, and energy requirements. This level of control is commonly referred to as the MACT.

The minimum control level allowed for NESHAP (the minimum level of stringency for MACT) is the ''MACT floor,'' as defined under section 112(d)(3) of the CAA. The MACT floor for existing sources is the emission limitation achieved by the average of the best-performing 12 percent of existing sources for categories and subcategories with 30 or more sources, or the average of the best-performing five sources for categories or subcategories with fewer than 30 sources. For new sources, the MACT floor cannot be less stringent than the emission control achieved in practice by the best-controlled similar source.

C. How Was the Final Rule Developed?

We proposed standards for industrial, commercial, and institutional boilers and process heaters on January 13, 2003 (68 FR 1660). Public comments were solicited at the time of proposal. The public comment period lasted from January 13, 2003, to March 14, 2003.

We received a total of 218 public comment letters on the proposed rule. Comments were submitted by industry trade associations, owners/operators of boilers and process heaters, State regulatory agencies and their representatives, and environmental groups. Today's final rule reflects our consideration of all of the comments and additional information received. Major public comments on the proposed rules, along with our responses to those comments, are summarized in this preamble.

D. What Is the Relationship Between the Final Rule and Other Combustion Rules?

The final rule regulates source categories covering industrial boilers, institutional and commercial boilers, and process heaters. These source categories potentially include combustion units that are already regulated by other MACT standards. Therefore, we are excluding from the final rule any combustion units that are already or will be subject to regulation under another MACT standard under 40 CFR part 63.

Combustion units that are regulated by other standards and are therefore excluded from the final rule include solid waste incineration units covered by section 129 of the CAA; boilers or process heaters required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by the hazardous waste combustor NESHAP in 40 CFR part 63, subpart EEE [1]; and recovery boilers or furnaces covered by 40 CFR part 63, subpart MM.

With regards to solid waste incineration units covered by section 129 of the CAA, EPA solicited on February 17, 2004 (69 FR 7390) public comments on the definition of ''commercial and industrial solid waste incineration unit'' for the purpose of determining which combustion sources to regulate under section 129 and which to regulate under section 112 (*e.g.*, boilers and process heaters). As stated above, combustion units covered under section 129 are not subject to the final rule.

Electric utility steam generating units are not subject to the final rule. An electric utility steam generating unit is a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit. Non-fossil fuel-fired utility boilers and electric utility steam generating units less than 25 megawatts are covered by the final rule.

In 1986, EPA codified the NSPS for industrial boilers (40 CFR part 60, subparts Db and Dc) and revised portions of them in 1999. The NSPS regulates emissions of particulate matter (PM), sulfur dioxide, and nitrogen oxides from boilers constructed after June 19, 1984. Sources subject to the NSPS are also subject to the final rule because the final rule regulates sources of hazardous air pollutants while the NSPS does not. However, in developing the final rule for industrial, commercial, and institutional boilers and process heaters, EPA minimized the monitoring requirements, testing requirements, and recordkeeping requirements to avoid duplicating requirements.

Because of the broad applicability of the final rule due to the definition of a process heater, certain process heaters could appear to fit the applicability of another existing MACT rule. We have, therefore, included in the list of combustion units not subject to the final rule refining kettles subject to the secondary lead MACT rule (40 CFR part 63, subpart X); ethylene cracking furnaces covered by 40 CFR part 63, subpart YY; and blast furnace stoves described in the EPA document entitled ''National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Plants—Background Information for Proposed Standards'' (EPA–453/R–01–005).

E. What Are the Health Effects of Pollutants Emitted From Industrial, Commercial, and Institutional Boilers and Process Heaters?

The final rule protects air quality and promotes the public health by reducing emissions of some of the HAP listed in section 112(b)(1) of the CAA. As noted above, emissions data collected during development of the proposed rule show that HCl emissions represent the predominant HAP emitted by industrial boilers. Industrial boilers emit lesser amounts of hydrogen fluoride, chlorine, metals (arsenic, cadmium, chromium, mercury, manganese, nickel, and lead), and organic HAP emissions. Although numerous organic HAP may be emitted from industrial boilers and process heaters, only a few account for essentially all the mass of organic HAP emissions. These organic HAP are: Formaldehyde, benzene, and acetaldehyde.

Exposure to high levels of these HAP is associated with a variety of adverse health effects. These adverse health effects include chronic health disorders (*e.g.*, irritation of the lung, skin, and mucus membranes, effects on the central nervous system, and damage to the kidneys), and acute health disorders (*e.g.*, lung irritation and congestion, alimentary effects such as nausea and vomiting, and effects on the kidney and central nervous system). We have classified three of the HAP as human carcinogens and five as probable human carcinogens. Our screening assessment for respiratory HAP and for central nervous system (CNS) HAP, using health protective assumptions, indicates that manganese and chlorine are the only boiler-related HAP that are reasonably expected to approach health based criteria concentrations at receptor locations at or beyond facility boundaries. Emissions of all other HAP modeled on an individual basis appears to be insignificant relative to the concentration that would produce the health effects that they represent. The maximal hazard index (HI) for summation of the HAP modeled in the screening assessment for respiratory effects, including chlorine, was less than 3. The maximal HI for summation of the HAP modeled in the screening assessment for CNS effects, including manganese, was less than 3. Therefore, effects noted below for HAP at high concentrations are not expected to occur prior or after regulation as a result of emissions from these facilities, and are provided to illustrate the nature of the contaminant's effects at high dose. A screening assessment was also conducted for acute effects, and no exceedances were seen. Therefore, potential acute effects are not discussed below. However, to the extent the adverse effects do occur, the final rule will reduce emissions and subsequent exposures.

Acetaldehyde

Acetaldehyde is ubiquitous in the environment and may be formed in the body from the breakdown of ethanol (ethyl alcohol). In humans, symptoms of chronic (long-term) exposure to acetaldehyde resemble those of alcoholism. Long-term inhalation exposure studies in animals reported effects on the nasal epithelium and mucous membranes, and increased kidney weight. The EPA has classified acetaldehyde as a probable human carcinogen (Group B2) based on animal studies that have shown nasal tumors in rats and laryngeal tumors in hamsters.

[1] Please note that boilers that burn small quantities of hazardous waste under the exemptions provided by 40 CFR 266.108 are subject to today's final rule.

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Arsenic

Chronic (long-term) inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes. Human data suggest a relationship between inhalation exposure for women working at or living near metal smelters and an increased risk of reproductive effects. Inorganic arsenic exposure in humans by the inhalation route has been shown to be strongly associated with lung cancer, while ingestion of inorganic arsenic in humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer. The EPA has classified inorganic arsenic as a Group A, human carcinogen.

Benzene

Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells. Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans occupationally exposed to benzene. The EPA has classified benzene as a Group A, known human carcinogen.

Beryllium

Chronic (long-term) inhalation exposure of humans to high levels of beryllium has been reported to cause chronic beryllium disease (berylliosis), in which granulomatous (noncancerous) lesions develop in the lung. Inhalation exposure to high levels of beryllium has been demonstrated to cause lung cancer in rats and monkeys. Human studies are limited, but suggest a causal relationship between beryllium exposure and an increased risk of lung cancer. We have classified beryllium as a Group B1, probable human carcinogen, when inhaled; data are inadequate to determine whether beryllium is carcinogenic when ingested.

Cadmium

Chronic (long-term) inhalation or oral exposure to cadmium leads to a build-up of cadmium in the kidneys that can cause kidney disease. Cadmium has been shown to be a developmental toxicant at high doses in animals, resulting in fetal malformations and other effects, but no conclusive evidence exists in humans. Animal studies have demonstrated an increase in lung cancer from long-term inhalation exposure to cadmium. The EPA has classified cadmium as a Group B1, probable carcinogen.

Chlorine

Chlorine is a commonly used household cleaner and disinfectant. Chlorine is an irritant to the eyes, the upper respiratory tract, and lungs. Chronic (long-term) exposure to chlorine gas in workers has resulted in respiratory effects, including eye and throat irritation and airflow obstruction. No information is available on the carcinogenic effects of chlorine in humans from inhalation exposure. A National Toxicology Program (NTP) study showed no evidence of carcinogenic activity in male rats or male and female mice, and equivocal evidence in female rats, from ingestion of chlorinated water. The EPA has not classified chlorine for potential carcinogenicity.

Chromium

Chromium may be emitted by industrial boilers in two forms, trivalent chromium (chromium III) or hexavalent chromium (chromium VI). The respiratory tract is the major target organ for chromium VI toxicity for inhalation exposures. Bronchitis, decreased pulmonary function, pneumonia, and other respiratory effects have been noted from chronic high dose exposure in occupational settings to chromium VI. Limited human studies suggest that chromium VI inhalation exposure may be associated with complications during pregnancy and childbirth, while animal studies have not reported reproductive effects from inhalation exposure to chromium VI. Human and animal studies have clearly established that inhaled chromium VI is a carcinogen, resulting in an increased risk of lung cancer. The EPA has classified chromium VI as a Group A, human carcinogen.

Chromium III is less toxic than chromium VI. The respiratory tract is also the major target organ for chromium III toxicity, similar to chromium VI. Chromium III is an essential element in humans, with a daily intake of 50 to 200 micrograms per day recommended for an adult. The body can detoxify some amount of chromium VI to chromium III. The EPA has not classified chromium III with respect to carcinogenicity.

Formaldehyde

Exposure to formaldehyde irritates the eyes, nose, and throat. Reproductive effects, such as menstrual disorders and pregnancy problems, have been reported in female workers exposed to high levels of formaldehyde. Limited human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer. Animal inhalation studies have reported an increased incidence of nasal squamous cell cancer. The EPA considers formaldehyde a probable human carcinogen (Group B2).

Hydrogen chloride

Hydrogen chloride, also called hydrochloric acid, is corrosive to the eyes, skin, and mucous membranes at high concentration. Chronic (long-term) occupational exposure to high levels of hydrochloric acid has been reported to cause gastritis, bronchitis, and dermatitis in workers. Prolonged exposure to lower concentrations may also cause dental discoloration and erosion. No information is available on the reproductive or developmental effects of hydrochloric acid in humans. In rats exposed to high levels of hydrochloric acid by inhalation, altered estrus cycles have been reported in females and increased fetal mortality and decreased fetal weight have been reported in offspring. The EPA has not classified hydrochloric acid for carcinogenicity.

Hydrogen fluoride

Chronic (long-term) exposure to fluoride at low levels has a beneficial effect of dental cavity prevention and may also be useful for the treatment of osteoporosis. Exposure to higher levels of fluoride may cause dental fluorosis. One study reported menstrual irregularities in women occupationally exposed to fluoride. The EPA has not classified hydrogen fluoride for carcinogenicity.

Lead

Lead can cause a variety of effects at low dose levels. Chronic (long-term) exposure to high levels of lead in humans results in effects on the blood, central nervous system (CNS), blood pressure, and kidneys. Children are particularly sensitive to the chronic effects of lead, with slowed cognitive development, reduced growth and other effects reported. Reproductive effects, such as decreased sperm count in men and spontaneous abortions in women, have been associated with lead exposure. The developing fetus is at particular risk from maternal lead exposure, with low birth weight and slowed postnatal neurobehavioral development noted. Human studies are inconclusive regarding lead exposure and cancer, while animal studies have reported an increase in kidney cancer from high-dose lead exposure by the oral route. The EPA has classified lead as a Group B2, probable human carcinogen.

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Manganese

Health effects in humans have been associated with both deficiencies and excess intakes of manganese. Chronic (long-term) exposure to low levels of manganese in the diet is considered to be nutritionally essential in humans, with a recommended daily allowance of 2 to 5 milligrams per day (mg/d). Chronic exposure to high levels of manganese by inhalation in humans results primarily in CNS effects. Visual reaction time, hand steadiness, and eye-hand coordination were affected in chronically-exposed workers. Impotence and loss of libido have been noted in male workers afflicted with manganism attributed to high-dose inhalation exposures. The EPA has classified manganese in Group D, not classifiable as to carcinogenicity in humans.

Mercury

Mercury exists in three forms: Elemental mercury, inorganic mercury compounds (primarily mercuric chloride), and organic mercury compounds (primarily methyl mercury). Each form exhibits different health effects. Various major sources may release elemental or inorganic mercury; environmental methyl mercury is typically formed by biological processes after mercury has precipitated from the air.

Chronic (long-term) exposure to elemental mercury in humans also affects the CNS, with effects such as increased excitability, irritability, excessive shyness, and tremors. The EPA has not classified elemental mercury with respect to cancer.

The major effect from chronic exposure to inorganic mercury is kidney effects. Reproductive and developmental animal studies have reported effects such as alterations in testicular tissue, increased embryo resorption rates, and abnormalities of development. Mercuric chloride (an inorganic mercury compound) exposure has been shown to result in tumors in experimental animals. The EPA has classified mercuric chloride as a Group C, possible human carcinogen.

Nickel

Nickel is an essential element in some animal species, and it has been suggested it may be essential for human nutrition. Nickel dermatitis, consisting of itching of the fingers, hand and forearms, is the most common effect in humans from chronic (long-term) skin contact with nickel. Respiratory effects have also been reported in humans from inhalation exposure to nickel. No information is available regarding the reproductive or developmental effects of nickel in humans, but animal studies have reported such effects, although a consistent dose-response relationship has not been seen. Nickel forms released from industrial boilers include soluble nickel compounds, nickel subsulfide, and nickel carbonyl. Human and animal studies have reported an increased risk of lung and nasal cancers from exposure to nickel refinery dusts and nickel subsulfide. Animal studies of soluble nickel compounds (*i.e.*, nickel carbonyl) have reported lung tumors. The EPA has classified nickel refinery subsulfide as Group A, human carcinogens and nickel carbonyl as a Group B2, probable human carcinogen.

Selenium

Selenium is a naturally occurring substance that is toxic at high concentrations but is also a nutritionally essential element. Studies of humans chronically (long-term) exposed to high levels of selenium in food and water have reported discoloration of the skin, pathological deformation and loss of nails, loss of hair, excessive tooth decay and discoloration, lack of mental alertness, and listlessness. The consumption of high levels of selenium by pigs, sheep, and cattle has been shown to interfere with normal fetal development and to produce birth defects. Results of human and animal studies suggest that supplementation with some forms of selenium may result in a reduced incidence of several tumor types. One selenium compound, selenium sulfide, is carcinogenic in animals exposed orally. We have classified elemental selenium as a Group D, not classifiable as to human carcinogenicity, and selenium sulfide as a Group B2, probable human carcinogen.

II. Summary of the Final Rule

A. What Source Categories and Subcategories Are Affected by the Final Rule?

The final rule affects industrial boilers, institutional and commercial boilers, and process heaters. In the final rule, process heater means an enclosed device using controlled flame, that is not a boiler, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to heat a transfer material for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not directly come into contact with process materials. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves. Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers are excluded from the definition of boiler. A waste heat boiler (or heat recovery steam generator) means a device, without controlled flame combustion, that recovers normally unused energy and converts it to usable heat. Waste heat boilers incorporating duct or supplemental burners that are designed to supply 50 percent or more of the total rated heat input capacity of the waste heat boiler are considered boilers and not waste heat boilers. Emissions from a combustion unit with a waste heat boiler are regulated by the applicable standards for the particular type of combustion unit. For example, emissions from a commercial or industrial solid waste incineration unit, or other incineration unit with a waste heat boiler are regulated by standards established under section 129 of the CAA.

Hot water heaters also are not regulated under the final rule. A hot water heater is a closed vessel, with a capacity of no more than 120 U.S. gallons, in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 pounds per square inch gauge and water temperatures not exceeding 210 degree Fahrenheit (99 degrees Celsius).

Temporary boilers also are not regulated under the final rule. A temporary boiler is any gaseous or liquid fuel-fired boiler that is designed, and is capable of, being carried or moved from one location to another, and remains at any one location for less than 180 consecutive days. Additionally, any new temporary boiler that replaces an existing temporary boiler and is intended to perform the same or similar function will be included in the determination of the consecutive 180-day time period.

Boilers or process heaters that are used specifically for research and development are not regulated under the final rule. However, units that only provide steam to a process at a research and development facility are still subject to the final rule.

B. What Is the Affected Source?

In the final rule, the affected source is defined as follows: (1) The collection of all existing industrial, commercial, or institutional boilers and process heaters within a subcategory located at a major source; or (2) each new or reconstructed industrial, commercial or institutional

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boiler and process heater located at a major source.

The affected source does not include combustion units that are subject to another standard under 40 CFR part 63, or covered by other standards listed in this preamble.

C. What Pollutants Are Emitted and Controlled?

Boilers and process heaters can emit a wide variety of HAP, depending on the material burned. Because of the large number of HAP potentially present in emissions and the disparity in the quantity and quality of the emissions information available, we use several surrogates to control multiple HAP in the final rule. This will reduce the burden of implementation and compliance on both regulators and the regulated community.

We grouped the HAP into four common categories: mercury, non-mercury metallic HAP, inorganic HAP, and organic HAP. In general, the pollutants within each group have similar characteristics and can be controlled with the same techniques.

Next, we identified compounds that could be used as surrogates for all the compounds in each pollutant category. For the non-mercury metallic HAP, we chose to use PM as a surrogate. Most, if not all, non-mercury metallic HAP emitted from combustion sources will appear on the flue gas fly-ash. Therefore, the same control techniques that would be used to control the fly-ash PM will control non-mercury metallic HAP. Particulate matter was also chosen instead of specific metallic HAP because all fuels do not emit the same type and amount of metallic HAP but most generally emit PM. The use of PM as a surrogate will also eliminate the cost of performance testing to comply with numerous standards for individual metals.

However, we are sensitive to the fact that some sources burn fuels containing very little metals, but would have sufficient PM emissions to require control under the PM provisions of the proposed rule. In such cases, PM would not be an appropriate surrogate for metallic HAP. Therefore, in the final rule, an alternative metals emission limit is included. A source may choose to comply with the alternative metals emissions limit instead of the PM limit to meet the final rule.

For inorganic HAP, we chose to use HCl as a surrogate. The emissions test information available indicate that the primary inorganic HAP emitted from boilers and process heaters are acid gases, with HCl present in the largest amounts. Other inorganic compounds emitted are found in much smaller quantities. Also, control technologies that would reduce HCl would also control other inorganic compounds that are acid gases. Thus, the best controls for HCl would also be the best controls for other inorganic HAP that are acid gases. Therefore, HCl is a good surrogate for inorganic HAP because controlling HCl will result in a corresponding control of other inorganic HAP emissions.

For organic HAP, we chose to use carbon monoxide (CO) as a surrogate to represent the variety of organic compounds, including dioxins, emitted from the various fuels burned in boilers and process heaters. Because CO is a good indicator of incomplete combustion, there is a direct correlation between CO emissions and the formation of organic HAP emissions. Monitoring equipment for CO is readily available, which is not the case for organic HAP. Also, it is significantly easier and less expensive to measure and monitor CO emissions than to measure and monitor emissions of each individual organic HAP. Therefore, using CO as a surrogate for organic HAP is a reasonable approach because minimizing CO emissions will result in minimizing organic HAP emissions.

D. Does the Final Rule Apply to Me?

The final rule applies to you if you own or operate a boiler or process heater located at a major source meeting the requirements in the final rule.

E. What Are the Emission Limitations and Work Practice Standards?

You must meet the emission limits and work practice standards for the subcategories in Table 1 of this preamble for each of the pollutants listed. Emission limits and work practice standards were developed for new and existing sources; and for large, small, and limited use solid, liquid, and gas fuel-fired units. Large units are those watertube boilers and process heaters with heat input capacities greater than 10 million British thermal units per hour (MMBtu/hr). Small units are any firetube boilers or any boiler and process heater with heat input capacities less than or equal to 10 MMBtu/hr. Limited use units are those large units with capacity utilizations less than or equal to 10 percent as required in a federally enforceable permit.

If your new or existing boiler or process heater is permitted to burn a solid fuel (either as a primary fuel or a backup fuel), or any combination of solid fuel with liquid or gaseous fuel, the unit is in one of the solid subcategories. If your new or existing boiler or process heater burns a liquid fuel, or a liquid fuel in combination with a gaseous fuel, the unit is in one of the liquid subcategories, except if the unit burns liquid only during periods of gas curtailment. If your new or existing boiler or process heater burns a gaseous fuel not combined with any liquid or solid fuels, or burns liquid fuel only during periods of gas curtailment or gas supply emergencies, the unit is in the gaseous subcategory.

TABLE 1—EMISSION LIMITS AND WORK PRACTICE STANDARDS FOR BOILERS AND PROCESS HEATERS

[(Pounds per million British thermal units (lb/MMBtu)]

Source	Subcategory	Particulate Matter (PM)	or	Total Selected Metals	Hydrogen Chloride (HCl)	Mercury (Hg)	Carbon Monoxide (CO) (ppm)
New or reconstructed Boiler or Process Heater.	Solid Fuel, Large Unit.	0.025	or	0.0003	0.02	0.000003	400 (@7% oxygen).
	Solid Fuel, Small Unit.	0.025	or	0.0003	0.02	0.000003	
	Solid Fuel, Limited Use.	0.025	or	0.0003	0.02	0.000003	400 (@7% oxygen).
	Liquid Fuel, Large Unit.	0.03	.....	.....	0.0005	.....	400 (@3% oxygen).

TABLE 1—EMISSION LIMITS AND WORK PRACTICE STANDARDS FOR BOILERS AND PROCESS HEATERS—Continued

[(Pounds per million British thermal units (lb/MMBtu)]

Source	Subcategory	Particulate Matter (PM)	or	Total Selected Metals	Hydrogen Chloride (HCl)	Mercury (Hg)	Carbon Monoxide (CO) (ppm)
	Liquid Fuel, Small Unit.	0.03	.....	.....	0.0009	.....	
	Liquid Fuel, Limited Use.	0.03	.....	.....	0.0009	.....	400 (@3% oxygen).
	Gaseous Fuel, Large Unit.		.....	.....	.....	.....	400 (@3% oxygen).
	Gaseous Fuel, Small Unit.		.....	.....	.....	.....	
	Gaseous Fuel Limited Use.		.....	.....	.....	.....	400 (@3% oxygen).
Existing Boiler or Process Heater.	Solid Fuel, Large Unit.	0.07	or	0.001	0.09	0.000009	
	Solid Fuel, Small Unit.		.....	.....	.....	.....	
	Solid Fuel, Limited Use.	0.21	or	0.004	.....	.....	
	Liquid Fuel, Large Unit.		.....	.....	.....	.....	
	Liquid Fuel, Small Unit.		.....	.....	.....	.....	
	Liquid Fuel, Limited Use.		.....	.....	.....	.....	
	Gaseous Fuel		.....	.....	.....	.....	

For solid fuel-fired boilers or process heaters, sources may choose one of two emission limit options: (1) Existing and new affected units may choose to limit PM emissions to the level listed in Table 1 of this preamble, or (2) existing and new affected units may choose to limit total selected metals emissions to the level listed in Table 1 of this preamble. Sources meeting the emission limits must also meet operating limits.

We have provided several compliance alternatives in the final rule. Sources may choose to demonstrate compliance based on the fuel pollutant content. Sources are also allowed to demonstrate compliance for existing large solid fuel units using emissions averaging.

F. What Are the Testing and Initial Compliance Requirements?

As the owner or operator of a new or existing boiler or process heater, you must conduct performance tests (*i.e.* stack testing) or an initial fuel analysis to demonstrate compliance with any applicable emission limits. The applicable emission limits and, therefore, the required performance tests and fuel analysis are different depending on the subcategory classification of the unit. Existing units in the small solid fuel subcategory and existing units in any of the liquid or gaseous fuel subcategories do not have applicable emission limits and, therefore, are not required to conduct stack tests or fuel analyses. Other units are required to conduct the following compliance tests or fuel analyses where applicable:

(1) Conduct initial and annual stack tests to determine compliance with the PM emission limits using EPA Method 5 or Method 17 in appendix A to part 60 of this chapter.

(2) Affected sources in the solid fuel subcategories may choose to comply with an alternative total selected metals emission limit instead of PM. Sources would conduct initial and annual stack tests to determine compliance with the total selected metals emission limit using EPA Method 29 in appendix A to part 60 of this chapter.

(3) Conduct initial and annual stack tests to determine compliance with the mercury emission limits using EPA Method 29 in appendix A to part 60 of this chapter or the ASTM D6784–02.

(4) Conduct initial and annual stack tests to determine compliance with the HCl emission limits using EPA Method 26 in appendix A to part 60 of this chapter (for boilers without wet scrubbers) or EPA Method 26A in appendix A to part 60 of this chapter (for boilers with wet scrubbers).

(5) For new boilers and process heaters in any of the limited use subcategories and new boilers and process heaters in any of the large subcategories with heat input capacities greater than 10 MMBtu/hr but less than 100 MMBtu/hr, conduct initial and annual stack tests to determine compliance with the CO work practice limit using EPA Method 10, 10A, or 10B in appendix A to part 60 of this chapter.

(6) Use EPA Method 19 in appendix A to part 60 of this chapter to convert measured concentration values to pounds per million British thermal units (MMBtu) values.

(7) For new units in any of the liquid fuel subcategories that do not burn residual oil, instead of conducting an initial and annual compliance test you may submit a signed statement in the Notification of Compliance Status report that indicates that you only burn liquid fossil fuels other than residual oil.

(8) For affected sources that choose to meet the emission limits based on fuel analysis, conduct the fuel analysis using method ASTM D5865–01ae1 or ASTM E711–87 to determine heat content; ASTM D3684–01 (for coal), SW–846–7471A (for solid samples) or SW–846–7470A (for liquid samples) to determine mercury levels; SW–846–6010B or ASTM D3683–94 (for coal) or ASTM E885–88 (for biomass) to determine total selected metals concentration; SW–846–9250 or ASTM E776–87 (for biomass) to determine chlorine concentration; and ASTM D3173 or ASTM E871 to determine moisture content.

As part of the initial compliance demonstration, you must monitor specified operating parameters during the initial performance tests that demonstrate compliance with the PM (or metals), mercury, and HCl emission limits. You must calculate the average parameter values measured during each

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test run over the 3-run performance test. The minimum or maximum of the three average values (depending on the parameter measured) for each applicable parameter establishes the site-specific operating limit. The applicable operating parameters for which operating limits must be established are based on the emissions limits applicable to your unit as well as the types of add-on controls on the unit. A summary of the operating limits that must be established for the various types of controls are as follows:

(1) For boilers and process heaters without wet scrubbers that must comply with the mercury emission limit and either a PM emission limit or a total selected metals emission limit, you must meet an opacity limit of 20 percent for existing sources (based on 6-minute averages), except for one 6-minute period per hour of not more than 27 percent, or 10 percent for new sources (based on 1-hour block averages). Or, if the unit is controlled with a fabric filter, instead of meeting an opacity operating limit, you may elect to operate the fabric filter using a bag leak detection system such that corrective actions are initiated within 1 hour of a bag leak detection system alarm and you operate and maintain the fabric filter such that the alarm is not engaged for more than 5 percent of the total operating time in a 6-month reporting period.

(2) For boilers and process heaters without wet or dry scrubbers that must comply with an HCl emission limit, you must determine the average chloride content level in the input fuel(s) during the HCl performance test. This is your maximum chloride input operating limit.

(3) For boilers and process heaters with wet scrubbers that must comply with a mercury, PM (or total selected metals) and/or an HCl emission limit, you must measure pressure drop and liquid flow rate of the scrubber during the performance test and calculate the average value for each test run. The minimum test run average establishes your site-specific pressure drop and liquid flow rate operating levels. If different average parameter levels are measured during the mercury, PM (or metals) and HCl tests, the highest of the minimum test run average values establishes your site-specific operating limit. If you are complying with an HCl emission limit, you must measure pH during the performance test for HCl and determine the average for each test run and the minimum value for the performance test. This establishes your minimum pH operating limit.

(4) For boilers and process heaters with dry scrubbers that must comply with an HCl emission limit, you must measure the sorbent injection rate during the performance test for mercury and HCl and calculate the average for each test run. The minimum test run average during the performance test establishes your site-specific minimum sorbent injection rate operating limit.

(5) For boilers and process heaters with fabric filters in combination with wet scrubbers that must comply with a mercury emission limit, PM (or total selected metals) emission limit and/or an HCl emission limit, you must measure the pH, pressure drop, and liquid flowrate of the wet scrubber during the performance test and calculate the average value for each test run. The minimum test run average establishes your site-specific pH, pressure drop, and liquid flowrate operating limits for the wet scrubber. Furthermore, the fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during any 6-month period.

(6) For boilers and process heaters with electrostatic precipitators (ESP) in combination with wet scrubbers that must comply with a mercury, PM (or total selected metals) and/or an HCl emission limit, you must measure the pH, pressure drop, and liquid flow rate of the wet scrubber during the HCl performance test, and you must measure the voltage and secondary current of the ESP collection plates or total power input during the mercury and PM (or metals) performance test. Calculate the average value of these parameters for each test run. The minimum test run averages establish your site-specific minimum pH, pressure drop, and liquid flowrate operating limit for the wet scrubber and the minimum voltage and current operating limits for the ESP.

(7) For boilers and process heaters that choose to comply with the alternative total selected metals emission limit instead of PM, you must determine the total selected metals content of the inlet fuels that were burned during the total selected metals performance test. This value is your maximum fuel inlet metals content operating limit.

(8) For boilers and process heaters that burn a mixture of multiple fuels, you must determine the mercury content of the inlet fuels that were burned during the mercury performance test. This value is your maximum fuel inlet mercury operating limit. Units burning only a single fuel type (not including start-up fuels) do not need to determine, by fuel analysis, the fuel inlet operating limit when conducting performance tests.

(9) For new boilers and process heaters in any of the large subcategories and with heat input capacities greater or equal to 100 MMBtu/hr, you must monitor CO to demonstrate that average CO emissions, on a 30-day rolling average, are at or below an exhaust concentration of 400 parts per million (ppm) by volume on a dry basis corrected to 3 percent oxygen for units in the liquid subcategories and corrected to 7 percent for units in the solid subcategories. For new boilers and process heaters in any of the limited use subcategories or with heat input capacities less than 100 MMBtu/hr, you must conduct initial test of CO emissions to demonstrate compliance with the CO work practice limit.

The final rule also provides you another compliance alternative. You may demonstrate compliance by emissions averaging for existing large solid fuel boilers in States that choose to allow emissions averaging in their operating permit program.

G. What Are the Continuous Compliance Requirements?

To demonstrate continuous compliance with the emission limitations, you must monitor and comply with the applicable site-specific operating limits established during the performance tests or fuel analysis. Upon detecting an excursion or exceedance, you must restore operation of the unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance. Such actions may include initial inspections and evaluation, recording that operations returned to normal without operator action, or any necessary follow-up actions to return operation to below the work practice standard.

(1) For boilers and process heaters without wet scrubbers that must comply with a mercury emission limit and either a PM emission limit or a total selected metals emission limit, you must continuously monitor opacity and maintain the opacity at or below the maximum opacity operating limit for new and existing sources. Or, if the unit is controlled with a fabric filter, instead of continuous monitoring opacity, the fabric filter may be continuously operated such that the bag leak detection system alarm does not sound

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more than 5 percent of the operating time during any 6-month period.

(2) For boilers and process heaters without wet or dry scrubbers that must comply with an HCl emission limit, you must maintain monthly records of fuel use that demonstrate that you have burned no new fuel types or new mixtures such that you have maintained the fuel HCl content level at or below your site-specific maximum HCl input operating limit. If you plan to burn a new fuel type or a new mixture than what was burned during the initial performance test, then you must re-calculate the maximum HCl input anticipated from the new fuels based on supplier data or your own fuel analysis. If the results of re-calculating the HCl input exceeds the average HCl content level established during the initial test, then you must conduct a new performance test to demonstrate continuous compliance with the HCl emission limit.

(3) For boilers and process heaters with wet scrubbers that must comply with a mercury, PM (or total selected metals) and/or an HCl emission limit, you must monitor pressure drop and liquid flow rate of the scrubber and maintain the 3-hour block averages at or above the operating limits established during the performance test. You must monitor the pH of the scrubber and maintain the 3-hour block average at or above the operating limit established during the performance test to demonstrate continuous compliance with the HCl emission limits.

(4) For boilers and process heaters with dry scrubbers that must comply with a PM (or total selected metals) or mercury emission limit, and/or an HCl emission limit, you must continuously monitor the sorbent injection rate and maintain it at or above the operating limits established during the HCl performance test.

(5) For boilers and process heaters with fabric filters in combination with wet scrubbers, you must monitor the pH, pressure drop, and liquid flow rate of the wet scrubber and maintain the levels at or above the operating limits established during the HCl performance test. You must also maintain the operation of the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during any 6-month period.

(6) For boilers and process heaters with ESP in combination with wet scrubbers that must comply with a mercury, PM and/or an HCl emission limit, you must monitor the pH, pressure drop, and liquid flow rate of the wet scrubber and maintain the 3-hour block averages at or above the operating limits established during the HCl performance test. Also, you must monitor the voltage and secondary current of the ESP collection plates or total power input and maintain the 3-hour block averages at or above the operating limits established during the mercury or PM (or metals) performance test.

(7) For boilers and process heaters that choose to comply with the alternative total selected metals limit instead of PM emission limit, you must maintain monthly fuel records that demonstrate that you burned no new fuel type or new mixtures such that the total selected metals content of the inlet fuel was maintained at or below your maximum fuel inlet metals content operating limit set during the metals performance test. If you plan to burn a new fuel type or new mixture, then you must re-calculate the maximum metals input anticipated from the new fuels based on supplier data or own fuel analysis. If the results of re-calculating the metals input exceeds the average metals content level established during the initial test, then you must conduct a new performance test to demonstrate continuous compliance with the alternate selected metals emission limit.

(8) For boilers and process heaters that must comply with the mercury emission limit, you must maintain monthly fuel records that demonstrate that you burned no new fuel type or new mixture such that the total selected mercury content of the inlet fuel was maintained at or below your maximum fuel inlet metals content operating limit set during the mercury performance test. If you plan to burn a new fuel type or new mixture than what was burned during the initial performance test, then you must re-calculate the maximum mercury input anticipated from the new fuels based on supplier data or own fuel analysis. If the results of re-calculating the mercury input exceeds the average mercury content level established during the initial test, then you must conduct a new performance test to demonstrate continuous compliance with the mercury emission limit.

(9) For boilers and process heaters that choose to comply with any emission limit based on fuel analysis, you must maintain monthly fuel records to demonstrate that the content of fuel is maintained below the appropriate applicable emission limit.

(10) For new boilers and process heaters in any of the large subcategories with heat input capacities greater or equal to 100 MMBtu/hr, you must continuously monitor CO and maintain the 30-day rolling average CO emissions at or below 400 ppm by volume on a dry basis (corrected to 3 percent oxygen for units in the liquid or gaseous subcategories, and 7 percent for units in the solid fuel subcategories) to demonstrate compliance with the work practice standards at all times except during startup, shutdown, and malfunction and when the unit is operating less than 50 percent of the rated capacity.

If a control device other than the ones specified in this section is used to comply with the final rule, you must establish site-specific operating limits and establish appropriate continuous monitoring requirements, as approved by the EPA Administrator.

If you choose to comply using emissions averaging, you must demonstrate on a monthly basis that mercury, metals, PM, and HCl emission limits can be met over a 12-month period.

H. What Are the Notification, Recordkeeping and Reporting Requirements?

If your boiler or process heater is in the existing large gaseous fuel subcategory, or existing limited use gaseous fuel subcategory, or existing large liquid fuel subcategory, or existing limited use liquid fuel subcategory, or a new small liquid fuel unit that only burn gaseous fuels or distillate oil, you only have to submit the initial notification report. If your boiler or process heater is in the existing small gaseous, liquid, or solid fuel subcategories or new small gaseous fuel subcategory, you are not required to keep any records or submit any reports.

If your boiler or process heater is in any other subcategory, then you must keep the following records:

(1) All reports and notifications submitted to comply with the final rule.

(2) Continuous monitoring data as required in the final rule.

(3) Each instance in which you did not meet each emission limit work practice and operating limit, including periods of startup, shutdown, and malfunction (*i.e.*, deviations from the final rule).

(4) Monthly hours of operation by each source that is in a limited use subcategory.

(5) Monthly fuel use by each boilers and process heaters subject to an emission limit including a description of the type(s) of fuel(s) burned, amount of each fuel type burned, and units of measure.

(6) Calculations and supporting information of chloride fuel input, as required in the final rule.

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(7) Calculations and supporting information of total selected metals and mercury fuel input, as required in the final rule, if applicable.

(8) A copy of the results of all performance tests, fuel analysis, opacity observations, performance evaluations, or other compliance demonstrations conducted to demonstrate initial or continuous compliance with the final rule.

(9) A copy of any federally enforceable permit that limits the annual capacity factor of the source to less than or equal to 10 percent.

(10) A copy of your site-specific startup, shutdown, and malfunction plan.

(11) A copy of your site-specific monitoring plan developed for the final rule, if applicable.

(12) A copy of your site-specific fuel analysis plan developed for the final rule, if applicable.

(13) A copy of the emissions averaging plan, if applicable.

You must submit the following reports and notifications:

(1) Notifications required by the General Provisions.

(2) Initial Notification no later than 120 calendar days after you become subject to the final rule.

(3) Notification of Intent to conduct performance tests and/or compliance demonstration at least 30 calendar days before the performance test and/or compliance demonstration is scheduled.

(4) Notification of Compliance Status 60 calendar days following completion of the performance test and/or compliance demonstration.

(5) Notification of intent to demonstrate compliance by emissions averaging.

(6) Notification of intent to demonstrate eligibility for either health-based compliance alternative.

(7) Compliance reports semi-annually.

I. What Are the Health-Based Compliance Alternatives, and How Do I Demonstrate Eligibility?

HCl Compliance Alternative

As an alternative to the requirement for each large solid fuel-fired boiler to demonstrate compliance with the HCl emission limit in the final rule, you may demonstrate compliance with a health-based HCl equivalent allowable emission limit.

The procedures for demonstrating eligibility for the HCl compliance alternative (as outlined in appendix A of the final rule) are:

(1) You must include in your demonstration every emission point covered under the final rule.

(2) You must conduct HCl and chlorine emissions tests for every emission point covered under the final rule.

(3) You must determine the total maximum hourly mass HCl-equivalent emission rate for your affected source by summing the maximum hourly emission rates of HCl and chlorine for each of the affected units at your facility covered under the final rule.

(4) Use the look-up table in the appendix A of the final rule to determine if your facility is in compliance with the health-based HCl-equivalent emission limit.

(5) Select the maximum allowable HCl-equivalent emission rate from the look-up table in appendix A of the final rule for your affected source using the average stack height of your emission units covered under the final rule as your stack height and the minimum distance between any affected emission point and the property boundary as your property boundary.

(6) Your facility is in compliance if your maximum HCl-equivalent emission rate does not exceed the value specified in the look-up table in appendix A of the final rule.

(7) As an alternative to using the look-up table, you may conduct a site-specific compliance demonstration (as outlined in appendix A of the final rule) which demonstrates that the subpart DDDDD units at your facility are not expected to cause an individual chronic inhalation exposure from HCl and chlorine which can exceed a Hazard Index (HI) value of 1.0.

Total Selected Metals Compliance Alternative

In lieu of complying with the emission standard for total selected metals (TSM) in the final rule based on the sum of emissions for the eight selected metals, you may demonstrate eligibility for complying with the TSM standard based on excluding manganese emissions from the summation of TSM emissions for the affected source unit(s).

The procedures for demonstrating eligibility for the TSM compliance alternative (as outlined in appendix A of the final rule) are:

(1) You must include in your demonstration every emission point covered under the final rule that emits manganese.

(2) You must conduct manganese emissions tests for every emission point covered under the final rule that emits manganese.

(3) You must determine the total maximum hourly manganese emission rate from your affected source by summing the maximum hourly manganese emission rates for each of the affected units at your facility covered under the final rule.

(4) Use the look-up table in appendix A of the final rule to determine if your facility is eligible for complying with the alternative TSM limit based on the sum of emissions for seven metals (excluding manganese) for the affected source units.

(5) Select the maximum allowable manganese emission rate from the look-up table in appendix A of the final rule for your affected source using the average stack height of your emission units covered under the final rule as your stack height and the minimum distance between any of those emission points and the property boundary as your property boundary.

(6) Your facility is eligible if your maximum manganese emission rate does not exceed the value specified in the look-up table in appendix A of the final rule.

(7) As an alternative to using look-up table to determine if your facility is eligible for the TSM compliance alternative, you may conduct a site-specific compliance demonstration (as outlined in appendix A of the final rule) which demonstrates that the subpart DDDDD units at your facility are not expected to cause an individual chronic inhalation exposure from manganese which can exceed a Hazard Quotient (HQ) value of 1.0.

If you elect to demonstrate eligibility for either of the health-based compliance alternatives, you must submit certified documentation supporting compliance with the procedures at least 1 year before the compliance date.

You must submit supporting documentation including documentation of all maximum capacities, existing control devices used to reduce emissions, stack parameters, and property boundary distances to each affected source of HCl-equivalent and/or manganese emissions.

You must keep records of the information used in developing the eligibility demonstration for your affected source.

To be eligible for either health-based compliance alternative, the parameters that defined your affected source as eligible for the health-based compliance alternatives (including, but not limited to, fuel type, type of control devices, process parameters reflecting the emission rates used for your eligibility demonstration) must be incorporated as Federally enforceable limits into your title V permit. If you do not meet these criteria, then your affected source is subject to the applicable emission

limits, operating limits, and work practice standards in the final rule.

If you intend to change key parameters (including distance of stack to the property boundary) that may result in lower allowable health-based emission limits, you must recalculate the limits under the provisions of this section, and submit documentation supporting the revised limits prior to initiating the change to the key parameter.

If you intend to install a new solid fuel-fired boiler or process heater or change any existing emissions controls that may result in increasing HCl-equivalent and/or manganese emissions, you must recalculate the total maximum hourly HCl-equivalent and/or manganese emission rate from your affected source, and submit certified documentation supporting continued eligibility under the revised information prior to initiating the new installation or change to the emissions controls.

III. What Are the Significant Changes Since Proposal?

A. Definition of Affected Source

The definition of affected source in § 63.7490 has been revised to be: (1) The collection of all existing industrial, commercial, or institutional boilers or process heaters within a subcategory located at a major source; and/or (2) each new or reconstructed industrial, commercial, or institutional boiler or process heater located at a major source.

B. Sources Not Covered by the NESHAP

The applicability section of the final rule (§ 63.7490(c)) has been written to clarify that the following are not subject to the final rule: Blast furnace stoves, any boiler or process heater specifically listed as an affected source in another MACT standard, temporary boilers, and blast furnace gas fuel-fired boilers and process heaters.

C. Emission Limits

The emission limit for mercury in the existing large solid fuel subcategories has been written as 0.000009 lb/MMBtu (from 0.000007 lb/MMBtu at proposal).

D. Definitions Added or Revised

The EPA has written the definitions of large, limited use, and small gaseous subcategories to include gaseous fuel-fired boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies.

The final rule also includes a definition of fuel type which is used in the fuel analysis compliance options. Fuel type means each category of fuels that share a common name of classification. Examples include, but are not limited to: bituminous coal, subbituminous coal, lignite, anthracite, biomass, construction/demolition material, salt water laden wood, creosote treated wood, tires, and residual oil. Individual fuel types received from different suppliers are not considered new fuel types except for construction/demolition material.

Construction/demolition material means waste building material that result from the construction or demolition operations on houses and commercial and industrial buildings.

Unadulterated wood, component of biomass, means wood or wood products that have not been painted, pigment-stained, or pressure treated with compounds such as chromate copper arsenate, pentachlorophenol, and creosote. Plywood, particle board, oriented strand board, and other types of wood products bound by glues and resins are included in this definition.

We have included a definition for temporary boiler to mean any gaseous or liquid fuel-fired boiler that is designed, and is capable of, being carried or moved from one location to another. A temporary boiler that remains at a location for more than 180 consecutive days is no longer considered to be a temporary boiler. Any temporary boiler that replaces a temporary boiler at a location and is intended to perform the same or similar function will be included in calculating the consecutive time period.

The final rule also contains a definition written for waste heat boiler that identifies waste heat boilers incorporating duct or supplemental burners that are designed to supply 50 percent or more of the total rated heat input capacity of the waste heat boiler as not being waste heat boilers, but are considered boilers and subject to the final rule.

E. Requirements for Sources in Subcategories Without Emission Limits or Work Practice Requirements

In the final rule, we have clarified that sources in the existing large and limited use gaseous fuel subcategories, existing large and limited use liquid fuel subcategories, and new small liquid fuel subcategory that burn only distillate oil are only subject to the initial notification requirements in § 63.9(b) of subpart A of this part and are not required to submit as startup, shutdown, and malfunction (SSM) plan as part of their initial notification. We have written the final rule to state that sources in the existing small gaseous fuel, liquid fuel, and solid fuel subcategories and in the new small gaseous fuel subcategory are not subject to any requirements in the final rule or of subpart A of this part.

F. Carbon Monoxide Work Practice Emission Levels and Requirements

The final rule provides revisions to the CO work practice emission levels. For new sources in the solid fuel subcategory, the work practice standard has been written to be corrected to 7 percent oxygen rather than 3 percent. Units in the gaseous and liquid fuel subcategories still have to correct to 3 percent oxygen.

The final rule also allows sources with heat input capacities greater than 10 MMBtu/hr but less than 100 MMBtu/hr to conduct initial and annual compliance tests to demonstrate compliance with the CO limit. Sources greater than 100 MMBtu/hr must still demonstrate compliance using CO continuous emission monitors (CEMS).

The final rule also does not allow you to calculate data average using data recorded during periods where your boiler or process heater is operating at less than 50 percent of its rated capacity, monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities. You must use all data collected during all other periods in assessing compliance.

G. Fuel Analysis Option

We have clarified the fuel analysis options in the final rule. You are not required to conduct performance tests for hydrogen chloride, mercury, or total selected metals if you demonstrate compliance with the hydrogen chloride, mercury, or total selected metals limits based on the fuel pollutant content. Your operating limit is then the emission limit of the applicable pollutant. You are not required to conduct emission tests.

If you demonstrate compliance with the HCl, mercury, or TSM limit by performance tests, then your operating limits are the operating limits of the control device (if used) and the fuel pollutant content of the fuel type/mixture burned. Units burning multiple fuel types are required to determine by fuel analysis, the fuel pollutant content of the fuel/mixture burned during the performance test.

The final rule specifies the testing and initial and continuous compliance requirements to be used when complying with the fuel analysis options. Fuel analysis tests for total chloride, gross calorific value, mercury, metal analysis, sample collection, and sample preparation are included in the final rule.

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We have written the requirement to remove the need for conducting additional tests if you receive fuel from a new supplier. You are required to conduct another performance test, if you demonstrated compliance through performance testing, only when you burn a new fuel type or mixture and the results of recalculating the fuel pollutant content are higher than the level established during the initial performance test.

H. Emissions Averaging

We have included a compliance alternative in the final rule to allow emissions averaging between existing large solid fuel boilers. Compliance must be demonstrated on a 12-month rolling average basis, determined at the end of every month. If you elect to comply with the emissions averaging compliance alternative, you must use equations provided in the final rule to demonstrate that particulate matter or TSM, HCl, or mercury from all applicable units do not exceed the emission limits specified in the final rule. If you use this option, you must also develop and submit an implementation plan no later than 6 months before the date that the facility intends to demonstrate compliance.

I. Opacity Limit

At proposal, we required sources meeting the PM and mercury limits to determine site-specific opacity operating limits based on levels during the initial performance test. To demonstrate continuous compliance with the opacity limit, the opacity operating limits have been established to be 20 percent (based on 6-minute averages) except for one 6-minute period per hour of not more than 27 percent for existing sources and 10 percent (based on 1-hour block averages) for new sources.

J. Operating Limit Determination

The final rule defines maximum and minimum operating parameters that must be met. For sources complying with the alternative opacity requirement of establishing opacity limits during the initial performance test, the maximum opacity operating limit is 110 percent of the highest test-run average opacity measured according to the final rule during the most recent performance test demonstrating compliance with the applicable emission limit. For sources meeting the standards using scrubbers or ESP, the minimum pressure drop, scrubber effluent pH, scrubber flow rate, sorbent flow rate, voltage or amperage means 90 percent of the lowest test run average pressure drop, scrubber effluent pH, scrubber flow rate, sorbent flow rate, voltage or amperage measured according to the most recent performance test demonstrating compliance with the applicable emission limits.

The final rule clarifies that operation above the established maximum or below the established minimum operating parameters constitute a deviation of established operating parameters.

K. Revision of Compliance Dates

In § 63.7510, we have also written the date by which you have to complete a compliance demonstration to be 180 days after the compliance date instead of at the compliance date.

IV. What Are the Responses to Significant Comments?

We received 218 public comment letters on the proposed rule. Complete summaries of all the comments and responses are found in the Response-to-Comments document (see **SUPPLEMENTARY INFORMATION** section).

A. Applicability

Comment: Many commenters requested that EPA exempt units that are not subject to emission limits or work practice requirements from monitoring, recordkeeping, and reporting requirements.

Response: Sources in subcategories that do not have any emission limitations and work practices are not required to keep records or reports other than the initial notification. This is appropriate because no reports other than the initial notification would apply to these units. The SSM plan is not necessary nor required for these units because § 63.6(e)(3) of subpart A of this part requires an affected source to develop an SSM plan for control equipment used to comply with the relevant standard. The proposed rule was not intended to require monitoring, recordkeeping, and reporting (including startup, shutdown, and malfunction plans), other than the initial notification for sources not subject to an emission limit. We have clarified this decision in the final rule. We have also determined that existing small units and new small gaseous fuel units, which are not subject to emission limits or work practices in this standard, and which are also not subject to such requirements in any other Federal regulation, should also not have to provide an initial notification. These small sources are generally gas-fired and since they have minimal emissions, they are usually considered as insignificant emission units by State permitting agencies.

Comment: Several commenters requested that EPA specifically exclude portable/transportable units from the final rule. The commenters stated that facilities periodically use these units to supply or supplement other site steam supplies when there is a mechanical problem that takes a unit out of service or during planned outages. The commenters added that because they are used on a limited basis, portable units are not fully integrated with site control systems and most portable/transportable units are owned by a rental company and may not be operated by the facility owner/operator.

Response: We agree with the commenters that temporary/portable units are used only on a limited basis and are not integrated into a facility's control system. These units are gas or oil fired units. Units in the existing gaseous or liquid subcategories are not subject to emission limits or work practice standards. Consequently, we have decided that temporary/portable units are not subject to the final rule. We have added a definition for temporary boiler to mean any gaseous or liquid fuel-fired boiler that is designed, and is capable of, being carried or moved from one location to another. A temporary boiler that remains at a location for more than 180 consecutive days is no longer considered to be a temporary boiler. Any temporary boiler that replaces a temporary boiler at a location and is intended to perform the same or similar function will be included in calculating the consecutive time period. We chose the 180-day time frame because that is the length of time a new source has after startup to conduct the initial performance test.

Comment: Several commenters requested EPA provide a lower size cut-off for the small unit subcategory. Several commenters argued that the benefits from requiring smaller units to install controls would be minimal given the overall monitoring, recordkeeping, and reporting burden. Several commenters also requested lower size cutoffs to make the final rule similar to others established by EPA (*e.g.,* NSPS Nitrogen Oxide (NO_X) SIP Call). Several commenters noted several recent court decisions in which the court has decided that a *de minimis* exemption is appropriate since the regulation of small sources would yield a gain of trivial or no value yet would impose significant regulatory burden. A wide range of lower size cutoffs were suggested. However, one commenter said that EPA should not develop *de minimis* exemptions. The commenter noted that *de minimis* exemptions do not spare EPA's resources for use on other

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purposes and are not justified by reductions in industry burden or inconvenience. The commenter noted that EPA did not establish any administrative record justifying the *de minimis* exemption.

Response: We have reviewed the commenters arguments and all the data provided in the comment letters. There is no justification for developing a lower size cut-off or *de minimis* level. We would also note the designation of large and small subcategories was not based solely on size of the unit. Large and small subcategories were developed because small units less than 10 MMBtu/hr heat input typically use a combustor design that is not common in larger units. Large boilers generally use the watertube combustor design. The design of the boiler or process heater will influence the completeness of the combustion process which will influence the formation of organic HAP emissions. Additionally, the vast majority of small units use natural gas as fuel. The EPA chose to develop large and small subcategories to account for these differences and their affect on the type of emissions. The cut-off between the large and small subcategories of 10 MMBtu/hr was based on typical sizes for fire tube units, and also when considering cut-offs in State and Federal rules. Lastly, we would like to note that the final rule does not impose any requirements for existing units in any of the small subcategories.

Comment: Many commenters asked EPA to clarify which sources are not covered by the final rule.

Response: We have included an extensive list of sources that are not subject to the final rule. The final rule clarifies that boilers and process heaters that are included as part of the affected source in any other NESHAP are not subject to the NESHAP for industrial boilers and process heaters. However, we do not exclude boilers and process heaters that are used as control devices unless they are specifically considered part of any other NESHAP's definition of affected source. Incinerators, thermal oxidizers, and flares do not generally fall under the definition of a boiler or process heater and would not be subject to the final rule. The final rule excludes waste heat boilers and waste heat boilers with supplemental firing, as long as the supplemental firing does not provide more than 50 percent of the waste heat boiler's heat input. If your waste heat boiler does receive 50 percent of its total heat input from supplemental firing, it would be subject to the NESHAP for industrial boilers unless it is subject to any other NESHAP. We specifically exclude comfort heaters from the final rule. However, this exclusion does not include boilers used to make steam or heated water for comfort heat. If your boiler meets the definition of a hot water heater, then it would not be subject to the final rule. However, if the temperature, pressure, or capacity specifications of your boiler exceed the criteria specified for hot water heaters, then your boiler would be subject to the final rule. We recognize the unique properties of blast furnace gas having high CO concentrations and none to almost no organic compounds. Consequently, we agree that for these sources CO is not a surrogate for organic HAP emissions since CO is the primary component of blast furnace gas and virtually no organic HAP are generated in its combustion. As a result, we exclude from the final rule units that receive 90 percent or more of their total heat input from blast furnace gas. In addition, research and development (R&D) operations are not subject to the final rule. However, units that only provide steam to a process or for heating at a research and development facility are still subject to the final rule. This should address the commenters' concern over overlapping applicability.

Comment: Several commenters suggested that EPA revise the proposed definition of affected source to be consistent with the definition of affected source in the General Provisions. The definition in the rule as proposed is much more narrow than that in the General Provisions, even though the General Provisions states that each standard will redefine affected source based on published justification as to why the definition would result in significant administration, practical or implementation problems. The commenters argued that EPA failed to provide justification for the proposed definition of affected source, which is narrower than the definition of affected source in the General Provisions.

Response: We agree with the commenters and in the final rule have incorporated the broader definition of affected source from the revised General Provisions. The General Provisions define the affected source as ''the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory * * *'' Therefore, the definition of existing affected source in the final rule is the collection of existing industrial, commercial, or institutional boilers and process heaters within a subcategory located at a major source of HAP emissions.

B. Format

Comment: Several commenters opposed using one or more surrogates for the HAP regulated. Some commenters stated that EPA must set emission standards for each HAP emitted by this category. One commenter explained that the use of surrogates is acceptable if: (1) The surrogates reflect the actual emissions of the represented pollutants, (2) the emission limit set for the surrogate is consistent with the emission limit calculated for the represented pollutants, and (3) the surrogates have substantially the same properties as the represented pollutants and is controlled by the same mechanism. Based on these criteria, the commenter argued that EPA's selection of surrogates is inadequate. One commenter specifically contended that CO is not an adequate surrogate for dioxin because dioxin emissions are affected by the temperature of the emissions, how quickly the temperature is lowered, and the levels of chlorine in the materials that are being combusted and control devices. Other commenters supported the use of surrogates to represent the HAP list.

Response: As discussed in the proposal preamble, the use of surrogates for the HAP regulated is appropriate. Because of the large number of HAP potentially present, the disparity in the quality and quantity of the emissions information available, particularly for different fuel types, we chose to group HAP into four categories: Mercury, non-mercury metallic HAP, inorganic HAP, and organic HAP. In general, the pollutants within each group have similar characteristics and can be controlled with the same techniques. We then chose compounds that could be used as surrogates for all the compounds in each pollutant category. We have used surrogates in previous NESHAP as a technique to reduce the performance testing costs, and thus the use of surrogates is appropriate in the final rule.

For inorganic HAP, we chose to use HCl as a surrogate. The emissions test information available to us indicated that the primary inorganic HAP emitted from boilers and process heaters is HCl. Much smaller amounts of hydrogen fluoride and chlorine are emitted. Control technologies that would reduce HCl would also control other inorganic HAP. Additionally, we had limited emissions information for other inorganic HAP. By focusing on HCl, we have achieved control of the largest emitted and most widely emitted HAP,

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and control of HCl would also constitute control of other inorganic HAP.

For non-mercury metallic HAP, we chose to use PM as a surrogate. Most, if not all, non-mercury metallic HAP emitted from combustion sources will appear on the flue gas fly-ash. Therefore, the same control technology that would be used to control fly-ash PM will control non-mercury metallic HAP. A review of data in the emission database for PM control devices having both inlet and outlet emissions results shows control efficiencies for each non-mercury metallic HAP similar to PM. Particulate matter was also chosen instead of a specific metallic HAP because all fuels do not emit the same type and amount of metallic HAP, but most generally emit PM that includes some amount and combination of metallic HAP. We maintain that particulate matter reflects the emissions of non-mercury metallic HAP as these compounds usually comprise a percentage of the emitted particulate matter. Since the NESHAP program is technology-based, the technologies that have been developed and implemented to control particulate matter, also control non-mercury metallic HAP. Furthermore, since non-mercury metallic HAP is a component of particulate matter, we can use particulate matter as a surrogate for the purposes of the final rule.

While we did use PM as a surrogate for non-mercury metallic HAP, we also provided an alternative total selected metals emission limit based on the sum of the emissions of the eight most common and largest emitted metallic HAP compounds from boilers and process heaters. Again, a total selected metals number was used instead of limits for each individual metallic HAP because sufficient information was not available for each metallic HAP for every fuel type. However, a total metals number could be calculated for every fuel type.

We realize that mercury emissions can exist in different forms depending on combustion conditions and concentrations of other compounds. That is why we have mercury as a separate pollutant category in the final rule and do not provide for a surrogate.

For organic HAP, we chose to use CO as a surrogate to represent the variety of organic compounds emitted from the various fuels burned. Both organic HAP and CO emissions are the result of incomplete combustion of the fuel. Because CO is a good indicator of incomplete combustion, there is a direct correlation between CO emissions and minimizing organic HAP emissions. The extent to which CO and HAP emissions are related can also depend on site-specific operating conditions for each boiler or process heater. This site-specific nature may result in various degrees of correlation between CO and organic HAP emissions, but it is proven that reductions in CO emissions result in a reduction of organic HAP emissions. The control methods for both CO and organic HAP are the same, *i.e.*, complete combustion. This result would not have been different if MACT floor analyses were conducted for specific organic HAP or for a surrogate compound such as CO. For boilers and process heaters, we have determined that CO is a reasonable indicator of incomplete combustion. Also, we did not set emission limits for each specific organic HAP because we lacked sufficient information for many of the organic HAP for all the fuels combusted. We acknowledge that there are many factors that affect the formation of dioxin, but we also recognize that dioxin can be formed in both the combustion unit and downstream in the associated PM control device. Minimizing organic HAP emissions can limit the formation of dioxin in the combustion unit. We reviewed all the good combustion practice (GCP) information available in the boiler population database and determined that no floor level of control exists, except for limiting CO emissions, such that GCP could be incorporated into the standard. One control technique, controlling inlet temperature to the PM control device, that has demonstrated controlling downstream formation of dioxins in other source categories (*e.g.,* municipal waste combustors) was analyzed for industrial boilers. In all cases, no increase in dioxins emissions were indicated across the PM control device even at high inlet temperatures. However, we requested comment on controls that would achieve reductions of organic HAP, including any additional data that might be available. The EPA did not receive any additional supporting information or data. Additionally, more stringent options beyond the floor level of control were evaluated, but were determined to be too costly and emissions reductions associated with the options could not be evaluated because no information was available that indicated a relationship between the GCP and emission reduction of organics (including dioxin).

C. Compliance Schedule

Comment: Many commenters requested that EPA provide an additional year to comply with the final rule. Commenters explained that the time lines associated with permitting, capital appropriation, project bid, and construction activities are significant and that the 3-year deadline would not provide adequate time for the estimated 3,730 existing units at affected sources to be retrofitted as necessary to meet the new MACT standards. The commenters added that sources subject to the final rule would also be competing with sources that are subject to other combustion rules for the same vendors.

Response: The EPA disagrees with the commenters that the 3-year compliance deadline is too short considering the number of sources that will be competing for the resources and materials from engineering consultants, equipment vendors, construction contractors, financial institutions, and other critical suppliers. The EPA recognizes the possibility that these same consultants, vendors, etc., may also be used to comply with the utility MACT standard. However, we know that many sources will not need to install controls. As a result, since not everyone will need more than 3 years to actually install controls, the final rule does not allow an extra year for existing sources to comply with the final rule. Section 112(i)(3)(B) of the CAA allows EPA or the permit authority, on a case-by-case basis, to grant an extension permitting an existing source up to 1 additional year to comply with standards if such additional period is necessary for the installation of controls. This provision is sufficient for those sources where the 3-year deadline would not provide adequate time to retrofit as necessary to comply with the requirements of the standard. We anticipate that a number of units will seek and be granted the 1-year extension since construction of needed control devices could be constrained by the potential impacts on delays in obtaining funding and potential labor and equipment shortages.

D. Subcategorization

Comment: Two commenters said that EPA does not have the authority to develop subcategories for the purpose of reducing compliance costs or weakening the standard. The commenters also noted that costs should not be considered in subcategorizing and establishing the MACT floor. One commenter explained that EPA has failed to present a persuasive rationale for the establishment of new or different subcategories, such as a wood-fired unit subcategory and noted that EPA cannot subcategorize based on fuel type, cost, level of emissions reductions, control technology applicability or effectiveness, achievability of emissions reductions, or health risks. The

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commenter argued that EPA cannot subcategorize to reduce cost because that would change CAA section 112 standards into a cost-benefit program and that is not legally defensible. The commenter noted that the DC Circuit court recently held that, when confronted with the cost argument, costs are not relevant when determining MACT floors.

Response: If the commenters are referring to the request for comment regarding further subcategorizations than what was proposed, the EPA agrees that there is no justification for any further subcategories. The final rule maintains the subcategories presented in the proposed rule. If the commenters are referring to subcategories presented in the proposed rule, section 112(d)(1) of the CAA states ''the Administrator may distinguish among classes, types, and sizes of sources within a category or subcategory'' in establishing emission standards. Thus, we have discretion in determining appropriate subcategories based on classes, types, and sizes of sources. We used this discretion in developing subcategories for the industrial, commercial, and institutional boilers and process heaters source category. Through subcategorization, we are able to define subsets of similar emission sources within a source category if differences in emissions characteristics, processes, air pollution control device (APCD) viability, or opportunities for pollution prevention exist within the source category. We first subcategorized boilers and process heaters based on the physical state of the fuel (solid, liquid, or gaseous), which will affect the type of pollutants emitted and controls applicable, and the design and operation of the boiler, which influences the formation of organic HAP emissions. We then further subcategorized boilers and process heaters based on size. Our distinctions are based on technological differences in the equipment. For example, small units are package units typically having capacities less than 10 million Btu per hour heat input and use a combustor design which is not common in large units. A review of the information gathered on boilers also shows that a number of units operate as backup, emergency, or peaking units that operate infrequently. The boiler database indicates that these infrequently operated units typically operate 10 percent of the year or less. These limited use boilers, when called upon to operate, must respond without failure and without lengthy periods of startup. Since their use and operation are different compared to typical industrial, commercial, and institutional boilers, we decided that such limited use units should have their own subcategory.

Neither the subcategories or MACT floor analysis was conducted considering costs, either in the proposed rule or in the final rule.

Comment: Many commenters requested EPA to develop a separate subcategory for small municipal electric utilities. Reasons for creating a subcategory for small electrical utility steam generating units included: (1) EPA has authority to establish such a subcategory of sources to be regulated under CAA section 112 and is meant to address control costs and feasibility, (2) past EPA practice supports subcategorization in this instance, (3) differences between municipal utility boilers and non-utility boilers justify subcategorization, and (4) EPA cannot properly account for cost and energy concerns mandated in the MACT standard setting process without subcategorization for municipal utility boilers. The commenters added that the unique physical attributes of municipally-owned utilities, as well as their significant and direct impact on municipal tax base, support a separate subcategorization.

Response: The EPA sees no technical or legal justification for creating a separate subcategory for municipal utilities. Boilers at municipal utilities fire the same type of fuels, have the same type of combustor designs, and can use the same type of controls as other units in the large subcategory. Consequently, the subcategories that are in the final rule are the same as at proposal. We would also like to clarify that subcategories were developed based on combustor design and not on industrial sector. Also, had we gone beyond-the-floor, we would have considered cost in the final determination. Since we did not go beyond-the-floor level of control, cost did not play a role in the analysis.

Comment: Many commenters requested EPA add a subcategory for medium sized boilers and process heaters.

Response: The EPA does not see justification for creating a separate subcategory for medium sized units. The designation of large and small subcategories was not based

Response: The EPA does not see justification for creating a separate subcategory for medium sized units. The designation of large and small subcategories was not based solely on size of the unit. Large and small subcategories were developed because small units less than 10 MMBtu/hr heat input typically use a combustor design that is not common in larger units. Large boilers generally use the watertube combustor design. The design of the boiler or process heater will influence the completeness of the combustion process which will influence the formation of organic HAP emissions. The EPA developed large and small subcategories to account for these differences and their affect on the type of emissions. The proposed size break between the large and small subcategories of 10 MMBtu/hr was based on typical sizes for firetube and cast iron units and considering cut-offs in State and Federal permitting requirements and rules. The EPA does not view medium sized boilers as being different than larger boilers. Combustor designs, applicable air pollution control devices, fuels used, and operation are similar for large and medium. While actual pollution controls used and monitoring equipment may be different, the CAA does not allow EPA to subcategorize on these parameters.

Section 112(d)(1) of the CAA allows EPA to distinguish among classes, types, and size in establishing MACT standards. As indicated above, at proposal, the size break selected between large and small units of 10 MMBtu/hr was based on typical sizes for fire tube units and also considering cut-offs in State and Federal permitting requirements and emission rules. Based on comments, we have examined information in the docket regarding the population and characteristics of industrial, commercial, and institutional boilers. It is correct that boilers below 10 MMBtu/hr are generally not required to be permitted and are either firetube or cast iron boilers. Based on review of the thousands of responses received on an information collection request (ICR) conducted during the rulemaking process, it is obvious and appropriate that the distinction between small and large units needs to include size. It is apparent from the ICR responses that facilities know the size of their units but do not generally know the exact type of the units. Many responses indicated that the boiler was both firetube and watertube. Many more responses did not list the boiler type at all. Therefore, the inclusion of size in the definition of small and large subcategories is appropriate.

Based on review of the 1979 EPA document on boiler population and the ICR survey database, the appropriate size break between small and large type units is 10 MMBtu/hr. In the EPA document, 99 percent of the boilers listed as being below 10 MMbtu/hr are either firetube or cast iron. Since these trends are from a 25 year old report, we

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analyzed our ICR survey database which confirmed these findings.

E. MACT Floor

Comment: Several commenters supported EPA's finding that the MACT floor level for existing gas and liquid fuel-fired units is no emissions reductions. Other commenters contended that EPA has legal authority to set the MACT floor as ''no emissions control'' for particular HAP categories. A commenter noted that EPA has a clear statutory obligation to set emission standards for each listed HAP. One commenter specifically challenged EPA's determination that ''no control'' is the MACT floor for organic pollutants. The commenter noted that the U.S. Court of Appeals for the DC Circuit had squarely held, in the National Lime case, that EPA was not allowed to make a ''no control'' determination for a pollutant emitted by a listed category of sources.

Response: First, the MACT floor methodology we use is consistent with DC Circuit's holding in the National Lime case. The DC Circuit held that by focusing only on technology EPA ignored the directive in CAA section 112(d)(2) to consider pollution-reducing measures including process changes and substitution of materials.

The EPA has ample legal authority to set the MACT floor at ''no emissions reductions.'' This is because the statute requires EPA to set standards that are duplicable by others. In the National Lime case, the court threw out EPA's determination of a no control floor because it was based only on a control technology approach. The court stated that EPA must look at what the best performers achieve, regardless of how they achieve it. Therefore, our determination that the MACT floor for certain subcategories or HAP is ''no emissions reductions'' is lawful because we determined that the best-performing sources were not achieving emissions reductions through the use of an emission control system and there were no other appropriate methods by which boilers and process heaters could reduce HAP emissions. Furthermore, setting emissions standards on the basis of actual emissions data alone where facilities have no way of controlling their HAP emissions would contravene the plain statutory language as well as Congressional intent that affected sources not be forced to shut down.

The EPA agrees with the commenter that all factors which might control HAP emissions must be considered in making a floor determination for each subcategory. However, EPA disagrees that it must express the floor as a quantitative emission level in those instances where the source on which the floor determination is based has not adopted or implemented any measure that would reduce emissions.

A detailed discussion of the MACT floor methodology is presented in the memorandum ''MACT Floor Analysis for New and Existing Sources in the Industrial, Commercial, and Institutional Boilers and Process Heaters Source Categories'' in the docket. In summary, we considered several approaches to identifying MACT floor for existing industrial, commercial, and institutional boilers and process heaters. Based on recent court decisions, in most cases the most acceptable approach for determining the MACT floor is likely to involve primarily the consideration of available emissions test data. However, after review of the available HAP emission test data, we determined that it was inappropriate to use this MACT floor approach to establish emission limits for boilers and process heaters. The main problem with using only the HAP emissions data is that, based on the test data alone, uncontrolled units (or units with low efficiency add-on controls) were frequently identified as being among the best performing 12 percent of sources in a subcategory, while many units with high efficiency controls were not. However, these uncontrolled or poorly controlled units are not truly among the best controlled units in the category. Rather, the emissions from these units are relatively low because of particular characteristics of the fuel that they burn, that can not reasonably be replicated by other units in the category or subcategory. A review of fuel analyses indicate that the concentration of HAP (metals, HCl, mercury) vary greatly, not only between fuel types, but also within each fuel type. Therefore, a unit without any add-on controls, but burning a fuel containing lower amounts of HAP, can have emission levels that are lower than the emissions from a unit with the best available add-on controls. If only the available HAP emissions data are used, the resulting MACT floor levels would, in most cases, be unachievable for many, if not most, existing units, even those that employ the most effective available emission control technology. Another problem with using only emissions data is that there is very limited or no HAP emissions information available to the Agency for the subcategories. This is consistent with the fact that units in these source categories have not historically been required to test for HAP emissions.

We also considered using HAP emission limits contained in State regulations and permits as a surrogate for actual emission data in order to identify the emissions levels from the best performing units in the category for purposes of establishing MACT standards. However, we found no State regulations or State permits which specifically limit HAP emissions from these sources.

Consequently, we concluded that the most appropriate approach for determining MACT floors for boilers and process heaters is to look at the control options used by the units within each subcategory in order to identify the best performing units. Information was available regarding the emission control options employed by the population of boilers identified by the EPA. We considered several possible control techniques (*i.e.*, factors that influence emissions), including fuel substitution, process changes and work practices, and add-on control technologies.

We first considered whether fuel switching would be an appropriate control option for sources in each subcategory. We considered the feasibility of both fuel switching to other fuels used in the subcategory and to fuels from other subcategories. This consideration included determining whether switching fuels would achieve lower HAP emissions. A second consideration was whether fuel switching could be technically achieved by boilers and process heaters in the subcategory considering the existing design of boilers and process heaters. We also considered the availability of various types of fuel. After considering these factors, we determined that fuel switching was not an appropriate control technology for purposes of determining the MACT floor level of control for any subcategory. This decision was based on the overall effect of fuel switching on HAP emissions, technical and design considerations, and concerns about fuel availability.

We also concluded that process changes or work practices were not appropriate criteria for identifying the MACT floor level of control for units in the boilers and process heaters category. The HAP emissions from boilers and process heaters are either fuel dependent (*i.e.*, mercury, metals, and inorganic HAP) or combustion related (*i.e.*, organic HAP). Fuel dependent HAP are typically controlled by removing them from the flue gas after combustion. Therefore, they are not affected by the operation of the boiler or process heater. Consequently, process changes would be ineffective in reducing these fuel-related HAP emissions.

On the other hand, organic HAP can be formed from incomplete combustion

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of the fuel. Good combustion practice (GCP), in terms of boilers and process heaters, could be defined as the system design and work practices expected to minimize organic HAP emissions. While few sources in EPA's database specifically reported using good combustion practices, the data that we have suggests that boilers and process heaters within each subcategory might use any of a wide variety of different work practices, depending on the characteristics of the individual unit. The lack of information, and lack of a uniform approach to assuring combustion efficiency, is not surprising given the extreme diversity of boilers and process heaters, and given the fact that no applicable Federal standards, and most applicable State standards, do not include work practice requirements for boilers and process heaters. Even those States that do have such requirements do not require the same work practices. For example, CO emissions are generally a good indicator of incomplete combustion, and, therefore, low CO emissions might reflect good combustion practices. (As discussed in the proposal, CO is considered a surrogate for organic HAP emissions.) Therefore, we considered whether existing CO emission limits might be used to establish good combustion practice standards for boilers and process heaters. We reviewed State regulations applicable to boilers and process heaters, and then for each subcategory we matched the applicability of State CO emission limits with information on the locations and characteristics of the boilers and process heaters in the population database. Ultimately, we found that very few units (less than 6 percent) in any subcategory were subject to CO emission limits. We concluded that this information did not allow EPA to identify a level of performance that was representative of good combustion across the various units in any subcategory. Therefore, we did not establish a CO emission limit, as a surrogate for organic HAP emissions, as a part of the MACT floor for existing units. However, we have considered the appropriateness of such requirements in the context of evaluation possible beyond-the-floor options.

In general, boilers and process heaters are designed for good combustion. Facilities have an economic incentive to ensure that fuel is not wasted, and the combustion device operates properly and is appropriately maintained. In fact, existing boilers and process heaters are used typically as high efficiency control devices to control (reduce) emission streams containing organic HAP compounds from various process operations. Therefore, EPA's inability to establish a combustion practice requirement as part of the MACT floor for existing sources in this category should not reduce the incentive for owners and operators to run their boilers and process heaters at top efficiency.

As a result of the evaluation of the feasibility of establishing emission limits based on control techniques such as fuel switching and good combustion practices, we concluded that add-on control technology should be the primary factor for purposes of identifying the best controlled units within each subcategory of boilers and process heaters. We identified the types of air pollution control techniques currently used. We ranked those controls according to their effectiveness in removing the different HAP categories of pollutants; including metallic HAP and PM, inorganic HAP such as acid gases, mercury, and organic HAP. We then listed all the boilers and process heaters in the population database in order of decreasing control device effectiveness within each subcategory for each pollutant type. Then we identified the top 12 percent of units within each category based on this ranking, and determined what kind of emission control technology, or combination of technologies, the units in the top 12 percent employed. Finally, we looked at the emissions test data from boilers and process heaters that used the same control technology, or technologies, as the units in the top 12 percent to estimate the average emissions limitation achieved by these units.

This approach reasonably ensures that the emission limit selected as the MACT floor adequately represents the average level of control actually achieved by units in the top 12 percent. The analysis of the measured emissions from units representative of the top 12 percent is reasonably designed to provide a meaningful estimate of the average performance, or central tendency, of the best controlled 12 percent of units in a given subcategory. For existing subcategories where less than 12 percent of units in the subcategory use any type of control technology, we looked to see if we could estimate the central tendency of the best controlled units by looking at the unit occupying the median point in the top 12 percent (the unit at the 94th percentile). If the median unit of the top 12 percent is using some control technology, we might use the measured emission performance of that individual unit as the basis for estimating an appropriate average level of control of the top 12 percent. For subcategories where less than 6 percent of the units in a HAP grouping used controls or limited emissions, the median unit for that HAP grouping reflects no emissions reductions. Therefore, in these circumstances, EPA has appropriately established the MACT floor emission levels for these sources as no emission reduction.

Comment: Many commenters opposed EPA using emissions data from units in the large subcategory to develop emission limits for units in the small or limited use subcategories. Some commenters stated that it was not appropriate to assume that emissions rates achievable by large units are achievable by small units, even the best controlled units. Other commenters argued that the use of large unit data in MACT determinations for other subcategories would defeat the purpose of the subcategorization and violate the requirements of CAA section 112 because the use of this data does not represent sources in the relevant category or subcategory.

Response: The EPA disagrees with the commenters and maintains that it has conducted the MACT floor analysis appropriately. Section 112(d) of the CAA requires us to establish emission limits for new sources based on the performance of the best-controlled similar source. The CAA does not specify that the similar source must be within the same source category or subcategory. To the contrary, our interpretation of section 112(d) is that we are obligated to consider similar sources from other source categories or subcategories in determining the best-controlled similar source for establishing MACT for new sources.

For new limited use and small units, we concluded that the best-controlled similar sources are found in the large subcategory. First, EPA determined the control technology used by the best controlled sources in the subcategory. For example, only units in the population database less than 10 MMBtu/hr (and not in the limited use subcategory) were used to determine the MACT floor control technology for units in the small subcategories. Second, EPA used information in the emissions test database to establish the emission level associated with the MACT floor control technology. The emissions test database did not contain test data for limited use or small boilers and process heaters. Section 112(d) of the CAA requires EPA to use information from similar sources to set the MACT floor. Such sources may not be in the same subcategory. Although the units in the small and

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limited use subcategories are different enough to warrant their own subcategory (*i.e.*, different purposes and operation), emissions of the specific types of HAP for which limits are being proposed are expected to be related more to the type of fuel burned and the type of control used, than to unit operation. Consequently, EPA determined that emissions information from large fuel-fired units could be used to establish MACT floor levels for the small and limited use subcategories because the fuels and controls are similar. The proposal preamble requested additional information from commenters to refine/revise the approach if necessary. No commenters provided emissions information for limited use or small subcategory boilers or process heaters.

Comment: Several commenters requested that EPA account for variability in fuel composition as MACT floors are established and to provide adequate allowances for inherent fuel supply variability. Some commenters argued that there is no flexibility in the rule to account for this variability and noted that coal composition can vary by location and also within an individual seam.

Response: As described in the memorandum ''Revised MACT Floor Analysis for the Industrial, Commercial, and Institutional Boilers and Process Heater National Emission Standards for Hazardous Air Pollutants Based on Public Comments'' in the docket, the calculation of numerical emission limits was a two-step analysis. The first step involved calculating a numerical average of the appropriate subset of emission test data. The second step involved generating and applying an appropriate variability factor to account for unavoidable variations in emissions due to uncontrollable variations in fuel characteristics and ordinary operational variability. Accounting for variability is appropriate in order to generate a more accurate estimation of the actual, long term, performance of a source (*e.g.*, the source occupying the median point in the top 12 percent). An emission test provides a momentary snapshot, not an estimation of continuous performance. In order to translate the former into the latter, we must account for that ordinary and unavoidable variability that the source is likely to experience over time. This gives us a more reasonable estimate of the actual level of emissions control that the unit is achieving. The EPA contends that by considering the variability of emissions information, we have indirectly incorporated variability in fuel, operating conditions, and sampling and analytical conditions because these parameters vary from emission tests conducted from one unit to another, and even within each test set of three measurements at a single unit. The most elementary measure of variation is range. Range is defined as the difference between the largest and smallest values. This is the variability methodology used in the proposed rule. That is, for each unit with multiple emissions tests conducted over time, the variability was calculated by dividing the highest three-run test result by the lowest three-run test result. The overall variability was calculated by averaging all the individual unit variability factors. This overall variability factor was multiplied by the overall average emission level to derive a MACT floor limit representative of the average emission limitation achieved by the top 12 percent of units. This approach adequately accounts for inherent fuel supply variability. Based on comments, EPA did conduct a more robust statistical analysis (t-test) of the mercury emissions data used in the MACT floor analysis to identify the 97.5th percent confidence limit. This analysis provided similar results to the variability analysis conducted in the proposed rule. Consequently, EPA decided not to change its variability methodology. A detailed discussion of the statistical analysis conducted is provided in the memorandum ''Statistical Analysis of Mercury Test Data Variability in Response to Public Comments on Determination of the MACT Floor for Mercury Emissions'' in the docket.

Comment: Several commenters supported EPA's finding that the MACT floor level of control for existing gaseous and liquid fuel units is no control. Other commenters noted that EPA has a clear statutory obligation to set emission standards for each listed HAP (the commenter cited legal briefs). One commenter specifically challenged EPA's determination of the MACT floor for organic pollutants. The commenter explained that EPA should rank the units for which emissions data is available according to the best performing units, not based on the add-on control level of 6 percent of the total population. The commenter noted that the U.S. Court of Appeals for the DC Circuit had squarely held, in the National Lime case, that EPA was not allowed to make a ''no control'' determination for a pollutant emitted by a listed category of sources.

Response: The EPA agrees that all factors which might control HAP emissions must be considered in making a floor determination for each subcategory. However, EPA disagrees that it must express the floor as a quantitative emission level in those instances where the sources on which the floor determination is based has not adopted or implemented any measure that would reduce emissions. For several subcategories and certain HAP, EPA has not identified any adjustments or other operational modifications that would materially reduce emissions by these units, and EPA had determined that no add-on controls are presently in use. In these circumstances, EPA has established appropriately the MACT floors for these sources as no emission reduction.

Comment: One commenter pointed out that the variability factor used to make the calculated MACT floor less stringent is not allowed by section 112 of the CAA. The commenter mentioned that the variability factors are not consistent, as one factor considers the fuel variability and the other factor considers the test data variability.

Response: Section 112(d)(2) of the CAA requires that emissions standards promulgated shall require the maximum degree of reductions in emissions that the EPA Administrator, taking into consideration the costs of achieving such emission reduction, determines is achievable for new and existing sources in the subcategory to which such emission standards applies. Accounting for variability is appropriate in order to generate a more accurate estimation of the actual, long term, performance of a source (*e.g.*, the source occupying the median point in the top 12 percent). An emission test provides a momentary snapshot, not an estimation of continuous performance. In order to translate the former into the latter, we must account for that ordinary and unavoidable variability that the source is like to experience over time. This give us a more reasonable estimate of the actual level of emissions control that the unit is achieving. As such, due to variations in fuel burned, and ordinary operational variability any emission limit set from a point source measurement alone may not be indicative of normal emissions or operations of the unit. Attempting to base a standard (either a floor standard, or a beyond-the-floor standard) solely on point measurements would lead to unachievable standards for all sources. Limits set by EPA must be achieved at all times, and it is important that the MACT floor limit adequately account for the normal and unavoidable variability in the process and in the operation of the control device.

Variability was assessed two ways. For existing subcategories, variability in emissions information was used to develop variability factors for all

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subcategories where emissions information was available. Variability in fuel content was used only in situations regarding determining the achievable MACT floor level for new sources from the emission test result on the best controlled similar source. This approach is appropriate since the main uncertainty associated with the emission test result from the best controlled similar source is fuel variability. Corresponding fuel analysis results were not available for the emissions test results from the best controlled similar source. Whereas, the average emission level of the best 12 percent of the units has, besides fuel variability, the uncertainty associated with operational and design variability of the various control devices installed on units that represent the best 12 percent of the units. For example, available fuel analysis information shows that mercury content of coal varies by a factor of 12.54. Dividing the highest mercury emission test result by the lowest mercury test results from coal-fired units included in units that represent the best 12 percent results in a variability factor of 20. Therefore, we concluded that fuel availability was inherently considered in the MACT floor analysis approach used for existing subcategories.

Comment: Many commenters requested that EPA revise the MACT floor methodology for mercury emission limits. The commenters contended that the variability factor was calculated inappropriately. Other commenters stated that EPA should account for variability in fuel composition in the MACT floor analysis. Other commenters expressed concern that the floor level of control was based on fabric filters, which has not been proven at all sources to reduce mercury.

Response: As discussed in the proposal preamble, the MACT floor analysis for mercury was based on a two step process. First the percentage of units with control technologies that could achieve mercury emissions reductions was determined using the boiler population databases. If the control technology analysis indicated that at least 12 percent of sources in the subcategory used a control device that could achieve mercury emissions reductions, then the control technology present at the median (6th percentile) was identified as the MACT floor control technology. The MACT floor level of control for mercury was identified as a fabric filter. The control effectiveness of fabric filters was based on emissions information for utility boilers that indicated that mercury emissions reductions were being achieved with this technology. In this case, we could use control efficiency information from another similar source category to supplement the information available in this source category because of the similarity in fuel burned, combustor type, and control methodology and operation. We maintain that fabric filters are still the appropriate level of control for the MACT floor.

Second, the emission limit associated with the MACT floor control technology was calculated using emissions information for units in the subcategory, whenever possible. For most of the subcategories developed, emissions information was adequate. Only for the emission limit for new source liquids and the variability factor for new source solids was fuel pollutant content incorporated into the MACT floor analyses. The mercury fuel content of coal from the utility industry was used in developing the variability factors for new solid fired units. This was done because mercury emissions are dependent on the quantity of mercury in the fuel burned. Coal available to utilities and industrial boilers and process heaters is expected to be similar, and coal is the solid fuel that is routinely used in such units that has generally the greatest degree of HAP variability. We maintain that the utility database used at proposal to develop the variability factor for new sources was adequate in establishing the MACT floor emission limit.

The EPA recognizes that the mercury emissions database for industrial boilers is limited. However, EPA is directed by the CAA to develop standards for sources using whatever data is available. Prior to proposal and during the Industrial Combustion Coordinated Rulemaking (ICCR) process, EPA conducted a thorough search for HAP emission test reports. This search was supported by industry, trade groups, and States. For criteria pollutants, such as PM, substantial emission information was available and gathered. For mercury and other HAP, this was not the case. Industrial boilers have not generally been required to test for HAP emissions. In the proposed rule, EPA requested commenters to provide additional emissions information. However, only one source provided any additional mercury emissions data. This information (test results from three additional coal-fired industrial boilers) was used to revise the mercury emission limit for existing sources. We also reviewed the mercury emission database used to develop the MACT floor emission limit for existing sources. After review, we determined that a revision to the variability factor was appropriate. The additional data and the revised variability factor was used to re-calculate the mercury emission limit to be 0.000009 lb/MMBtu (from 0.000007 lb/MMBtu at proposal). A detailed discussion of the revised MACT floor analysis conducted is provided in the memorandum ''Revised MACT Floor Analysis for the Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants Based on Public Comments'' in the docket.

Variability of the emissions data were incorporated into the final emission limits. The EPA contends that by considering the variability of emissions information, we have indirectly incorporated variability in fuel, operating conditions, and sampling and analytical conditions because these parameters vary from emission tests conducted from one unit to another, and even within one unit. The EPA does not consider it appropriate or feasible to incorporate variability from a multitude of parameters because such information is not available and cannot be correlated to the emissions information in the emissions test database. For the final rule, EPA did conduct a statistical analysis of the data to identify the 97.5th percent confidence interval. This analysis provided similar results to the variability analysis conducted in the proposed rule. Consequently, EPA decided not to change its variability methodology. A detailed discussion of the statistical analysis conducted is provided in the memorandum ''Statistical Analysis of Mercury Test Data Variability in Response to Public Comments on Determination of the MACT Floor for Mercury Emissions'' in the docket.

Comment: Several commenters contended that the California standards which the CO requirements are based on do not require CO CEMS, but require initial compliance testing and periodic subsequent performance testing.

Response: The commenters are correct that the California CO regulations do not require CO CEMS. The regulations do provide sources with the option of conducting annual testing or installing CO CEMS to demonstrate compliance with the CO emission limit. Because the regulations that were the basis of the MACT floor do not provide specifics on which boilers should conduct annual testing and which should use CO CEMS, we reviewed the cost information provided by the commenters to make this determination. In considering the additional cost information and reviewing the cost information used in the proposed rule, the EPA decided that

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changes to the CO compliance requirements were warranted. The final rule requires that new units with heat input capacities less than 100 MMBtu/hr conduct initial and annual performance tests for CO emissions. New units with heat input capacities greater or equal to 100 MMBtu/hr are still required to install, operate, and maintain a CO CEMS.

Regardless of whether the California regulations do or do not require CO CEMS, we would have reviewed the need for continuous monitoring and operating limits in order to ensure the most accurate indication of proper operation of the control system. The purpose of all of the minimum operating parameter limits in the standard is to ensure continuous compliance by ensuring that the air pollution control equipment is operating as they were during the latest performance test demonstrating compliance with the emission limits. The operating parameters are established as ''minimum'' to provide enforceable boundaries in their operation. Operating outside the bounds of the minimum parameters may lead to increased air emissions.

The EPA would also like to clarify that operation above the CO limit constitutes a deviation of the work practice standard. However, the determination of what deviations constitute violations of the standard is up to the discretion of the entity responsible for enforcement of the standards.

F. Beyond the MACT Floor

Comment: Many commenters contended that carbon injection should have been required as a beyond-the-floor option. Other commenters supported EPA's decision to not require any controls beyond-the-floor.

Response: For the final rule, EPA maintains that options beyond the MACT floor are not appropriate for the standard. The EPA is required by the CAA to set the standard at a minimum on the best controlled 12 percent of sources (for existing units) or best controlled similar source (for new units). The CAA also requires EPA to consider costs and non-air quality impacts and energy requirements when considering more stringent requirements than the MACT floor. As documented in the memorandum ''Methodology for Estimating Costs and Emissions Impacts for Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants'' in the docket, EPA did consider the cost and emission impacts of a variety of regulatory options more stringent than the MACT floor for each subcategory. The EPA recognizes that for some subcategories, more stringent controls than the MACT floor can be applied and achieve additional emissions reductions. However, EPA also determined that the cost impacts of such controls were very high. Considering both the costs and emissions reductions, EPA determined that it would be infeasible to require any options more stringent than the floor level.

For the final rule, EPA maintains that carbon injection should not be required as an above the floor technology. As discussed in the proposal preamble, we identified one existing industrial boiler that was using carbon injection. The emissions data that we obtained from the boiler indicated that this carbon injection unit was not achieving mercury emissions reductions. This result led us to conclude that it was not the new source floor level of control. However, there may have been other reasons for the ineffectiveness of this system (*e.g.*, low inlet mercury levels, insufficient carbon injection rate, ESP instead of fabric filter for PM control). Therefore, we considered carbon injection as a beyond-the-floor option, but decided that while this control technique has been used in other source categories, there is no demonstrated evidence that it would work for industrial boilers and process heaters because the type of mercury emitted and properties of the emission streams are sufficiently different for boilers and process heaters and other source categories.

G. Work Practice Requirements

Comment: Many commenters requested EPA consider exceedences of the CO limit to be a trigger for corrective action rather than a violation.

Response: In the final rule, we have clarified that an exceedence of the CO limit constitutes a deviation of the work practice standard. An observed exceedence of a monitoring parameter is not an automatic violation. You are required to report any deviation from an applicable emission limitation (including operating limit). We will review the information in your report along with other available information to determine if the deviation constitutes a violation. The determination of what emission or operating limit deviation constitutes violations of the standard is up to the discretion of the entity responsible for enforcement of the standard.

H. Compliance

Comment: Many commenters requested that EPA simplify and write the fuel monitoring requirements to not require retesting of fuel for changes in fuel supplier.

Response: We agree that the fuel monitoring requirements in the proposal needed to be clarified and explained further. Therefore, we have clarified the fuel analysis options in the final rule. If you elect to demonstrate compliance with the HCl, mercury, or total selected metals limit by using fuel which has a statistically lower pollutant content than the emission limit, then your operating limit is the emission limit of the applicable pollutant. Under this option, you are not required to conduct performance tests (*i.e.* stack tests).

If you demonstrate compliance with the HCl, mercury, or total selected metals limit by using fuel with a statistically higher pollutant content than the applicable emission limit, but performance tests demonstrate that you can meet the emission limits, then your operating limits are the operating limits of the control device (if used) and the fuel pollutant content of the fuel type/mixture burned.

The final rule specifies the testing methodology and procedures and the initial and continuous compliance requirements to be used when complying with the fuel analysis options. Fuel analysis tests for total chloride, gross calorific value, mercury, metal analysis, sample collection, and sample preparation are included in the final rule.

If you elect to comply based on fuel analysis, you are required to statistically analyze, using the z-test, the data to determine the 90th percentile confidence level. It is the 90th percentile confidence level that is required to be used to determine compliance with the applicable emission limit. The statistical approach is required to assist in ensuring continuous compliance by statistically accounting for the inherent variability in the fuel type.

You are required to recalculate the fuel pollutant content only if you burn a new fuel type or fuel mixture. You are required to conduct another performance test if you demonstrate compliance through performance testing, you burn a new fuel type or mixture, and the results of recalculating the fuel pollutant content are higher than the level established during the initial performance test.

Comment: Many commenters requested EPA consider exceedences of

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parametric limits to be a trigger for corrective action rather than a violation.

Response: In the final rule, we have clarified that an exceedence of the parametric limits constitute a deviation of the operating limits. An observed exceedence of a monitoring parameter is not an automatic violation. You are required to report any deviation from an applicable emission limitation (including operating limit). We will review the information in your report along with other available information to determine if the deviation constitutes a violation. The determination of what emission or operating limit deviation constitutes violations of the standard is up to the discretion of the entity responsible for enforcement of the standard.

Comment: Many commenters requested EPA revise the opacity requirements. Commenters objected to the provision in the proposed NESHAP that would establish an opacity ''operating limit'' based on the initial performance test. Some commenters contended that EPA has provided no data or references demonstrating a relationship between opacity and particulate, total metals, or mercury emissions. Other commenters argued that the proposed opacity limit approach for dry control devices is unworkable due to the inherent inability of continuous opacity monitors (COMS) to accurately measure opacity at levels less than 10 percent. Some commenters argued that the performance and opacity achieved during the initial test may not be representative of the unit's performance. Other commenters explained that equipment condition, fuel and operating variations, and other uncontrollable parameters may result in varying emissions and emissions control equipment efficiencies over time. Commenters suggested requiring the NSPS limits for opacity rather than setting opacity based on the initial compliance test.

Response: We have reviewed the information provided by the commenters, and agree that the opacity operating limit requirements in the proposed rule are not appropriate for this source category. Because of the variability in fuels burned, the combination of fuels burned, and the typical operation of boilers and process heaters, we have decided that an opacity limit set based on the initial performance test may not be representative of the units typical performance.

We have revised the opacity operating limit provision by requiring existing units to maintain opacity to less than or equal to 20 percent (based on 6-minute averages) except for one 6-minute period per hour of not more than 27 percent. This is the opacity limit contained in the current NSPS for industrial boilers, which has a similar PM emission limit as the final rule. Therefore, it was determined that it was appropriate to include a similar opacity level as the control device operating limit for existing units. New sources can maintain their opacity operating limit to less than or equal to 10 percent (based on 1-hour block averages). This level appears to be the lowest opacity level currently applicable to industrial boilers in State regulations.

Comment: Several commenters objected to the requirement to conduct performance testing at worst case conditions. The commenters found this requirement to be unrealistic because stack testing must be scheduled well in advance and worst-case conditions depend on fuel, load, and many other variables, making it impossible to assure that the testing will occur during worst-case conditions. Two commenters contended there can be no guarantee that mineral properties for a fuel source at the time of the baseline test can be guaranteed beyond the content identified during purchase contract negotiations with a fuel supplier. Two commenters suggested that EPA define what worst case conditions are because sources do not have the experience to determine worst-case representative process conditions.

Response: We agree that more direction and clarification is needed regarding testing at worst case conditions. We have modified fuel sampling requirements and performance testing fuel use requirements to simplify compliance. During performance testing, sources are required to burn the type of fuel or mixture of fuel types that have the highest concentration of regulated HAP. This, in combination with revised fuel sampling requirements (*e.g.*, based on fuel type and not on supplier, etc.), will simplify the determination of the fuel blend during the performance test. Sources are also required to conduct performance tests under representative full load operating conditions.

Comment: Several commenters objected to the requirement for annual performance tests because they felt that it is overly burdensome given the ongoing compliance demonstrations required by the NESHAP. Several commenters suggested that initial performance testing should be required with subsequent performance testing occurring every 3 to 5 years. Some commenters stated that 5-year test intervals are consistent with title V permits and have been allowed in other MACT standards (*e.g.* Hazardous Waste Combustors).

Response: We have worked to minimize the testing and monitoring requirements of the final rule while retaining the ability to ensure compliance with the emission limits and work practice requirements. We are providing an option for sources to conduct performance testing once every 3 years if they conduct successful performance testing for 3 consecutive years. We are also allowing sources to demonstrate compliance with the HCl, mercury, and total selected metals emission limits through fuel testing if they do not need emission control devices to achieve the standard.

I. Emissions Averaging

In the proposal preamble, we solicited comments on an emissions averaging or bubbling compliance alternative, as part of the EPA's general policy of encouraging the use of flexible compliance approaches where they can be properly monitored and enforced, and whether EPA should include emissions averaging in the final rule. Emissions averaging can provide sources the flexibility to comply in the least costly manner while still maintaining regulation that is workable and enforceable. We requested comment on an averaging approach for determining compliance with the non-mercury metallic HAP, HCl, mercury, and/or PM standards for existing sources. We indicated that averaging would allow owners and operators to submit non-mercury metals, mercury, HCl, and/or PM emissions limits to the EPA Administrator for approval for each existing boiler in the averaging group such that if these emission limits are met, the total emissions from all existing boilers in the averaging group are less than or equal to emission limits (for non-mercury metals, mercury, HCl, or PM) applicable to units in the particular subcategory. We indicated also that averaging would not be applicable to new sources and could only be used between boilers and process heaters in the same subcategory. Also, owners or operators of existing sources subject to the Industrial Boiler New Source Performance Standards NSPS (40 CFR part 60, subparts Db and Dc) would be required to continue to meet the PM emission standard of that NSPS regardless of whether or not they are averaging.

Emissions averaging has been incorporated into the final rule as an alternative means of complying with the final rule. Emissions averaging allows an individual affected unit emitting

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above the allowable emission limit required by the final rule to comply with that emission limit by averaging its emissions with other affected units at the same facility emitting below the allowable emission limit required by the final rule.

Comment: Many commenters supported including averaging in the final rule. Commenters cited numerous reasons, including cost effectiveness, energy efficiency, greater flexibility in compliance, and greater environmental benefit. Commenters also cited 40 CFR part 63, subpart MM, Pulping Chemical Recovery Combustion MACT as a precedent for including emissions averaging in MACT standards. Two commenters disagreed with allowing emissions averaging, stating that it would complicate compliance determinations, does not fit within the CAA mandate, and is inconsistent with the purpose of CAA section 112. Many of those commenters who supported emissions averaging recommended additional flexibility, such as including new units, and bubbling across subcategories.

Response: The final rule includes an emissions averaging compliance alternative because emissions averaging represents an equivalent, more flexible, and less costly alternative to controlling certain emission points to MACT levels. We have concluded that a limited form of averaging could be implemented and not lessen the stringency of the standard. We agree with the commenters that some type of emissions averaging would provide flexibility in compliance, cost and energy savings to owners and operators. We also recognize that we must ensure that any emissions averaging option can be implemented and enforced, will be clear to sources, and most importantly, will achieve no less emissions reductions than unit by unit implementation of the MACT requirements.

The final rule is not the first NESHAP to include provisions permitting emission averaging. In general, EPA has concluded that it is permissible to establish within a NESHAP a unified compliance regimen that permits averaging across affected units subject to the standard under certain conditions. Averaging across affected units is permitted only if it can be demonstrated that the total quantity of any particular HAP that may be emitted by that portion of a contiguous major source that is subject to the NESHAP will not be greater under the averaging mechanism than it would be if each individual affected unit complied separately with the applicable standard. Under this rigorous test, the practical outcome of averaging is equivalent in every respect to compliance by the discrete units, and the statutory policy embodied in the MACT floor provisions is, therefore, fully effectuated.

The EPA has generally imposed certain limits on the scope and nature of emissions averaging programs. These limits include: (1) No averaging between different types of pollutants, (2) no averaging between sources that are not part of the same major source, (3) no averaging between sources within the same major source that are not subject to the same NESHAP, and (4) no averaging between existing sources and new sources.

The final rule fully satisfies each of these criteria. Accordingly, EPA has concluded that the averaging of emissions across affected units permitted by the final rule is consistent with the CAA. In addition, EPA notes that the provision in the final rule that requires each facility that intends to utilize emission averaging to submit an emission averaging plan provides additional assurance that the necessary criteria will be followed. In this emission averaging plan, the facility must include the identification of (1) all units in the averaging group, (2) the control technology installed, (3) the process parameter that will be monitored, (4) the specific control technology or pollution prevention measure to be used, (5) the test plan for the measurement of particulate matter (or selected total metals), hydrogen chloride, or mercury emissions, and (6) the operating parameters to be monitored for each control device. Upon receipt, the regulatory authority will not approve an emission averaging plan containing averaging between emissions of different types of pollutants or between sources in different subcategories.

The final rule excludes new affected sources from the emissions averaging provision. New sources have historically been held to a stricter standard than existing sources because it is most cost effective to integrate state-of-the-art controls into equipment design and to install the technology during construction of new sources. One reason we allow emissions averaging is to give existing sources flexibility to achieve compliance at diverse points with varying degrees of add-on control already in place in the most cost-effective and technically reasonable fashion. This concern does not apply to new sources which can be designed and constructed with compliance in mind.

Only existing large solid fuel units, as defined in the final rule, can be included in the emissions averaging compliance alternative. Of the nine subcategories established for existing sources, existing large solid fuel units is the only subcategory for which multiple HAP emissions limits apply. For the existing small solid fuel subcategory and the six existing gaseous and liquid fuel subcategories, no HAP emissions limits are included in the final rule and, thus, it would not be appropriate to allow these units to average emissions. As for the existing limited use solid fuel subcategory, since these units, as defined in the final rule, operated on a limited basis (capacity factor of less than 10 percent) and are subject only to a less stringent PM emissions limit (as a surrogate for non-mercury metals), it would be inappropriate to allow these units to average emissions.

With concern about the equivalency of emissions reductions from averaging and non-averaging in mind, the EPA Administrator is also imposing under the emission averaging provision caps on the current emissions from each of the sources in the averaging group. The emissions for each unit in the averaging group would be capped at the emission level being achieved on the effective date of the final rule. These caps would ensure that emissions do not increase above the emission levels that sources currently are designed, operated, and maintained to achieve. In the absence of performance tests, in documenting these caps, these sources will documented the type, design, and operating specification of control devices installed on the effective date of the final rule to ensure that existing controls are not removed or lessen. By including this provision in the final rule, the EPA Administrator has taken yet another step to assist in ensuring that emission averaging results in environmental benefits equivalent or better over what would have happened without emission averaging.

The inclusion of emissions averaging into rules and the decision on how to design an emission averaging approach for a particular source category must be evaluated for each source category.

J. Risk-based Approach

Comment: Multiple commenters supported EPA's incorporation of risk-based concepts into the MACT Program. One commenter stated that providing risk-based applicability criteria for sources whose HAP emissions do not pose a significant risk is appropriate. Several commenters stated that there is clear legal authority in the CAA to construct NESHAP based on risk, and such an approach is very appropriate in the case of the Industrial Boiler MACT. The commenter also noted that the regulatory framework exists within their

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State to implement such an approach. Several commenters added that risk-based alternatives will function as indirect emission limits that must be maintained by the facilities to assure that the criteria are met, and, thus, such alternatives for low-risk facilities are supportable by EPA's authority under section 112(d)(4) and 112(c)(9) of the CAA and EPA's inherent *de minimis* authority. Another commenter asserted that there are ways to structure the rule to focus on facilities that pose significant risks and avoid imposition of high costs on facilities that pose little risk. An appropriate approach would be to allow individual facilities to conduct a risk assessment to show that they pose insignificant risks to the public. However, one commenter stated that it is not appropriate for State and local programs to determine which facilities should be exempted from MACT. Several commenters supported a risk-based compliance alternative for HCl.

Response: The EPA has determined that it can establish applicable health-based emission standards for HCl and manganese for affected sources in this category pursuant to its authority under section 112(d)(4) of the CAA. As a result, EPA has included such standards in the final rule as alternative compliance requirements. Under this approach, affected sources can choose to comply with either the MACT-based emission limits or the health-based emission limits. Sources which choose to comply with the health-based emission limit(s) will remain subject to those limits, but will need to comply with testing, monitoring and reporting requirements commensurate with the compliance option they have chosen. Such health-based standards are consistent with both the commenters' support for an approach that minimizes the impact on low-risk facilities and EPA's statutory mandate under section 112.

Section 112(d)(4) of the CAA authorizes EPA to consider established health thresholds, with an ample margin of safety, when promulgating emission standards under section 112. Hydrogen chloride and Mn are two pollutants for which health thresholds have been established. Issues concerning our legal authority to establish health-based emission standards under section 112(d)(4) are discussed in detail below.

We are not using CAA section 112(c)(9) for the final rule, and there is no delisting of categories or subcategories, as would be consistent with section 112(c)(9).

The criteria defining how affected sources demonstrate that they meet the threshold emissions levels for the health-based compliance alternative(s) is included in appendix A to the final rule. The criteria in appendix A to the final rule were developed for and apply only to the Boiler and process heater source category and are not applicable to other source categories. The final rule provides two ways that an affected source may demonstrate compliance with the health-based emission limits. The first option is through the use of lookup tables which allow facilities to determine, using a limited number of site-specific input parameters, whether emissions from boilers and process heaters might cause a hazard index (HI) limit for non-carcinogens to be exceeded. The second option is a modeling approach which allows those facilities that do not match the site-specific input parameters on which the lookup tables are based to demonstrate compliance with the health-based emission limits by modeling using site-specific information.

The affected source will have to demonstrate that it meets the criteria established by today's final rule and then assume Federally enforceable limitations, as described in appendix A of the final rule, that ensure their specified HAP emissions do not subsequently increase to exceed levels reflected in their demonstrations.

Comment: Multiple commenters are opposed to the risk-based exemptions. Some noted that the proposal to include risk-based exemptions is critically flawed and opposes adoption of the risk-based exemptions.

One commenter stated that the inclusion of case-by-case risk-based exemptions into the first phase of the MACT program will negate the legislative mandate and jeopardize the effectiveness of the national air toxics program to adequately protect public health and the environment and to establish a level playing field. The commenter was very concerned that EPA referenced a fundamentally flawed interpretation of CAA section 112(d)(4) written by an industry (AF&PA) subject to regulation. Of particular concern was AF&PA's unprecedented proposal to include ''*de minimis* exemptions'' and ''cost'' in the MACT standard process.

One commenter stated that the use of risk-based concepts to evade MACT applicability is contrary to the intent of the CAA and is based on a flawed interpretation of section 112(d)(4) of the CAA. The commenter added that the CAA requires a technology-based floor level of control and does not provide exclusions for risk or secondary impacts from applying the MACT floor.

One commenter stated that in separate rulemakings and lawsuits, EPA has adopted legal positions and policies that refute and contradict the very risk-based and cost-based approaches contained in the proposals. In these other arenas, the commenter contended that EPA has properly rejected risk assessment to alter the establishment of MACT standards. The EPA also has properly rejected cost in determining MACT floors and in denying a basis for avoiding the MACT floor.

Several commenters stated that the preamble discussion of the risk-based approaches is not sufficient to allow for complete public comment and, therefore, it would not be appropriate for EPA to go directly to a final rule (without reproposal) with any of the approaches outlined in the proposal.

Response: We are not identifying and deleting a subcategory of sources in this source category pursuant to the authority of CAA section 112(c)(9). Legal issues associated with the health-based provisions are addressed below and in the comment/response memorandum.

As discussed above, we are, however, including in the final rule alternative health-based emission standards for HCl and TSM based on our authority under CAA section 112(d)(4). Section 112(d)(4) authorizes EPA to consider health thresholds, with an ample margin of safety, in establishing emission standards. The analysis necessary to do this can generally be characterized as a risk analysis. Thus, we disagree with the commenter that we must wait for implementation of CAA section 112(f) before utilizing risk analysis.

Comment: Many commenters stated that the proposal to include risk-based exemptions is contrary to the 1990 CAA Amendments (CAAA) which calls for MACT standards based on technology rather than risk as a first step. They added that congress incorporated the residual risk program under CAA section 112(f) to follow the MACT standards (not to replace them). The commenters added that the need for the technology-based approach has been recently reinforced by the results of the National Air Toxics Assessment (NATA), which indicates that exposure to air toxics is very high throughout the country in urban and remote areas. Several commenters added that risk-based approaches will be used separately to augment and improve technology-based standards that do not adequately provide protection to the public. One commenter added that they have been unable to substantiate the basis for EPA's support of the regulatory relief sought by industry through risk-based exemptions and that, in fact, the use of risk assessment at this stage of the

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MACT program is directly opposed to title III of the CAA.

Response: We disagree that inclusion of health-based compliance alternatives, in the form of emission standards based on the authority of section 112(d)(4) of the CAA, in the final rule is contrary to the 1990 CAAA. The final rule is a technology-based standard developed using the procedures dictated by section 112 of the CAA. The only difference between the final rule and other MACT is that we used our discretion under section 112(d)(4) to base appropriate parts of the final rule on established health thresholds, with an ample margin of safety. The final rule is particularly well-suited for a health-based compliance alternative, established pursuant to the criteria set forth in section 112(d)(4). In addition to the fact that there are established health thresholds for HCl and manganese, EPA has determined that many of the facilities in this source category do not emit these pollutants in amounts that pose a significant risk to the surrounding population. Those sources that can demonstrate that the emissions of acid gases and manganese meet the threshold emission levels will be in compliance with the MACT. The criteria are based on health-protective estimates of risk and the threshold emission levels will provide ample protection of human health and the environment.

Inclusion of health-based compliance alternatives in the final rule does not alter the MACT program. Rather, it merely represents EPA availing itself, in appropriate circumstances, of the authority Congress granted it in section 112(d)(4) of the CAA. We recognize that such provisions are only appropriate for certain HAP, and our decision-making process required source category-specific input from stakeholders.

Although the NATA modeling study may show measurable concentrations of toxic air pollution across the country, these data do not suggest that EPA should not establish health-based emission standards pursuant to its authority under CAA section 112(d)(4) when it determines that it is appropriate to do so. The alternative health-based emission standards included in the final rule will ensure that affected sources which choose to comply with those standards do not emit HCl and/or manganese at levels that are harmful to public health.

Comment: Many commenters stated that the proposal to allow risk-based exemptions would divert back to the time-consuming NESHAP development process that existed prior to the CAAA of 1990. The commenters asserted that under this process, which began with a risk assessment step, only eight NESHAP were promulgated during a 20-year period. The commenters continued that if the proposed approaches are inserted into upcoming standards, the commenters fear the MACT program (which is already far behind schedule) would be further delayed. One commenter supported EPA efforts to determine alternative MACT setting methodologies but strongly recommended that these be pursued separately from the final rule. The commenter contended that this will provide for timely issuance of final RICE and Boiler/Process Heater MACT rules relative to the settlement deadline. Two commenters stated that delays could be exacerbated by litigation following legal challenges to the rules, and such delays would trigger the MACT hammer, which would unnecessarily burden the State and local agencies and the industries. The commenters concluded that further delay is unacceptable. The commenters did not want to be in a position of implementing the CAA section 112(j) program and urged EPA to not delay the issuance of any MACT standard. The commenters noted that according to a recently proposed EPA rule regarding section 112(j), the regulated community and State and local agencies would have to proceed with part 2 permit applications, followed by case-by-case MACT, if EPA misses the newly agreed-upon MACT deadlines by as little as 2 months. This would be time consuming, costly, and burdensome for both regulators and the regulated community.

Response: We disagree that allowing health-based compliance alternatives in the final rule will alter the MACT program or affect the schedule for promulgation of the remaining MACT standards. We do not anticipate any further delays in completing the remaining MACT standards. The setting of alternative health-based emission standards in the final rule affects only the final rule.

The approach taken in the final rule is particularly well-suited to acid gases and manganese, which are the only pollutants included in the health-based compliance alternatives. For many facilities, these pollutants are currently emitted in amounts that do not expose anyone in surrounding population to concentrations above the established health thresholds. As a result, emissions of HCl and/or manganese at these facilities do not pose a significant risk to the surrounding population. Only those Boiler facilities that demonstrate that their emissions are below the health-based emission standard(s), are eligible for the compliance alternatives.

Including health-based compliance alternatives for boiler sources does not mean that EPA will automatically provide such alternatives for other industries. Rather, as has been the case throughout the MACT rule development process, EPA will undertake in each individual rule to determine whether it is appropriate to exercise its discretion to use its authority under CAA section 112(d)(4) in developing applicable emission standards. The Boilers NESHAP is being promulgated by the February 2004 court-ordered deadline.

Comment: Many commenters stated that the risk-based proposal removes the level-playing field that would result from the proper implementation of technology-based MACT standards. The commenters added that establishing a baseline level of control is essential to prevent industry from moving to areas of the country that have the least stringent air toxics programs, which was one of the primary goals of developing a uniform national air toxics program under section 112 of the 1990 CAA amendments. The risk-based approaches would jeopardize future reductions of HAP in a uniform and consistent manner across the nation.

Response: Providing health-based compliance alternatives for sources that can meet them in the final rule will assure the application of a uniform set of requirements across the nation. The final rule and its criteria for demonstrating eligibility for the health-based compliance alternatives apply uniformly to boilers across the nation in the large solid fuel-fired subcategories. The final rule establishes a two baseline levels of emission reduction for HCl and manganese, one based on a traditional MACT analysis and the other based on EPA's evaluation of the health threat posed by emissions of these two pollutants. All Boiler facilities must meet one of these baseline levels, and all facilities with boilers in the applicable subcategories have the same opportunity to demonstrate that they can meet the alternative health-based emission standards. The criteria for qualifying to comply with the alternative health-based emission standards are not dependent on local air toxics programs. Therefore, concerns regarding facilities moving to areas of the country with less-stringent air toxics programs should be alleviated.

Comment: Multiple commenters stated that section 112(d)(4) of the CAA provides EPA with authority to exclude sources that emit threshold pollutants from regulation. The commenters indicated that section 112(d)(4) allows for discretion in developing MACT standards for HAP with health

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thresholds. The commenters added that the use of section 112(d)(4) authority also is supported by CAA's legislative history, which emphasizes that Congress included section 112(d)(4) in the CAA to prevent unnecessary regulation of source categories.

One commenter pointed out that Congress does not differentiate between technology-based ''emission standards'' set under CAA section 112(d)(3) versus ''health threshold'' based ''emission standards'' set under CAA section 112(d)(4). Instead, the statute explicitly treats emission standards promulgated under section 112(d)(3) and 112(d)(4) as equivalent by not distinguishing between those emission standards under the residual risk provisions of CAA section 112(f). One commenter added that EPA is permitted to establish alternative standards as long as it ensures that ambient concentrations are less than the health thresholds plus a margin of safety and the emissions do not cause adverse environmental effects. Multiple commenters pointed out that EPA has exercised such authority and cited the NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills. In addition, the commenters added that in that NESHAP, EPA identified circumstances in which they would decline to exercise 112(d)(4) authority-where significant or widespread environmental harm would occur as a result of emissions from the category and the estimated health thresholds are subject to substantial scientific uncertainty. The commenters concluded that EPA determined that these considerations were not relevant to emissions from the pulp and paper source category, and the commenters stated that the same is true for their source categories and that the same treatment is warranted for many facilities within the source categories. The commenters noted that facilities that cannot meet the risk criteria would remain subject to the MACT requirements.

One commenter added that the risk-based approaches are squarely in line with the plain meaning of section CAA 112(d)(4). The commenters cited the Senate report (Sen Rep. No. 228, 101st Congress, 1st Sess 175–6 (1990)) showed that Congress contemplated that sources within the same category or subcategory would be subject to varied regulatory requirements, depending on the risk they pose to public health. The commenters added that nothing in the statutory definition of ''emission standard'' suggests that the term is limited to a requirement for the installation of control technology. The commenters added that the risk-based compliance alternatives would meet this requirement because they would apply to an entire source category or subcategory. The EPA could create a subcategory for low-risk sources and tailor an emission standard to this subcategory, or apply to all sources in the category a NESHAP containing multiple compliance options, one or more being risk-based.

Multiple commenters stated that the plain meaning of CAA section 112(d)(4) does not allow EPA to make MACT standards for individual sources. Two commenters noted that section 112(d)(4) states that ''with respect to pollutants for which a health threshold has been established, the EPA Administrator may consider such threshold level, with ample margin of safety, when establishing emission standards under this subsection.''

Several commenters contended that EPA has misinterpreted the provision in CAA section 112(d)(4) in that section 112(d)(4) does not state that EPA can use applicability thresholds ''in lieu of'' the CAA section 112(d)(3) MACT floor requirements. The commenter interpreted section 112(d)(4) to state that health based thresholds can be considered when establishing the degree of the MACT floor requirements, but it should not be used to supplant the requirements established pursuant to section 112(d)(3).

Many commenters stated that the legislative history of CAA section 112(d)(4) clearly rejects EPA's proposed facility-by-facility MACT exemptions. The commenters noted that Congress considered and rejected the applicability cutoffs upon which EPA now solicits comment. The commenters noted that the House version of the 1990 Amendments allowed States to issue permits that exempted a source from compliance with MACT rules if the source presented sufficient evidence to demonstrate negligible risk, and the Senate version of the 1990 Amendments contained no such provision. In conference, Congress considered both the House and Senate versions and rejected the House bill's exemption for specific facilities in favor of the Senate bill's language.

Response: The EPA has properly exercised the authority granted to it pursuant to CAA section 112(d)(4) of the CAA in establishing health-based emission standards for HCl and manganese which are applicable to the large solid fuel-fired subcategory. Section 112(d)(4) authorizes it to by-pass the mandate in section 112(d)(3) in appropriate circumstances. Those circumstances are present in the large solid fuel-fired Boiler subcategories.

Section 112(d)(4) of the CAA provides EPA with authority, at its discretion, to develop health-based emission standards for HAP ''for which a health threshold has been established,'' provided that the standard reflects the health threshold ''with an ample margin of safety.'' (The full text of the section 112(d)(4): ''[with respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, within an ample margin of safety, when establishing emission standards under this subsection.'')

Both the plain language of CAA section 112(d)(4) and the legislative history cited above indicate that EPA has the discretion under section 112(d)(4) to develop health-based standards for some source categories emitting threshold pollutants, and that those standards may be less stringent than the corresponding ''floor''-based MACT standard would be. The EPA's use of such standards is not limited to situations where every source in the category or subcategory can comply with them. As is the case with technology-based standards, a particular source's ability to comply with a health-based standard will depend on its individual circumstances, as will what it must do to achieve compliance.

In developing health-based emission standards under CAA section 112(d)(4), EPA seeks to assure that those standards ensure that the concentration of the particular HAP to which an individual exposed at the upper end of the exposure distribution is exposed does not exceed the health threshold. The upper end of the exposure distribution is calculated using the ''high end exposure estimate,'' defined as ''a plausible estimate of individual exposure for those persons at the upper end of the exposure distribution, conceptually above the 90th percentile, but not higher than the individual in the population who has the highest exposure'' (EPA Exposure Assessment Guidelines, 57 FR 22888, May 29, 1992). Assuring protection to persons at the upper end of the exposure distribution is consistent with the ''ample margin of safety'' requirement in section 112(d)(4).

We agree that section 112(d)(4) is appropriate for establishing emission standards for HCl and manganese applicable to the large solid fuel-fired subcategories, and, therefore, we have established such standards as an alternate compliance requirement for affected sources in those subcategories. Affected sources in the large solid fuel-fired subcategories which believe that

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they can demonstrate compliance with one or both of the health-based emission standards may choose to comply with those standards in lieu of the otherwise applicable MACT-based standard.

For purposes of the final rule, we are not considering background HAP emissions in developing the section CAA 112(d)(4) compliance alternatives. As we indicated in the Residual Risk Report to Congress, however, the Agency intends to consider facility-wide HAP emissions in future CAA section 112(f) residual risk actions.

Comment: Many commenters contended that the proposal will place a very intensive resource demand on State and local agencies to review source's risk assessments, and State/local agencies may not have expertise in risk assessment methodology or the resources needed to verify information (*e.g.*, emissions data and stack parameters) submitted with each risk assessment.

Other commenters stated that a risk-based program can be structured and implemented in a manner that does not adversely impact limited State resources. One commenter asserted that EPA should work closely with States and industry to implement the risk-based approach in a non-burdensome manner. Another commenter stated that the risk-based approaches, like other MACT standards, would simply be incorporated into each State's existing title V program. The commenter concluded that because the title V framework already exists, the addition of a risk-based MACT standard would not require States to overhaul existing permitting programs. Another commenter contended that the final MACT rule itself should set forth the applicability criteria—including the threshold levels of exposure—that sources must meet to qualify for a risk-based determination. Each source would have the burden of demonstrating that its exposures are below this limit and, therefore, the States would not be required to develop their own risk assessment guidance or to conduct source-specific risk assessments.

Response: The health-based emission limits for HCl and TSM which EPA has adopted in the final rule should not impose significant resource burdens on States. Further, the required compliance demonstration methodology is structured in such a way as to avoid the need for States to have significant expertise in risk assessment methodology. We have considered the commenters' concerns in developing the criteria defining eligibility for these compliance alternatives, and the approach that is included in the final rule provides clear, flexible requirements and enforceable compliance parameters. The final rule provides two ways that a facility may demonstrate eligibility for complying with the alternative health-based emission standard. First, look-up tables, which are included as Tables 2 (HCl) and 3 (manganese) in appendix A of the final rule, allow facilities to determine, using a limited number of site-specific input parameters, whether emissions from their sources might cause a hazard index limit (hazard quotient in the case of manganese) to be exceeded. If a facility cannot demonstrate eligibility using a look-up table, a modeling approach can be followed. Appendix A to the final rule presents the criteria for performing this modeling.

Regarding commenters' concerns with looking for a threshold level for carcinogens, the compliance alternatives only apply to HCl and manganese, which are not currently expected to be carcinogens. Also, the concern expressed by a commenter about exempting a facility based on limited emission data if EPA established a subcategory listing low-risk sources is not relevant here, because we have not used CAA section 112(c)(9) authority to establish a low-risk subcategory for the Industrial/Commercial/Institutional Boilers and Process Heaters source category. With respect to guidance for performing site-specific modeling, all of the procedures for performing such modeling are available in peer-reviewed scientific literature and, therefore, no additional guidance needs to be developed.

Only a portion of the major facilities in the large solid fuel-fired boilers and process heaters subcategory will submit eligibility demonstrations for the compliance alternatives. Of this portion of major sources, most will be able to demonstrate eligibility based on simple analyses (*e.g.*, using the look-up tables provided in appendix A of the final rule). However, it is likely that some facilities will require more detailed modeling. The criteria for demonstrating eligibility for the compliance alternatives are clearly spelled out in the final rule. Because these requirements are clearly spelled out and because any standards or requirements created under CAA section 112 are considered applicable requirements under 40 CFR part 70, the compliance alternatives would be incorporated into title V programs, and States would not have to overhaul existing permitting programs.

Finally, with respect to the burden associated with ongoing assurance that facilities which opt to do so continue to comply with the health-based compliance alternatives, the burden to States will be minimal. In accordance with the provisions of title V of the CAA and part 70 of 40 CFR (collectively ''title V''), the owner or operator of any affected source opting to comply with the health-based emission standards will be required to certify compliance with those standards on an annual basis. Additionally, before changing key parameters that may impact an affected source's ability to continue to meet one or both of the health-based emission standards, the affected source is required to evaluate its ability to continue to comply with the health-based emission standard(s) and submit documentation to the permitting authority supporting continued eligibility for the compliance alternative.

The promulgation of specific alternative health-based emission limits and a uniform methodology for demonstrating compliance with those alternatives alleviates any concern regarding the public process required in reviewing/approving the proposed approaches and making substantial changes to existing regulations. It also addresses concerns regarding the costs and resources associated with assuring adequate public participation in the process of reviewing site-specific risk analyses.

To ensure that affected sources which choose to comply with the alternative health-based emission standards continue to comply with those standards after the initial compliance demonstration, specified assessment parameters (*e.g.*, HCl and/or manganese emission rate, boiler heat output, etc.) must be included in their title V permit as enforceable requirements. Draft permits and permit applications must be made available to the public from the State or local agency responsible for issuing the permit, or in the case where EPA is issuing the permit, from the EPA regional office. Members of the public may request that the State or local agency include them on their public notice mailing list, thus providing the public the opportunity to review the appropriateness of these requirements. Every proposed title V permit has a 30-day public comment period and a 45-day EPA review period. If EPA does not object to the permit, any member of the public may petition EPA to object to the permit within 60 days of the end of the EPA review period.

Comment: A commenter contended that exempting HCl emissions from control is inappropriate, particularly since EPA proposed HCl as a surrogate measure for all the inorganic HAP

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emitted by this source category. Hence, an exemption that excluded HCl emission points from control requirements would also exclude emissions of all the other inorganic HAP that would likely include hydrogen cyanide and hydrogen fluoride.

Response: Facilities attempting to utilize the health-based compliance alternative for HCl will not be required to evaluate emissions of other inorganic HAP except for chlorine. We conducted an assessment of boiler emissions and determined that, of the acid gas HAP controlled by scrubbing technology, chlorine is responsible for the great majority of risk and HCl is responsible for the next largest portion of the total risk. The contributions of other HAP, including hydrogen fluoride, to the total risk were negligible. Therefore, facilities attempting to demonstrate eligibility for the health-based compliance alternative for HCl, either by conducting a lookup table analysis or by conducting a site-specific compliance demonstration, must include emission rates of chlorine and HCl from their boilers. We do not expect hydrogen cyanide emissions from boilers covered under the final rule.

Comment: Commenters stated that the proposal does not address ecological risk that may result from uncontrolled HAP emissions, especially in those areas with sensitive habitats but few people nearby to be exposed and that EPA provided inadequate discussion of how environmental risks will be evaluated.

Response: To identify HAP with potential to cause multimedia and/or environmental effects, the EPA has identified HAP with significant potential to persist in the environment and to bioaccumulate. This list does not include HCl or manganese which are the only HAP with health-based compliance alternatives in the final rule. Additionally, a screening level analysis conducted by the EPA indicates that acute impacts of these HAP from industrial boiler facilities are highly unlikely. For these reasons we do not believe that emissions of HCl or manganese from industrial boiler facilities will pose a significant risk to the environment and facilities attempting to comply with the health-based alternatives for these HAP are not required to perform an ecological assessment.

V. Impacts of the Final Rule

A. What Are the Air Impacts?

Nationwide emissions of selected HAP (*i.e.*, HCl, hydrogen fluoride, lead, and nickel) will be reduced by 58,500 tpy for existing units and 73 tpy for new units. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, the total HAP reduction for existing units could be 50,600 tpy. Emissions of HCl will be reduced by 42,000 tpy for existing units and 72 tpy for new units. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, the total HCl emissions reduction for existing units could be 36,400 tpy. Emissions of mercury will be reduced by 1.9 tpy for existing units and 0.006 tpy for new units. Emissions of PM will be reduced by 565,000 tpy for existing units and 480 tpy for new units. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, the total PM emissions reduction for existing units could be 547,000 tpy. Emissions of total selected nonmercury metals (*i.e.*, arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium) will be reduced by 1,100 tpy for existing units and will be reduced by 1.4 tpy for new units. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, the total nonmercury metals emissions reduction for existing units could be 950 tpy. In addition, emissions of sulfur dioxide (SO_2) are established to be reduced by 113,000 tpy for existing sources and 110 tpy for new sources. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, the total SO_2 emissions reduction for existing units could be 49,000 tpy.

As noted above, use of the health-based compliance alternatives by eligible facilities will affect reductions in HAP, PM (and total non-mercury metals that are generally controlled along with PM), and SO_2. Nevertheless, our analysis indicates that the difference in emissions of HCl and manganese with and without the compliance alternatives will not affect health risks because the compliance alternative is available only to those facilities that demonstrate that their emissions pose little risks. Emissions of PM and SO_2 will still be reduced by the implementation of other provisions of the Clean Air Act, such as attainment of the health-based National Ambient Air Quality Standards, which include mechanisms to control such emissions.

A discussion of the methodology used to estimate emissions and emissions reductions is presented in ''Estimation of Baseline Emissions and Emissions Reductions for Industrial, Commercial, and Institutional Boilers and Process Heaters'' in the docket. To estimate the potential impacts of the health-based compliance alternatives, we performed a preliminary ''rough'' assessment of the large solid fuel subcategory to determine the extent to which facilities might become eligible for the health-based compliance alternatives. Based on the results of this rough assessment, 448 coal-fired boilers could potentially be eligible for the HCl compliance alternative and 386 biomass-fired boilers could be potentially eligible for the TSM compliance alternative.

B. What Are the Water and Solid Waste Impacts?

The EPA estimates the additional water usage that would result from the MACT floor level of control to be 110 million gallons per year for existing sources and 0.6 million gallons per year for new sources. In addition to the increased water usage, an additional 3.7 million gallons per year of wastewater will be produced for existing sources and 0.6 million gallons per year for new sources. The costs of treating the additional wastewater are $18,000 for existing sources and $2,300 for new sources, in advance of any facility demonstrating eligibility for the health-based compliance alternatives. These costs are accounted for in the control costs estimates.

The EPA estimates the additional solid waste that would result from the MACT floor level of control to be 102,000 tpy for existing sources and 1 tpy for new sources. The estimated costs of handling the additional solid waste generated are $1.5 million for existing sources and $17,000 for new sources, in advance of any facility demonstrating eligibility for the health-based compliance alternatives. These costs are also accounted for in the control costs estimates.

A discussion of the methodology used to estimate impacts is presented in ''Estimation of Impacts for Industrial, Commercial, and Institutional Boilers and Process Heaters NESHAP'' in the docket.

C. What Are the Energy Impacts?

The EPA expects an increase of approximately 1,130 million kilowatt hours (kWh) in national annual energy usage as a result of the final rule, in advance of any facility demonstrating eligibility for the health-based compliance alternatives. Of this amount, 1,120 million kWh is estimated from existing sources and 13 million kWh is estimated from new sources. The increase results from the electricity required to operate control devices

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installed to meet the final rule, such as wet scrubbers and fabric filters.

D. What Are the Control Costs?

To estimate the national cost impacts of the final rule for existing sources, EPA developed several model boilers and process heaters and determined the cost of control equipment for these model boilers. The EPA assigned a model boiler or heater to each existing unit in the database based on the fuel, size, design, and current controls. The analysis considered all air pollution control equipment currently in operation at existing boilers and process heaters. Model costs were then assigned to all existing units that could not otherwise meet the proposed emission limits. The resulting total national cost impact of the final rule is $1,790 million in capital expenditures and $860 million per year in total annual costs. Depending on the number of facilities demonstrating eligibility for the health-based compliance alternatives, these costs could be $1,440 million in capital expenditures and $690 million per year in total annual costs. The total capital and annual costs include costs for testing, monitoring, and recordkeeping and reporting. Costs include testing and monitoring costs, but not recordkeeping and reporting costs.

Using Department of Energy projections on fuel expenditures, EPA estimated the number of additional boilers that could be potentially constructed. The resulting total national cost impact of the final rule in the 5th year is $58 million in capital expenditures and $18.6 million per year in total annual costs, in advance of any facility demonstrating eligibility for the health-based provisions. Costs are mainly for testing and monitoring.

A discussion of the methodology used to estimate cost impacts is presented in ''Methodology for Estimating Control Cost for the Industrial, Commercial, and Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants'' in the docket.

E. What Are the Economic Impacts?

The economic impact analysis shows that the expected price increase for output in the 40 affected industries would be no more than 0.04 percent as a result of the final rule for industrial boilers and process heaters. The expected change in production of affected output is a reduction of only 0.03 percent or less in the same industries. In addition, impacts to affected energy markets show that prices of petroleum, natural gas, electricity and coal should increase by no more than 0.05 percent as a result of implementation of the final rule, and output of these types of energy should decrease by no more than 0.01 percent. These impacts are generated in advance of any facility demonstrating eligibility for the health-based compliance alternatives. Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, these impacts on product prices could fall to a 0.03 percent increase, and a decrease in output of the energy types mentioned previously of less than 0.01 percent. Therefore, it is likely that there is no adverse impact expected to occur for those industries that produce output affected by the final rule, such as lumber and wood products, chemical manufacturers, petroleum refining, and furniture manufacturing.

F. What Are the Social Costs and Benefits of the Final Rule?

Our assessment of costs and benefits of the final rule is detailed in the ''Regulatory Impact Analysis for the Final Industrial, Commercial, and Institutional Boilers and Process Heaters MACT.'' The Regulatory Impact Analysis (RIA) is located in the Docket.

It is estimated that 3 years after implementation of the final rule, HAP will be reduced by 58,500 tpy (53,200 megagrams per year (Mg/yr)) due to reductions in arsenic, beryllium, HCl, and several other HAP from existing affected emission sources. Of these reductions, 42,000 tpy (38,200 Mg/yr) are of HCl. In addition to these reductions, there are 73 tpy (66 Mg/yr) of HAP reductions expected from new sources. Of these reductions, virtually all of them are of HCl. The health effects associated with these HAP are discussed earlier in this preamble. While it is beneficial to society to reduce these HAP, we are unable to quantify and provide a monetized estimate of the benefits at this time.

Despite our inability to quantify and provide monetized benefit estimates from HAP reductions, it is possible to derive rough estimates for one of the more important benefit categories, *i.e.*, the potential number of cancer cases avoided and cancer risk reduced as a result of the imposition of the MACT level of control on this source category. Our analysis suggests that imposition of the MACT level of control would reduce cancer cases at worst case baseline assumptions by possibly tens of cases per year, on average, starting some years after implementation of the final rule. This risk reduction estimate is uncertain, is likely to overestimate benefits, and should be regarded as an extremely rough estimate. Furthermore, the estimate should be viewed in the context of the full spectrum of unquantified noncancer effects associated with the HAP reductions. Noncancer effects associated with the HAP are presented earlier in this preamble.

The control technologies used to reduce the level of HAP emitted from affected sources are also expected to reduce emissions of PM (PM_{10}, $PM_{2.5}$), and sulfur dioxide (SO_2). It is estimated that PM_{10} emissions reductions total approximately 562,000 tpy (510,000 Mg/yr), $PM_{2.5}$ emissions reductions total approximately 159,000 tpy (145,000 Mg/yr), and SO_2 emissions reductions total approximately 113,000 tpy (102,670 Mg/yr). These estimated reductions occur from existing sources in operation 3 years after the implementation of the requirements of the final rule and are expected to continue throughout the life of the sources.

In general, exposure to high concentrations of PM may aggravate existing respiratory and cardiovascular disease including asthma, bronchitis and emphysema, especially in children and the elderly. SO_2 is also a contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings and statues. Exposure to $PM_{2.5}$ can lead to decreased lung function, and alterations in lung tissue and structure and in respiratory tract defense mechanisms which may then lead to, increased respiratory symptoms and disease, or in more severe cases, premature death or increased hospital admissions and emergency room visits. Children, the elderly, and people with cardiopulmonary disease, such as asthma, are most at risk from these health effects. Fine PM can also form a haze that reduces the visibility of scenic areas, can cause acidification of water bodies, and have other impacts on soil, plants, and materials. As SO_2 emissions transform into PM, they can lead to the same health and welfare effects listed above.

For PM_{10} and $PM_{2.5}$ (including SO_2 contributions to ambient concentrations of $PM_{2.5}$), we provide a monetary estimate for the benefits associated with the reduction in emissions associated with the final rule. To do so, we conducted an air quality assessment to determine the change in ambient concentrations of PM_{10} and $PM_{2.5}$ that result from reductions of PM and SO_2 at existing affected facilities. Unfortunately, our data are not able to define the exact location of the reductions for every affected boiler and process heater. Because of this

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limitation, the benefits assessment is conducted in two phases. First, an air quality analysis was conducted for emissions reductions from those emissions sources that have an known link to a specific control device, which represents approximately 50 percent of the total emissions reductions mentioned above. Using this subset of information, we determined the air quality change nationwide. The results of the air quality assessment served as input to a model that estimates the total monetary value of benefits of the health effects listed above. Total benefits associated with this portion of the analysis (in phase one) are $8.2 billion in the year 2005 (presented in 1999 dollars).

In the second phase of our analysis, for those emissions reductions from affected sources that do not have a known link to a specific control device, the results of the air quality analysis in phase one serve as a reasonable approximation of air quality changes to transfer to the remaining emissions reductions of the final rule. Because there is not a reasonable way to apportion the total benefits of the combined impact of the PM and SO_2 reductions from the air quality and benefit analyses completed above, we performed two additional air quality analyses. One analysis was performed to evaluate the impact on air quality of the PM reductions alone (holding SO_2 unchanged), and one to evaluate the impact on air quality from the SO_2 reductions alone (holding PM unchanged). With independent PM and SO_2 air quality assessments, we can determine the total benefit associated with each component of total pollutant reductions. The total benefit associated with the PM and SO_2 reductions with unspecified location (in phase two) are $7.9 billion.

The benefit estimates derived from the air quality modeling in the first phase of our analysis uses an analytical structure and sequence similar to that used in the benefits analyses for the proposed Nonroad Diesel rule and proposed Integrated Air Quality Rule (IAQR) and in the ''section 812 studies'' analysis of the total benefits and costs of the Clean Air Act. We used many of the same models and assumptions used in the Nonroad Diesel and IAQR analyses as well as other Regulatory Impact Analyses (RIAs) prepared by the Office of Air and Radiation. By adopting the major design elements, models, and assumptions developed for the section 812 studies and other RIAs, we have largely relied on methods which have already received extensive review by the independent Science Advisory Board (SAB), the National Academies of Sciences, by the public, and by other federal agencies.

The benefits transfer method used in the second phase of the analysis is similar to that used to estimate benefits at the proposal of the rule, and in the proposed Reciprocating Internal Combustion Engines NESHAP. A similar method has also been used in recent benefits analyses for the proposed Nonroad Large Spark-Ignition Engines and Recreational Engines standards (67 FR 68241, November 8, 2002).

The sum of benefits from the two phases of analysis provide an estimate of the total benefits of the rule. Total benefits of the final rule are approximately $16.3 billion (1999$). This economic benefit is associated with approximately 2,270 avoided premature mortalities, 5,100 avoided cases of chronic bronchitis, thousands of avoided hospital and emergency room visits for respiratory and cardiovascular diseases, tens of thousands of avoided days with respiratory symptoms, and millions of avoided work loss and restricted activity days. This estimate is generated in advance of any facility demonstrating eligibility for the health-based compliance alternatives.

Every benefit-cost analysis examining the potential effects of a change in environmental protection requirements is limited, to some extent, by data gaps, limitations in model capabilities (such as geographic coverage), and uncertainties in the underlying scientific and economic studies used to configure the benefit and cost models. Deficiencies in the scientific literature often result in the inability to estimate changes in health and environmental effects. Deficiencies in the economics literature often result in the inability to assign economic values even to those health and environmental outcomes that can be quantified. While these general uncertainties in the underlying scientific and economics literatures are discussed in detail in the RIA and its supporting documents and references, the key uncertainties which have a bearing on the results of the benefit-cost analysis of today's action are the following:

1. The exclusion of potentially significant benefit categories (*e.g.*, health and ecological benefits of reduction in hazardous air pollutants emissions);
2. Errors in measurement and projection for variables such as population growth;
3. Uncertainties in the estimation of future year emissions inventories and air quality;
4. Uncertainties associated with the extrapolation of air quality monitoring data to some unmonitored areas required to better capture the effects of the standards on the affected population;
5. Variability in the estimated relationships of health and welfare effects to changes in pollutant concentrations; and
6. Uncertainties associated with the benefit transfer approach.
7. Uncertainties in the size of the effect estimates linking air pollution and health endpoints.
8. Uncertainties about relative toxicity of different components within the complex mixture.

Despite these uncertainties, we believe the benefit-cost analysis provides a reasonable indication of the expected economic benefits of the final rule under a given set of assumptions.

Based on estimated compliance costs (control + administrative costs associated with Paperwork Reduction Act requirements associated with the rule and predicted changes in the price and output of electricity), the estimated annualized social costs of the Industrial, Commercial, and Institutional Boilers and Process Heaters NESHAP are $863 million (1999$). Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, these annualized social costs could fall to $746 million. Social costs are different from compliance costs in that social costs take into account the interactions between affected producers and the consumers of affected products in response to the imposition of the compliance costs.

As explained above, we estimate $16.3 billion in benefits from the final rule, compared to $863 million in costs. It is important to put the results of this analysis in the proper context. The large benefit estimate is not attributable to reducing human and environmental exposure to the HAPs that are reduced by this rule. It arises from ancillary reductions in PM and SO_2 that result from controls aimed at complying with the NESHAP. Although consideration of ancillary benefits is reasonable, we note that these benefits are not uniquely attributable to the regulation. The Agency believes nonetheless that the key rationale for controlling arsenic, beryllium, HCl, and the other HAPs associated with this rule is to reduce public and environmental exposure to these HAPs, thereby reducing risk to public health and wildlife. Although the available science does not support quantification of these benefits at this time, the Agency believes the qualitative

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benefits are large enough to justify substantial investment in these emission reductions.

It should be recognized, however, that this analysis does not account for many of the potential benefits that may result from these actions. Thus, our estimate of total benefits also includes a ''B'' to represent those additional health and environmental benefits which could not be expressed in quantitative incidence and/or economic value terms. The net benefits would be greater if all the benefits of the other pollutant reductions could be quantified. Notable omissions to the net benefits include all benefits of HAP reductions, including reduced cancer incidences, toxic morbidity effects, and cardiovascular and CNS effects, and all welfare effects from reduction of ambient PM and SO_2. A full appreciation of the overall economic consequences of the industrial boiler and process heater standards requires consideration of all benefits and costs expected to result from the final rule, not just those benefits and costs that could be expressed here in dollar terms. A full listing of the benefit categories that could not be quantified or monetized in our base estimate are provided in Table 2 of this preamble.

TABLE 2.—UNQUANTIFIED BENEFIT CATEGORIES

	Unquantified benefit categories associated with HAP eductions	Unquantified benefit categories associated with PM eductions
Health Categories	—Airway responsiveness —Pulmonary inflammation —Susceptibility to respiratory infection —Acute inflammation and respiratory cell damage —Chronic respiratory damage/Premature aging of lungs —Emergency room visits for asthma	—Changes in pulmonary function. —Morphological changes. Altered host defense mechanisms. —Other chronic respiratory disease. —Emergency room visits for asthma. —Emergency visits for non-asthma respiratory and cardiovascular causes. —Lower and upper respiratory systems. —Acute bronchitis. —Shortness of breath.
Welfare Categories	—Ecosystem and vegetation effects —Damage to urban ornamentals (e.g., grass, flowers, shrubs, and trees in urban areas). —Commercial field crops —Fruit and vegetable crops —Yields of tree seedlings, commercial and non-commercial forests. —Damage to ecosystems —Materials damage	—School absence rates. —Materials damage. —Damage to ecosystems (e.g., acid sulfate deposition). —Nitrates in drinking water. —Visibility in recreational and residential areas.

Using the results of the benefit analysis, we can use benefit-cost comparison (or net benefits) as another tool to evaluate the reallocation of society's resources needed to address the pollution externality created by the operation of industrial boilers and process heaters. The additional costs of internalizing the pollution produced at major sources of emissions from industrial boilers and process heaters are compared to the improvement in society's well-being from a cleaner and healthier environment. Comparing benefits of the final rule to the costs imposed by alternative ways to control emissions optimally identifies a strategy that results in the highest net benefit to society. In the final rule, we include only one option, the minimal level of control mandated by the CAA, or the MACT floor. Other alternatives that lead to higher levels of control (or beyond-the-floor alternatives) lead to higher estimates of benefits net of costs, but also lead to additional economic impacts, including more substantial impacts to small entities. For more details, please refer to the RIA for the final rule.

Based on estimated compliance costs associated with the final rule and the predicted change in prices and production in the affected industries, the estimated annualized social costs of the final rule are $863 million (1999 dollars). This estimate of social cost is generated in advance of any facility demonstrating eligibility for the health-based compliance alternatives. Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, these annualized social costs could fall to $746 million. Social costs are different from compliance costs in that social costs take into account the interactions of consumers and producers of affected products in response to the imposition of the compliance costs. Therefore, the Agency's estimate of monetized benefits net of costs is $15.4 billion + B (1999 dollars) in 2005.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), the EPA must determine whether a regulatory action is ''significant'' and, therefore, subject to review by the OMB and the requirements of the Executive Order. The Executive Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligation of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, the EPA has determined that the final rule is a ''significant regulatory action'' because it has an annual effect on the economy of over $100 million. As such, the final rule was submitted to OMB for review.

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B. Paperwork Reduction Act

The information collection requirements in the final rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq*. The information collection requirements are not enforceable until OMB approves them.

The information requirements are based on notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These recordkeeping and reporting requirements are specifically authorized by section 114 of the CAA (42 U.S.C. 7414). All information submitted to EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to Agency policies set forth in 40 CFR part 2, subpart B.

The final rule requires maintenance inspections of the control devices, but does not require any notifications or reports beyond those required by the General Provisions. The recordkeeping requirements require only the specific information needed to determine compliance.

The annual monitoring, reporting, and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the final rule) is estimated to be $91 million. This includes 1.2 million labor hours per year at a total labor cost of $67 million per year, and total non-labor capital costs of $24 million per year. This estimate includes a one-time performance test, semiannual excess emission reports, maintenance inspections, notifications, and recordkeeping. The total burden for the Federal government (averaged over the first 3 years after the effective date of the final rule) is estimated to be 346,000 hours per year at a total labor cost of $14 million per year. Table 3 of this preamble shows the average annualized burden for monitoring, reporting, and recordkeeping for each subcategory.

TABLE 3.—SUMMARY OF THE AVERAGE REPORTING AND RECORDKEEPING COSTS

Subcategory	Total labor costs ($)	Total capital costs ($)	Total costs ($)
Large Solid Fuel Units	56,253,000	12,488,000	68,741,000
Limited Use Solid Fuel Units	2,565,000	2,267,000	4,832,000
Small Solid Fuel Units	627,000	111,000	738,000
Large Liquid Fuel Units	498,000	491,000	989,000
Limited Use Liquid Fuel Units	214,000	264,000	478,000
Small Liquid Fuel Units	442,000	0	442,000
Large Gaseous Fuel Units	3,673,000	6,615,000	10,288,000
Limited Use Gaseous Fuel Units	663,000	1,209,000	1,872,000
Small Gaseous Fuel Units	2,413,000	0	2,413,000

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved information collection requirements contained in this final rule.

The EPA requested comments on the need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques.

C. Regulatory Flexibility Act

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with the final rule. We have also determined that the final rule will not have a significant impact on a substantial number of small entities.

For purposes of assessing the impacts of the final rule on small entities, small entity is defined as:

(1) A small business according to Small Business Administration size standards by the North American Industry Classification System (NAICS) category of the owning entity. The range of small business size standards for the 40 affected industries ranges from 500 to 1,000 employees, except for petroleum refining and electric utilities. In these latter two industries, the size standard is 1,500 employees and a mass throughput of 75,000 barrels/day or less, and 4 million kilowatt-hours of production or less, respectively;

(2) A small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and

(3) A small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

After considering the economic impact of the final rule on small entities, we have determined that the final rule will not have a significant economic impact on a substantial number of small entities. Based on SBA size definitions for the affected industries and reported sales and employment data, EPA identified 185 of the 576 entities, or 32 percent, owning affected facilities as small entities. Although small entities represent 32 percent of the entities within the source category, they are expected to incur only 4 percent of the total compliance costs of $862.7 million (1998 dollars). There are only ten small entities with compliance costs equal to or greater than 3 percent of their sales. In addition, there are only 24 small entities with cost-to-sales ratios between 1 and 3 percent.

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An economic impact analysis was performed to estimate the changes in product price and production quantities for the final rule. As mentioned in the summary of economic impacts earlier in this preamble, the estimated changes in prices and output for affected entities is no more than 0.05 percent. For more information, consult the docket for the final rule.

It should be noted that these small entity impacts are in advance of any facility demonstrating eligibility for the health-based compliance alternatives. Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, the estimated small entity impacts could fall to eight small entities with compliance costs equal to or greater than 3 percent of their sales, and 14 small entities with compliance costs between 1 and 3 percent of their sales.

The final rule will not have a significant economic impact on a substantial number of small entities as a result of several decisions EPA made regarding the development of the rule, which resulted in limiting the impact of the rule on small entities. First, as mentioned earlier in this preamble, EPA identified small units (heat input of 10 MMBtu/hr or less) and limited use boilers (operate less than 10 percent of the time) as separate subcategories different from large units. Many small and limited use units are located at small entities. As also discussed earlier, the results of the MACT floor analysis for these subcategories of existing sources was that no MACT floor could be identified except for the limited use solid fuel subcategory, which is less stringent than the MACT floor for large units. Furthermore, the results of the beyond-the-floor analysis for these subcategories indicated that the costs would be too high to consider them feasible options. Consequently, the final rule contains no emission limitations for any of the existing small and limited use subcategories except the existing limited use solid fuel subcategory. In addition, the alternative metals emission limit resulted in minimizing the impacts on small entities since some of the potential entities burning a fuel containing very little metals are small entities.

D. Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, we generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any 1 year. Before promulgating a rule for which a written statement is needed, section 205 of the UMRA generally requires us to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows us to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the EPA Administrator publishes with the final rule an explanation why that alternative was not adopted. Before we establish any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, we must develop a small government agency plan under section 203 of the UMRA. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of regulatory promulgation with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

We determined that the final rule contains a Federal mandate that may result in expenditures of $100 million or more for State, local, and Tribal governments, in the aggregate, or the private sector in any 1 year. Accordingly, we have prepared a written statement (titled ''Unfunded Mandates Reform Act Analysis for the Industrial Boilers and Process Heaters NESHAP)'' under section 202 of the UMRA, which is summarized below.

Statutory Authority

As discussed in this preamble, the statutory authority for the final rulemaking is section 112 of the CAA. Title III of the CAA Amendments was enacted to reduce nationwide air toxic emissions. Section 112(b) of the CAA lists the 188 chemicals, compounds, or groups of chemicals deemed by Congress to be HAP. These toxic air pollutants are to be regulated by NESHAP.

Section 112(d) of the CAA directs us to develop NESHAP, which require existing and new major sources to control emissions of HAP using MACT based standards. The final rule applies to all industrial, commercial, and institutional boilers and process heaters located at major sources of HAP emissions.

In compliance with section 205(a) of the UMRA, we identified and considered a reasonable number of regulatory alternatives. Additional information on the costs and environmental impacts of these regulatory alternatives is presented in the docket.

The regulatory alternative upon which the final rule is based represents the MACT floor for industrial boilers and process heaters and, as a result, it is the least costly and least burdensome alternative.

Social Costs and Benefits

The regulatory impact analysis prepared for the final rule including the EPA's assessment of costs and benefits, is detailed in the ''Regulatory Impact Analysis for the Industrial Boilers and Process Heaters MACT'' in the docket. Based on estimated compliance costs associated with the final rule and the predicted change in prices and production in the affected industries, the estimated social costs of the final rule are $863 million (1999 dollars). Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, these annualized social costs could fall to $746 million.

It is estimated that 5 years after implementation of the final rule, HAP will be reduced by 58,500 tpy due to reductions in arsenic, beryllium, dioxin, hydrochloric acid, and several other HAP from industrial boilers and process heaters. Studies have determined a relationship between exposure to these HAP and the onset of cancer, however, there are some questions remaining on how cancers that may result from exposure to these HAP can be quantified in terms of dollars. Therefore, the EPA is unable to provide a monetized estimate of the benefits of the HAP reduced by the final rule at this time. However, there are significant reductions in PM and in SO_2 that occur. Reductions of 560,000 tons of PM with a diameter of less than or equal to 10 micrometers (PM_{10}), 159,000 tons of PM with a diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$), and 112,000 tons of SO_2 are expected to occur. These reductions occur from existing sources in operation 5 years after the implementation of the regulation and are expected to continue throughout the life of the affected sources. The major health effect that results from these PM

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and SO_2 emissions reductions is a reduction in premature mortality. Other health effects that occur are reductions in chronic bronchitis, asthma attacks, and work-lost days (*i.e.*, days when employees are unable to work).

While we are unable to monetize the benefits associated with the HAP emissions reductions, we are able to monetize the benefits associated with the PM and SO_2 emissions reductions. For SO_2 and PM, we estimated the benefits associated with health effects of PM, but were unable to quantify all categories of benefits (particularly those associated with ecosystem and environmental effects). Unquantified benefits are noted with ''B'' in the estimates presented below. Our primary estimate of the monetized benefits in 2005 associated with the implementation of the proposed alternative is $16.3 billion + B (1999 dollars). This estimate is about $15.3 billion + B (1999 dollars) higher than the estimated social costs shown earlier in this section. These benefit estimates are in advance of any facility demonstrating eligibility for the health-based compliance alternatives. Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, the benefit estimate presuming the health-based compliance alternatives is $14.5 billion + B, which is $1.7 billion lower than the estimate for the final rule. This estimate is $13.8 billion + B higher than the estimated social costs presuming the health-based compliance alternatives. The general approach to calculating monetized benefits is discussed in more detail earlier in this preamble. For more detailed information on the benefits estimated for the final rule, refer to the RIA in the docket.

Future and Disproportionate Costs

The Unfunded Mandates Act requires that we estimate, where accurate estimation is reasonably feasible, future compliance costs imposed by the rule and any disproportionate budgetary effects. Our estimates of the future compliance costs of the final rule are discussed previously in this preamble.

We do not feel that there will be any disproportionate budgetary effects of the final rule on any particular areas of the country, State or local governments, types of communities (*e.g.,* urban, rural), or particular industry segments. This is true for the 257 facilities owned by 54 different government bodies, and this is borne out by the results of the ''Economic Impact Analysis of the Industrial Boilers and Process Heaters NESHAP,'' the results of which are discussed previously in this preamble.

Effects on the National Economy

The Unfunded Mandates Act requires that we estimate the effect of the final rule on the national economy. To the extent feasible, we must estimate the effect on productivity, economic growth, full employment, creation of productive jobs, and international competitiveness of the U.S. goods and services, if we determine that accurate estimates are reasonably feasible and that such effect is relevant and material.

The nationwide economic impact of the final rule is presented in the ''Economic Impact Analysis for the Industrial Boilers and Process Heaters MACT'' in the docket. This analysis provides estimates of the effect of the final rule on some of the categories mentioned above. The results of the economic impact analysis are summarized previously in this preamble. The results show that there will be little impact on prices and output from the affected industries, and little impact on communities that may be affected by the final rule. In addition, there should be little impact on energy markets (in this case, coal, natural gas, petroleum products, and electricity). Hence, the potential impacts on the categories mentioned above should be minimal.

Consultation With Government Officials

The Unfunded Mandates Act requires that we describe the extent of the EPA's prior consultation with affected State, local, and tribal officials, summarize the officials' comments or concerns, and summarize our response to those comments or concerns. In addition, section 203 of the UMRA requires that we develop a plan for informing and advising small governments that may be significantly or uniquely impacted by a rule. Although the final rule does not significantly affect any State, local, or Tribal governments, we have consulted with State and local air pollution control officials. We also have held meetings on the final rule with many of the stakeholders from numerous individual companies, environmental groups, consultants and vendors, labor unions, and other interested parties. We have added materials to the docket to document these meetings.

In addition, we have determined that the final rule contains no regulatory requirements that might significantly or uniquely affect small governments. While some small governments may have some sources affected by the final rule, the impacts are not expected to be significant. Therefore, the final rule is not subject to the requirements of section 203 of the UMRA. However, EPA did complete a report containing analyses called for in the UMRA as a response to comments from many municipal utilities regarding the final rule and its potential impacts. This report, ''Unfunded Mandates Reform Act Analysis for the Industrial Boilers and Process Heaters NESHAP,'' is in the docket.

E. Executive Order 13132: Federalism

Executive Order 13132 requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' are defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

The final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132.

The agency is required by section 112 of the CAA, to establish the standards in the final rule. The final rule primarily affects private industry, and does not impose significant economic costs on State or local governments. The final rule does not include an express provision preempting State or local regulations. Thus, the requirements of section 6 of the Executive Order do not apply to the final rule.

Although section 6 of Executive Order 13132 does not apply to the final rule, we consulted with representatives of State and local governments to enable them to provide meaningful and timely input into the development of the final rule. This consultation took place during the ICCR Federal Advisory Committee Act (FACA) committee meetings where members representing State and local governments participated in developing recommendations for EPA's combustion-related rulemakings, including the final rule. The concerns raised by representatives of State and local governments were considered during the development of the final rule.

In the spirit of Executive Order 13132, and consistent with EPA policy to

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promote communications between EPA and State and local governments, EPA specifically solicited comment on the final rule from State and local officials.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

Executive Order 13175 (65 FR 67249, November 9, 2000) requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' The final rule does not have tribal implications, as specified in Executive Order 13175.

The final rule does not significantly or uniquely affect the communities of Indian tribal governments. We do not know of any industrial-commercial-institutional boilers or process heaters owned or operated by Indian tribal governments. However, if there are any, the effect of these rules on communities of tribal governments would not be unique or disproportionate to the effect on other communities. Thus, Executive Order 13175 does not apply to the final rule. The EPA specifically solicited additional comment on the final rule from tribal officials, but received none.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any regulation that: (1) Is determined to be ''economically significant'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that we have reason to believe may have a disproportionate effect on children.

If the regulatory action meets both criteria, the EPA must evaluate the environmental health or safety effects of the planned regulation on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the EPA.

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. The final rule is not subject to Executive Order 13045 because it is based on technology performance and not on health or safety risks.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

Executive Order 13211 (66 FR 28355, May 22, 2001) provides that agencies shall prepare and submit to the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, a Statement of Energy Effects for certain actions identified as ''significant energy actions.'' Section 4(b) of Executive Order 13211 defines ''significant energy actions'' as ''any action by an agency (normally published in the **Federal Register**) that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of final rulemaking, and notices of final rulemaking: (1)(i) That is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a ''significant energy action.'' The final rule is not a ''significant energy action'' because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The basis for the determination is as follows.

The reduction in petroleum product output, which includes reductions in fuel production, is estimated at only 0.001 percent, or about 68 barrels per day based on 2000 U.S. fuel production nationwide. That is a minimal reduction in nationwide petroleum product output. The reduction in coal production is estimated at only 0.014 percent, or about 3.5 million tpy (or less than 1,000 tons per day) based on 2000 U.S. coal production nationwide. The combination of the increase in electricity usage estimated with the effect of the increased price of affected output yields an increase in electricity output estimated at only 0.012 percent, or about 0.72 billion kilowatt-hours per year based on 2000 U.S. electricity production nationwide. All energy price changes estimated show no increase in price more than 0.05 percent nationwide, and a similar result occurs for energy distribution costs. We also expect that there will be no discernable impact on the import of foreign energy supplies, and no other adverse outcomes are expected to occur with regards to energy supplies. All of the results presented above account for the pass through of costs to consumers, as well as the cost impact to producers. For more information on the estimated energy effects, please refer to the economic impact analysis for the final rule. The analysis is available in the public docket. It should be noted that these energy impact estimates are in advance of any facility demonstrating eligibility for the health-based compliance alternatives.

Depending on the number of affected facilities demonstrating eligibility for the health-based compliance alternatives, the reduction in petroleum product output, which includes reductions in fuel production, could fall to 65 barrels per day, or only 0.001 percent. The reduction in coal production could fall to only 0.010 percent, or about 2.5 million tpy based on 2000 U.S. coal production nationwide. The combination of the increase in electricity usage estimated with the effect of the increased price of affected output could yield an increase in electricity output could fall to only 0.0067 percent, or about 0.40 billion kilowatt-hours per year based on 2000 U.S. electricity production nationwide. All energy price changes estimated could now fall to increases of no more than 0.04 percent nationwide, and a similar result occurs for energy distribution costs. There should be no discernable impact on import of foreign energy supplies, and no other adverse outcomes are expected to occur with regards to energy supplies. All of the results presented with presumption of the health-based compliance alternatives also account for the pass through of costs to consumers as well as the cost impact to producers.

Therefore, we conclude that the final rule when implemented is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Pub. L. 104–113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA directs EPA to provide Congress, through annual reports to the OMB, with explanations when an agency does not use available and applicable voluntary consensus standards.

Attachment 4
Attachment 4

The final rule involves technical standards. The EPA cites the following standards in the final rule: EPA Methods 1, 2, 2F, 2G, 3A, 3B, 4, 5, 5D, 17, 19, 26, 26A, 29 of 40 CFR part 60. Consistent with the NTTAA, EPA conducted searches to identify voluntary consensus standards in addition to these EPA methods. No applicable voluntary consensus standards were identified for EPA Methods 2F, 2G, 5D, and 19. The search and review results have been documented and are placed in the docket for the final rule.

The three voluntary consensus standards described below were identified as acceptable alternatives to EPA test methods for the purposes of the final rule.

The voluntary consensus standard ASME PTC 19–10–1981–Part 10, ''Flue and Exhaust Gas Analyses,'' is cited in the final rule for its manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas. This part of ASME PTC 19–10–1981–Part 10 is an acceptable alternative to Method 3B.

The voluntary consensus standard ASTM D6522–00, ''Standard Test Method for the Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers and Process Heaters Using Portable Analyzers'' is an acceptable alternative to EPA Methods 3A and 10 for identifying carbon monoxide and oxygen concentrations for the final rule when the fuel is natural gas.

The voluntary consensus standard ASTM Z65907, ''Standard Method for Both Speciated and Elemental Mercury Determination,'' is an acceptable alternative to EPA Method 29 (portion for mercury only) for the purpose of the final rule. This standard can be used in the final rule to determine the mercury concentration in stack gases for boilers with rated heat input capacities of greater than 250 MMBtu per hour.

In addition to the voluntary consensus standards EPA uses in the final rule, the search for emissions measurement procedures identified 15 other voluntary consensus standards. The EPA determined that 13 of these 15 standards identified for measuring emissions of the HAP or surrogates subject to the emission standards were impractical alternatives to EPA test methods for the purposes of the final rule. Therefore, EPA does not intend to adopt these standards for this purpose. (See Docket ID No. OAR–2002–0058 for further information on the methods.)

Two of the 15 voluntary consensus standards identified in this search were not available at the time the review was conducted for the purposes of the final rule because they are under development by a voluntary consensus body: ASME/BSR MFC 13M, ''Flow Measurement by Velocity Traverse,'' for EPA Method 2 (and possibly 1); and ASME/BSR MFC 12M, ''Flow in Closed Conduits Using Multiport Averaging Pitot Primary Flowmeters,'' for EPA Method 2.

Section 63.7520 and Tables 4A through 4D of the final rule list the EPA testing methods. Under § 63.7(f) and § 63.8(f) of subpart A, 40 CFR part 63, of the General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any of the EPA testing methods, performance specifications, or procedures.

J. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801, *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing the final rule and other required information to the United States Senate, the United States House of Representatives, and the Comptroller General of the United States prior to publication of the final rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is a ''major rule'' as defined by 5 U.S.C. section 804(2). The rule will be effective on November 12, 2004.

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: February 26, 2004.

Michael O. Leavitt,

Administrator.

■ For the reasons stated in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is amended as follows:

PART 63—[AMENDED]

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

Subpart A—[Amended]

■ 2. Section 63.14 is amended by revising paragraph (b)(27) and paragraph (i)(3) and adding paragraph (b)(35) and paragraphs (b)(39) through (53) to read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(b) * * *

(27) ASTM D6522–00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers,[1] IBR approved for § 63.9307(c)(2), Table 4 of Subpart ZZZZ, and Table 5 to Subpart DDDDD of this part.

* * * * *

(35) ASTM D6784–02, Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method),[1] IBR approved for Table 5 to Subpart DDDDD of this part.

* * * * *

(39) ASTM Method D388–99,$^{\epsilon 1}$ Standard Classification of Coals by Rank,[1] IBR approved for § 63.7575.

(40) ASTM D396–02a, Standard Specification for Fuel Oils,[1] IBR approved for § 63.7575.

(41) ASTM D1835–03a, Standard Specification for Liquified Petroleum (LP) Gases,[1] IBR approved for § 63.7575.

(42) ASTM D2013–01, Standard Practice for Preparing Coal Samples for Analysis,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(43) ASTM D2234–00, $^{\epsilon 1}$ Standard Practice for Collection of a Gross Sample of Coal,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(44) ASTM D3173–02, Standard Test Method for Moisture in the Analysis Sample of Coal and Coke,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(45) ASTM D3683–94 (Reapproved 2000), Standard Test Method for Trace Elements in Coal and Coke Ash Absorption,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(46) ASTM D3684–01, Standard Test Method for Total Mercury in Coal by the Oxygen Bomb Combustion/Atomic Absorption Method,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(47) ASTM D5198–92 (Reapproved 2003), Standard Practice for Nitric Acid Digestion of Solid Waste,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(48) ASTM D5865–03a, Standard Test Method for Gross Calorific Value of Coal and Coke,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(49) ASTM D6323–98 (Reapproved 2003), Standard Guide for Laboratory Subsampling of Media Related to Waste Management Activities,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(50) ASTM E711–87 (Reapproved 1996), Standard Test Method for Gross Calorific Value of Refuse-Derived Fuel by the Bomb Calorimeter,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(51) ASTM E776–87 (Reapproved 1996), Standard Test Method for Forms of Chlorine in Refuse-Derived Fuel,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(52) ASTM E871–82 (Reapproved 1998), Standard Method of Moisture Analysis of Particulate Wood Fuels,[1] IBR approved for Table 6 to Subpart DDDDD of this part.

(53) ASTM E885–88 (Reapproved 1996), Standard Test Methods for Analyses of Metals in Refuse-Derived Fuel by Atomic Absorption Spectroscopy,[1] IBR approved for Table 6 to Subpart DDDDD of this part 63.

* * * * *

(i) * * *

(3) ANSI/ASME PTC 19.10–1981, ''Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus],'' IBR approved for §§ 63.865(b), 63.3166(a), 63.3360(e)(1)(iii), 63.3545(a)(3), 63.3555(a)(3), 63.4166(a)(3), 63.4362(a)(3), 63.4766(a)(3), 63.4965(a)(3), 63.5160(d)(1)(iii), 63.9307(c)(2), 63.9323(a)(3), and Table 5 to Subpart DDDDD of this part.

* * * * *

■ 3. Part 63 is amended by adding subpart DDDDD to read as follows:

Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

Sec.

What This Subpart Covers

63.7480 What is the purpose of this subpart?
63.7485 Am I subject to this subpart?
63.7490 What is the affected source of this subpart?
63.7491 Are any boilers or process heaters not subject to this subpart?
63.7495 When do I have to comply with this subpart?

Emission Limits and Work Practice Standards

63.7499 What are the subcategories of boilers and process heaters?
63.7500 What emission limits, work practice standards, and operating limits must I meet?

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Testing, Fuel Analyses, and Initial Compliance Requirements

63.7510 What are my initial compliance requirements and by what date must I conduct them?
63.7515 When must I conduct subsequent performance tests or fuel analyses?
63.7520 What performance tests and procedures must I use?
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63.7522 Can I use emission averaging to comply with this subpart?
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63.7545 What notifications must I submit and when?
63.7550 What reports must I submit and when?
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63.7560 In what form and how long must I keep my records?

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63.7565 What parts of the General Provisions apply to me?
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Table 4 to Subpart DDDDD of Part 63—Operating Limits for Boilers and Process Heaters With Hydrogen Chloride Emission Limits
Table 5 to Subpart DDDDD of Part 63—Performance Testing Requirements
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Table 9 to Subpart DDDDD of Part 63—Reporting Requirements
Table 10 to Subpart DDDDD of Part 63—Applicability of General Provisions to Subpart DDDDD

Appendix

Appendix A to Subpart DDDDD—Methodology and Criteria for Demonstrating Eligibility for the Health-Based Compliance Alternatives Specified for the Large Solid Fuel Subcategory

Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

What This Subpart Covers

§ 63.7480 What is the purpose of this subpart?

This subpart establishes national emission limits and work practice standards for hazardous air pollutants (HAP) emitted from industrial, commercial, and institutional boilers and process heaters. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limits and work practice standards.

§ 63.7485 Am I subject to this subpart?

You are subject to this subpart if you own or operate an industrial, commercial, or institutional boiler or process heater as defined in § 63.7575 that is located at, or is part of, a major source of HAP as defined in § 63.2 or § 63.761 (40 CFR part 63, subpart HH, National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities), except as specified in § 63.7491.

§ 63.7490 What is the affected source of this subpart?

(a) This subpart applies to new, reconstructed, or existing affected sources as described in paragraphs (a)(1) and (2) of this section.

(1) The affected source of this subpart is the collection of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory located at a major source as defined in § 63.7575.

(2) The affected source of this subpart is each new or reconstructed industrial, commercial, or institutional boiler or

process heater located at a major source as defined in § 63.7575.

(b) A boiler or process heater is new if you commence construction of the boiler or process heater after January 13, 2003, and you meet the applicability criteria at the time you commence construction.

(c) A boiler or process heater is reconstructed if you meet the reconstruction criteria as defined in § 63.2, you commence reconstruction after January 13, 2003, and you meet the applicability criteria at the time you commence reconstruction.

(d) A boiler or process heater is existing if it is not new or reconstructed.

§ 63.7491 Are any boilers or process heaters not subject to this subpart?

The types of boilers and process heaters listed in paragraphs (a) through (o) of this section are not subject to this subpart.

(a) A municipal waste combustor covered by 40 CFR part 60, subpart AAAA, subpart BBBB, subpart Cb or subpart Eb.

(b) A hospital/medical/infectious waste incinerator covered by 40 CFR part 60, subpart Ce or subpart Ec.

(c) An electric utility steam generating unit that is a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity, and supplies more than one-third of its potential electric output capacity, and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.

(d) A boiler or process heater required to have a permit under section 3005 of the Solid Waste Disposal Act or covered by 40 CFR part 63, subpart EEE (*e.g.*, hazardous waste boilers).

(e) A commercial and industrial solid waste incineration unit covered by 40 CFR part 60, subpart CCCC or subpart DDDD.

(f) A recovery boiler or furnace covered by 40 CFR part 63, subpart MM.

(g) A boiler or process heater that is used specifically for research and development. This does not include units that only provide heat or steam to a process at a research and development facility.

(h) A hot water heater as defined in this subpart.

(i) A refining kettle covered by 40 CFR part 63, subpart X.

(j) An ethylene cracking furnace covered by 40 CFR part 63, subpart YY.

(k) Blast furnace stoves as described in the EPA document, entitled ''National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Plants—Background Information for Proposed Standards,'' (EPA–453/R–01–005).

(l) Any boiler and process heater specifically listed as an affected source in another standard(s) under 40 CFR part 63.

(m) Any boiler and process heater specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act (CAA).

(n) Temporary boilers as defined in this subpart.

(o) Blast furnace gas fuel-fired boilers and process heaters as defined in this subpart.

§ 63.7495 When do I have to comply with this subpart?

(a) If you have a new or reconstructed boiler or process heater, you must comply with this subpart by November 12, 2004 or upon startup of your boiler or process heater, whichever is later.

(b) If you have an existing boiler or process heater, you must comply with this subpart no later than September 13, 2007.

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, paragraphs (c)(1) and (2) of this section apply to you.

(1) Any new or reconstructed boiler or process heater at the existing facility must be in compliance with this subpart upon startup.

(2) Any existing boiler or process heater at the existing facility must be in compliance with this subpart within 3 years after the facility becomes a major source.

(d) You must meet the notification requirements in § 63.7545 according to the schedule in § 63.7545 and in subpart A of this part. Some of the notifications must be submitted before you are required to comply with the emission limits and work practice standards in this subpart.

Emission Limits and Work Practice Standards

§ 63.7499 What are the subcategories of boilers and process heaters?

The subcategories of boilers and process heaters are large solid fuel, limited use solid fuel, small solid fuel, large liquid fuel, limited use liquid fuel, small liquid fuel, large gaseous fuel, limited use gaseous fuel, and small gaseous fuel. Each subcategory is defined in § 63.7575.

§ 63.7500 What emission limits, work practice standards, and operating limits must I meet?

(a) You must meet the requirements in paragraphs (a)(1) and (2) of this section.

(1) You must meet each emission limit and work practice standard in Table 1 to this subpart that applies to your boiler or process heater, except as provided under § 63.7507.

(2) You must meet each operating limit in Tables 2 through 4 to this subpart that applies to your boiler or process heater. If you use a control device or combination of control devices not covered in Tables 2 through 4 to this subpart, or you wish to establish and monitor an alternative operating limit and alternative monitoring parameters, you must apply to the United States Environmental Protection Agency (EPA) Administrator for approval of alternative monitoring under § 63.8(f).

(b) As provided in § 63.6(g), EPA may approve use of an alternative to the work practice standards in this section.

General Compliance Requirements

§ 63.7505 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limits (including operating limits) and the work practice standards in this subpart at all times, except during periods of startup, shutdown, and malfunction.

(b) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in § 63.6(e)(1)(i).

(c) You can demonstrate compliance with any applicable emission limit using fuel analysis if the emission rate calculated according to § 63.7530(d) is less than the applicable emission limit. Otherwise, you must demonstrate compliance using performance testing.

(d) If you demonstrate compliance with any applicable emission limit through performance testing, you must develop a site-specific monitoring plan according to the requirements in paragraphs (d)(1) through (4) of this section. This requirement also applies to you if you petition the EPA Administrator for alternative monitoring parameters under § 63.8(f).

(1) For each continuous monitoring system (CMS) required in this section, you must develop and submit to the EPA Administrator for approval a site-specific monitoring plan that addresses paragraphs (d)(1)(i) through (iii) of this section. You must submit this site-specific monitoring plan at least 60 days

before your initial performance evaluation of your CMS.

(i) Installation of the CMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.*, on or downstream of the last control device);

(ii) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

(iii) Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).

(2) In your site-specific monitoring plan, you must also address paragraphs (d)(2)(i) through (iii) of this section.

(i) Ongoing operation and maintenance procedures in accordance with the general requirements of § 63.8(c)(1), (c)(3), and (c)(4)(ii);

(ii) Ongoing data quality assurance procedures in accordance with the general requirements of § 63.8(d); and

(iii) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of § 63.10(c), (e)(1), and (e)(2)(i).

(3) You must conduct a performance evaluation of each CMS in accordance with your site-specific monitoring plan.

(4) You must operate and maintain the CMS in continuous operation according to the site-specific monitoring plan.

(e) If you have an applicable emission limit or work practice standard, you must develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in § 63.6(e)(3).

§ 63.7506 Do any boilers or process heaters have limited requirements?

(a) New or reconstructed boilers and process heaters in the large liquid fuel subcategory or the limited use liquid fuel subcategory that burn only fossil fuels and other gases and do not burn any residual oil are subject to the emission limits and applicable work practice standards in Table 1 to this subpart. You are not required to conduct a performance test to demonstrate compliance with the emission limits. You are not required to set and maintain operating limits to demonstrate continuous compliance with the emission limits. However, you must meet the requirements in paragraphs (a)(1) and (2) of this section and meet the CO work practice standard in Table 1 to this subpart.

(1) To demonstrate initial compliance, you must include a signed statement in the Notification of Compliance Status report required in § 63.7545(e) that indicates you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels.

(2) To demonstrate continuous compliance with the applicable emission limits, you must also keep records that demonstrate that you burn only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels. You must also include a signed statement in each semiannual compliance report required in § 63.7550 that indicates you burned only liquid fossil fuels other than residual oils, either alone or in combination with gaseous fuels, during the reporting period.

(b) The affected boilers and process heaters listed in paragraphs (b)(1) through (3) of this section are subject to only the initial notification requirements in § 63.9(b) (*i.e.*, they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSMP, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart or any other requirements in subpart A of this part).

(1) Existing large and limited use gaseous fuel units.

(2) Existing large and limited use liquid fuel units.

(3) New or reconstructed small liquid fuel units that burn only gaseous fuels or distillate oil. New or reconstructed small liquid fuel boilers and process heaters that commence burning of any other type of liquid fuel must comply with all applicable requirements of this subpart and subpart A of this part upon startup of burning the other type of liquid fuel.

(c) The affected boilers and process heaters listed in paragraphs (c)(1) through (4) of this section are not subject to the initial notification requirements in § 63.9(b) and are not subject to any requirements in this subpart or in subpart A of this part (*i.e.*, they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSM plans, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart, or any other requirements in subpart A of this part.

(1) Existing small solid fuel boilers and process heaters.

(2) Existing small liquid fuel boilers and process heaters.

(3) Existing small gaseous fuel boilers and process heaters.

(4) New or reconstructed small gaseous fuel units.

§ 63.7507 What are the health-based compliance alternatives for the hydrogen chloride (HCl) and total selected metals (TSM) standards?

(a) As an alternative to the requirement for large solid fuel boilers located at a single facility to demonstrate compliance with the HCl emission limit in Table 1 to this subpart, you may demonstrate eligibility for the health-based compliance alternative for HCl emissions under the procedures prescribed in appendix A to this subpart.

(b) In lieu of complying with the TSM emission standards in Table 1 to this subpart based on the sum of emissions for the eight selected metals, you may demonstrate eligibility for complying with the TSM emission standards in Table 1 based on the sum of emissions for seven selected metals (by excluding manganese emissions from the summation of TSM emissions) under the procedures prescribed in appendix A to this subpart.

Testing, Fuel Analyses, and Initial Compliance Requirements

§ 63.7510 What are my initial compliance requirements and by what date must I conduct them?

(a) For affected sources that elect to demonstrate compliance with any of the emission limits of this subpart through performance testing, your initial compliance requirements include conducting performance tests according to § 63.7520 and Table 5 to this subpart, conducting a fuel analysis for each type of fuel burned in your boiler or process heater according to § 63.7521 and Table 6 to this subpart, establishing operating limits according to § 63.7530 and Table 7 to this subpart, and conducting CMS performance evaluations according to § 63.7525.

(b) For affected sources that elect to demonstrate compliance with the emission limits for HCl, mercury, or TSM through fuel analysis, your initial compliance requirement is to conduct a fuel analysis for each type of fuel burned in your boiler or process heater according to § 63.7521 and Table 6 to this subpart and establish operating limits according to § 63.7530 and Table 8 to this subpart.

(c) For affected sources that have an applicable work practice standard, your initial compliance requirements depend on the subcategory and rated capacity of your boiler or process heater. If your boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, your initial compliance demonstration is conducting a performance test for carbon monoxide

according to Table 5 to this subpart. If your boiler or process heater is in any of the large subcategories and has a heat input capacity of 100 MMBtu per hour or greater, your initial compliance demonstration is conducting a performance evaluation of your continuous emission monitoring system for carbon monoxide according to § 63.7525(a).

(d) For existing affected sources, you must demonstrate initial compliance no later than 180 days after the compliance date that is specified for your source in § 63.7495 and according to the applicable provisions in § 63.7(a)(2) as cited in Table 10 to this subpart.

(e) If your new or reconstructed affected source commenced construction or reconstruction between January 13, 2003 and November 12, 2004, you must demonstrate initial compliance with either the proposed emission limits and work practice standards or the promulgated emission limits and work practice standards no later than 180 days after November 12, 2004 or within 180 days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(f) If your new or reconstructed affected source commenced construction or reconstruction between January 13, 2003, and November 12, 2004, and you chose to comply with the proposed emission limits and work practice standards when demonstrating initial compliance, you must conduct a second compliance demonstration for the promulgated emission limits and work practice standards within 3 years after November 12, 2004 or within 3 years after startup of the affected source, whichever is later.

(g) If your new or reconstructed affected source commences construction or reconstruction after November 12, 2004, you must demonstrate initial compliance with the promulgated emission limits and work practice standards no later than 180 days after startup of the source.

§ 63.7515 When must I conduct subsequent performance tests or fuel analyses?

(a) You must conduct all applicable performance tests according to § 63.7520 on an annual basis, unless you follow the requirements listed in paragraphs (b) through (d) of this section. Annual performance tests must be completed between 10 and 12 months after the previous performance test, unless you follow the requirements listed in paragraphs (b) through (d) of this section.

(b) You can conduct performance tests less often for a given pollutant if your performance tests for the pollutant (particulate matter, HCl, mercury, or TSM) for at least 3 consecutive years show that you comply with the emission limit. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months after the previous performance test.

(c) If your boiler or process heater continues to meet the emission limit for particulate matter, HCl, mercury, or TSM, you may choose to conduct performance tests for these pollutants every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.

(d) If a performance test shows noncompliance with an emission limit for particulate matter, HCl, mercury, or TSM, you must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.

(e) If you have an applicable work practice standard for carbon monoxide and your boiler or process heater is in any of the limited use subcategories or has a heat input capacity less than 100 MMBtu per hour, you must conduct annual performance tests for carbon monoxide according to § 63.7520. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

(f) You must conduct a fuel analysis according to § 63.7521 for each type of fuel burned no later than 5 years after the previous fuel analysis for each fuel type. If you burn a new type of fuel, you must conduct a fuel analysis before burning the new type of fuel in your boiler or process heater. You must still meet all applicable continuous compliance requirements in § 63.7540.

(g) You must report the results of performance tests and fuel analyses within 60 days after the completion of the performance tests or fuel analyses. This report should also verify that the operating limits for your affected source have not changed or provide documentation of revised operating parameters established according to § 63.7530 and Table 7 to this subpart, as applicable. The reports for all subsequent performance tests and fuel analyses should include all applicable information required in § 63.7550.

§ 63.7520 What performance tests and procedures must I use?

(a) You must conduct all performance tests according to § 63.7(c), (d), (f), and (h). You must also develop a site-specific test plan according to the requirements in § 63.7(c) if you elect to demonstrate compliance through performance testing.

(b) You must conduct each performance test according to the requirements in Table 5 to this subpart.

(c) New or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil must demonstrate compliance according to § 63.7506(a).

(d) You must conduct each performance test under the specific conditions listed in Tables 5 and 7 to this subpart. You must conduct performance tests at the maximum normal operating load while burning the type of fuel or mixture of fuels that have the highest content of chlorine, mercury, and total selected metals, and you must demonstrate initial compliance and establish your operating limits based on these tests. These requirements could result in the need to conduct more than one performance test.

(e) You may not conduct performance tests during periods of startup, shutdown, or malfunction.

(f) You must conduct three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour.

(g) To determine compliance with the emission limits, you must use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 of appendix A to part 60 of this chapter to convert the measured particulate matter concentrations, the measured HCl concentrations, the measured TSM concentrations, and the measured mercury concentrations that result from the initial performance test to pounds per million Btu heat input emission rates using F-factors.

§ 63.7521 What fuel analyses and procedures must I use?

(a) You must conduct fuel analyses according to the procedures in paragraphs (b) through (e) of this section and Table 6 to this subpart, as applicable.

(b) You must develop and submit a site-specific fuel analysis plan to the EPA Administrator for review and approval according to the following procedures and requirements in paragraphs (b)(1) and (2) of this section.

(1) You must submit the fuel analysis plan no later than 60 days before the date that you intend to demonstrate compliance.

(2) You must include the information contained in paragraphs (b)(2)(i)

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through (vi) of this section in your fuel analysis plan.

(i) The identification of all fuel types anticipated to be burned in each boiler or process heater.

(ii) For each fuel type, the notification of whether you or a fuel supplier will be conducting the fuel analysis.

(iii) For each fuel type, a detailed description of the sample location and specific procedures to be used for collecting and preparing the composite samples if your procedures are different from paragraph (c) or (d) of this section. Samples should be collected at a location that most accurately represents the fuel type, where possible, at a point prior to mixing with other dissimilar fuel types.

(iv) For each fuel type, the analytical methods, with the expected minimum detection levels, to be used for the measurement of selected total metals, chlorine, or mercury.

(v) If you request to use an alternative analytical method other than those required by Table 6 to this subpart, you must also include a detailed description of the methods and procedures that will be used.

(vi) If you will be using fuel analysis from a fuel supplier in lieu of site-specific sampling and analysis, the fuel supplier must use the analytical methods required by Table 6 to this subpart.

(c) At a minimum, you must obtain three composite fuel samples for each fuel type according to the procedures in paragraph (c)(1) or (2) of this section.

(1) If sampling from a belt (or screw) feeder, collect fuel samples according to paragraphs (c)(1)(i) and (ii) of this section.

(i) Stop the belt and withdraw a 6-inch wide sample from the full cross-section of the stopped belt to obtain a minimum two pounds of sample. Collect all the material (fines and coarse) in the full cross-section. Transfer the sample to a clean plastic bag.

(ii) Each composite sample will consist of a minimum of three samples collected at approximately equal intervals during the testing period.

(2) If sampling from a fuel pile or truck, collect fuel samples according to paragraphs (c)(2)(i) through (iii) of this section.

(i) For each composite sample, select a minimum of five sampling locations uniformly spaced over the surface of the pile.

(ii) At each sampling site, dig into the pile to a depth of 18 inches. Insert a clean flat square shovel into the hole and withdraw a sample, making sure that large pieces do not fall off during sampling.

(iii) Transfer all samples to a clean plastic bag for further processing.

(d) Prepare each composite sample according to the procedures in paragraphs (d)(1) through (7) of this section.

(1) Throughly mix and pour the entire composite sample over a clean plastic sheet.

(2) Break sample pieces larger than 3 inches into smaller sizes.

(3) Make a pie shape with the entire composite sample and subdivide it into four equal parts.

(4) Separate one of the quarter samples as the first subset.

(5) If this subset is too large for grinding, repeat the procedure in paragraph (d)(3) of this section with the quarter sample and obtain a one-quarter subset from this sample.

(6) Grind the sample in a mill.

(7) Use the procedure in paragraph (d)(3) of this section to obtain a one-quarter subsample for analysis. If the quarter sample is too large, subdivide it further using the same procedure.

(e) Determine the concentration of pollutants in the fuel (mercury, chlorine, and/or total selected metals) in units of pounds per million Btu of each composite sample for each fuel type according to the procedures in Table 6 to this subpart.

§ 63.7522 Can I use emission averaging to comply with this subpart?

(a) As an alternative to meeting the requirements of § 63.7500, if you have more than one existing large solid fuel boiler located at your facility, you may demonstrate compliance by emission averaging according to the procedures in this section in a State that does not choose to exclude emission averaging.

(b) For each existing large solid fuel boiler in the averaging group, the emission rate achieved during the initial compliance test for the HAP being averaged must not exceed the emission level that was being achieved on November 12, 2004 or the control technology employed during the initial compliance test must not be less effective for the HAP being averaged than the control technology employed on November 12, 2004.

(c) You may average particulate matter or TSM, HCl, and mercury emissions from existing large solid fuel boilers to demonstrate compliance with the limits in Table 1 to this subpart if you satisfy the requirements in paragraphs (d), (e), and (f) of this section.

(d) The weighted average emissions from the existing large solid fuel boilers participating in the emissions averaging option must be in compliance with the limits in Table 1 to this subpart at all times following the compliance date specified in § 63.7495.

(e) You must demonstrate initial compliance according to paragraphs (e)(1) or (2) of this section.

(1) You must use Equation 1 of this section to demonstrate that the particulate matter or TSM, HCl, and mercury emissions from all existing large solid fuel boilers participating in the emissions averaging option do not exceed the emission limits in Table 1 to this subpart.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n}(\text{Er} \times \text{Hm}) \div \sum_{i=1}^{n}\text{Hm} \qquad \text{(Eq. 1)}$$

Where:

AveWeighted = Average weighted emissions for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Hm = Maximum rated heat input capacity of boiler, i, in units of million Btu per hour.

n = Number of large solid fuel boilers participating in the emissions averaging option.

(2) If you are not capable of monitoring heat input, you can use Equation 2 of this section as an alternative to using equation 1 of this section to demonstrate that the particulate matter or TSM, HCl, and mercury emissions from all existing large solid fuel boilers participating in the emissions averaging option do not exceed the emission limits in Table 1 to this subpart.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n}(\text{Er} \times \text{Sm} \times \text{Cf}) \div \sum_{i=1}^{n}\text{Sm} \times \text{Cf} \qquad \text{(Eq. 2)}$$

Where:

AveWeighted = Average weighted emission level for PM or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Sm = Maximum steam generation by boiler, i, in units of pounds.

Cf = Conversion factor, calculated from the most recent compliance test, in units of million Btu of heat input per pounds of steam generated.

(f) You must demonstrate continuous compliance on a 12-month rolling average basis determined at the end of every month (12 times per year) according to paragraphs (f)(1) and (2). The first 12-month rolling-average period begins on the compliance date specified in § 63.7495.

(1) For each calendar month, you must use Equation 3 of this section to calculate the 12-month rolling average weighted emission limit using the actual heat capacity for each existing large solid fuel boiler participating in the emissions averaging option.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n}(\text{Er} \times \text{Hb}) \div \sum_{i=1}^{n}\text{Hb} \qquad \text{(Eq. 3)}$$

Where:

AveWeighted Emissions = 12-month rolling average weighted emission level for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate, calculated during the most recent compliance test, (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Hb = The average heat input for each calendar month of boiler, i, in units of million Btu.

n = Number of large solid fuel boilers participating in the emissions averaging option.

(2) If you are not capable of monitoring heat input, you can use Equation 4 of this section as an alternative to using Equation 3 of this section to calculate the 12-month rolling average weighted emission limit using the actual steam generation from the large solid fuel boilers participating in the emissions averaging option.

$$\text{AveWeighted Emissions} = \sum_{i=1}^{n}(\text{Er} \times \text{Sa} \times \text{Cf}) \div \sum_{i=1}^{n}\text{Sa} \times \text{Cf} \qquad \text{(Eq. 4)}$$

Where:

AveWeighted Emissions = 12-month rolling average weighted emission level for PM or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Er = Emission rate, calculated during the most recent compliance test (as calculated according to Table 5 to this subpart) or fuel analysis (as calculated by the applicable equation in § 63.7530(d)) for boiler, i, for particulate matter or TSM, HCl, or mercury, in units of pounds per million Btu of heat input.

Sa = Actual steam generation for each calender month by boiler, i, in units of pounds.

Cf = Conversion factor, as calculated during the most recent compliance test, in units of million Btu of heat input per pounds of steam generated.

(g) You must develop and submit an implementation plan for emission averaging to the applicable regulatory authority for review and approval according to the following procedures and requirements in paragraphs (g)(1) through (4).

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(1) You must submit the implementation plan no later than 180 days before the date that the facility intends to demonstrate compliance using the emission averaging option.

(2) You must include the information contained in paragraphs (g)(2)(i) through (vii) of this section in your implementation plan for all emission sources included in an emissions average:

(i) The identification of all existing large solid fuel boilers in the averaging group, including for each either the applicable HAP emission level or the control technology installed on;

(ii) The process parameter (heat input or steam generated) that will be monitored for each averaging group of large solid fuel boilers;

(iii) The specific control technology or pollution prevention measure to be used for each emission source in the averaging group and the date of its installation or application. If the pollution prevention measure reduces or eliminates emissions from multiple sources, the owner or operator must identify each source;

(iv) The test plan for the measurement of particulate matter (or TSM), HCl, or mercury emissions in accordance with the requirements in § 63.7520;

(v) The operating parameters to be monitored for each control system or device and a description of how the operating limits will be determined;

(vi) If you request to monitor an alternative operating parameter pursuant to § 63.7525, you must also include:

(A) A description of the parameter(s) to be monitored and an explanation of the criteria used to select the parameter(s); and

(B) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the control device; the frequency and content of monitoring, reporting, and recordkeeping requirements; and a demonstration, to the satisfaction of the applicable regulatory authority, that the proposed monitoring frequency is sufficient to represent control device operating conditions; and

(vii) A demonstration that compliance with each of the applicable emission limit(s) will be achieved under representative operating conditions.

(3) Upon receipt, the regulatory authority shall review and approve or disapprove the plan according to the following criteria:

(i) Whether the content of the plan includes all of the information specified in paragraph (g)(2) of this section; and

(ii) Whether the plan presents sufficient information to determine that compliance will be achieved and maintained.

(4) The applicable regulatory authority shall not approve an emission averaging implementation plan containing any of the following provisions:

(i) Any averaging between emissions of differing pollutants or between differing sources; or

(ii) The inclusion of any emission source other than an existing large solid fuel boiler.

§ 63.7525 What are my monitoring, installation, operation, and maintenance requirements?

(a) If you have an applicable work practice standard for carbon monoxide, and your boiler or process heater is in any of the large subcategories and has a heat input capacity of 100 MMBtu per hour or greater, you must install, operate, and maintain a continuous emission monitoring system (CEMS) for carbon monoxide according to the procedures in paragraphs (a)(1) through (6) of this section by the compliance date specified in § 63.7495.

(1) Each CEMS must be installed, operated, and maintained according to Performance Specification (PS) 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to § 63.7505(d).

(2) You must conduct a performance evaluation of each CEMS according to the requirements in § 63.8 and according to PS 4A of 40 CFR part 60, appendix B.

(3) Each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2).

(5) You must calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

(6) For purposes of calculating data averages, you must not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when your boiler or process heater is operating at less than 50 percent of its rated capacity. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(b) If you have an applicable opacity operating limit, you must install, operate, certify and maintain each continuous opacity monitoring system (COMS) according to the procedures in paragraphs (b)(1) through (7) of this section by the compliance date specified in § 63.7495.

(1) Each COMS must be installed, operated, and maintained according to PS 1 of 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each COMS according to the requirements in § 63.8 and according to PS 1 of 40 CFR part 60, appendix B.

(3) As specified in § 63.8(c)(4)(i), each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(4) The COMS data must be reduced as specified in § 63.8(g)(2).

(5) You must include in your site-specific monitoring plan procedures and acceptance criteria for operating and maintaining each COMS according to the requirements in § 63.8(d). At a minimum, the monitoring plan must include a daily calibration drift assessment, a quarterly performance audit, and an annual zero alignment audit of each COMS.

(6) You must operate and maintain each COMS according to the requirements in the monitoring plan and the requirements of § 63.8(e). Identify periods the COMS is out of control including any periods that the COMS fails to pass a daily calibration drift assessment, a quarterly performance audit, or an annual zero alignment audit.

(7) You must determine and record all the 6-minute averages (and 1-hour block averages as applicable) collected for periods during which the COMS is not out of control.

(c) If you have an operating limit that requires the use of a CMS, you must install, operate, and maintain each continuous parameter monitoring system (CPMS) according to the procedures in paragraphs (c)(1) through (5) of this section by the compliance date specified in § 63.7495.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four successive cycles of operation to have a valid hour of data.

(2) Except for monitoring malfunctions, associated repairs, and required quality assurance or control

activities (including, as applicable, calibration checks and required zero and span adjustments), you must conduct all monitoring in continuous operation at all times that the unit is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(3) For purposes of calculating data averages, you must not use data recorded during monitoring malfunctions, associated repairs, out of control periods, or required quality assurance or control activities. You must use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

(4) Determine the 3-hour block average of all recorded readings, except as provided in paragraph (c)(3) of this section.

(5) Record the results of each inspection, calibration, and validation check.

(d) If you have an operating limit that requires the use of a flow measurement device, you must meet the requirements in paragraphs (c) and (d)(1) through (4) of this section.

(1) Locate the flow sensor and other necessary equipment in a position that provides a representative flow.

(2) Use a flow sensor with a measurement sensitivity of 2 percent of the flow rate.

(3) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(4) Conduct a flow sensor calibration check at least semiannually.

(e) If you have an operating limit that requires the use of a pressure measurement device, you must meet the requirements in paragraphs (c) and (e)(1) through (6) of this section.

(1) Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure.

(2) Minimize or eliminate pulsating pressure, vibration, and internal and external corrosion.

(3) Use a gauge with a minimum tolerance of 1.27 centimeters of water or a transducer with a minimum tolerance of 1 percent of the pressure range.

(4) Check pressure tap pluggage daily.

(5) Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

(6) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

(f) If you have an operating limit that requires the use of a pH measurement device, you must meet the requirements in paragraphs (c) and (f)(1) through (3) of this section.

(1) Locate the pH sensor in a position that provides a representative measurement of scrubber effluent pH.

(2) Ensure the sample is properly mixed and representative of the fluid to be measured.

(3) Check the pH meter's calibration on at least two points every 8 hours of process operation.

(g) If you have an operating limit that requires the use of equipment to monitor voltage and secondary current (or total power input) of an electrostatic precipitator (ESP), you must use voltage and secondary current monitoring equipment to measure voltage and secondary current to the ESP.

(h) If you have an operating limit that requires the use of equipment to monitor sorbent injection rate (*e.g.*, weigh belt, weigh hopper, or hopper flow measurement device), you must meet the requirements in paragraphs (c) and (h)(1) through (3) of this section.

(1) Locate the device in a position(s) that provides a representative measurement of the total sorbent injection rate.

(2) Install and calibrate the device in accordance with manufacturer's procedures and specifications.

(3) At least annually, calibrate the device in accordance with the manufacturer's procedures and specifications.

(i) If you elect to use a fabric filter bag leak detection system to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (i)(1) through (8) of this section.

(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations and in accordance with the guidance provided in EPA–454/R–98–015, September 1997.

(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) The bag leak detection system sensor must provide output of relative or absolute particulate matter loadings.

(5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(7) For positive pressure fabric filter systems that do not duct all compartments of cells to a common stack, a bag leak detection system must be installed in each baghouse compartment or cell.

(8) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

§ 63.7530 How do I demonstrate initial compliance with the emission limits and work practice standards?

(a) You must demonstrate initial compliance with each emission limit and work practice standard that applies to you by either conducting initial performance tests and establishing operating limits, as applicable, according to § 63.7520, paragraph (c) of this section, and Tables 5 and 7 to this subpart OR conducting initial fuel analyses to determine emission rates and establishing operating limits, as applicable, according to § 63.7521, paragraph (d) of this section, and Tables 6 and 8 to this subpart.

(b) New or reconstructed boilers or process heaters in one of the liquid fuel subcategories that burn only fossil fuels and other gases and do not burn any residual oil must demonstrate compliance according to § 63.7506(a).

(c) If you demonstrate compliance through performance testing, you must establish each site-specific operating limit in Tables 2 through 4 to this subpart that applies to you according to the requirements in § 63.7520, Table 7 to this subpart, and paragraph (c)(4) of this section, as applicable. You must also conduct fuel analyses according to § 63.7521 and establish maximum fuel pollutant input levels according to paragraphs (c)(1) through (3) of this section, as applicable.

(1) You must establish the maximum chlorine fuel input (C_{input}) during the initial performance testing according to the procedures in paragraphs (c)(1)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in

your boiler or process heater that has the highest content of chlorine.

(ii) During the performance testing for HCl, you must determine the fraction of the total heat input for each fuel type burned (Q_i) based on the fuel mixture that has the highest content of chlorine, and the average chlorine concentration of each fuel type burned (C_i).

(iii) You must establish a maximum chlorine input level using Equation 5 of this section.

$$Cl_{input} = \sum_{i=1}^{n}\left[(C_i)(Q_i)\right] \qquad \text{(Eq. 5)}$$

Where:

Cl_{input} = Maximum amount of chlorine entering the boiler or process heater through fuels burned in units of pounds per million Btu.

C_i = Arithmetic average concentration of chlorine in fuel type, i, analyzed according to § 63.7521, in units of pounds per million Btu.

Q_i = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types during the performance testing, it is not necessary to determine the value of this term. Insert a value of ''1'' for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

(2) If you choose to comply with the alternative TSM emission limit instead of the particulate matter emission limit, you must establish the maximum TSM fuel input level (TSM_{input}) during the initial performance testing according to the procedures in paragraphs (c)(2)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of TSM.

(ii) During the performance testing for TSM, you must determine the fraction of total heat input from each fuel burned (Q_i) based on the fuel mixture that has the highest content of total selected metals, and the average TSM concentration of each fuel type burned (M_i).

(iii) You must establish a baseline TSM input level using Equation 6 of this section.

$$TSM_{input} = \sum_{i=1}^{n}\left[(M_i)(Q_i)\right] \qquad \text{(Eq. 6)}$$

Where:

TSM_{input} = Maximum amount of TSM entering the boiler or process heater through fuels burned in units of pounds per million Btu.

M_i = Arithmetic average concentration of TSM in fuel type, i, analyzed according to § 63.7521, in units of pounds per million Btu.

Q_i = Fraction of total heat input from based fuel type, i, based on the fuel mixture that has the highest content of TSM. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of ''1'' for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(3) You must establish the maximum mercury fuel input level ($Mercury_{input}$) during the initial performance testing using the procedures in paragraphs (c)(3)(i) through (iii) of this section.

(i) You must determine the fuel type or fuel mixture that you could burn in your boiler or process heater that has the highest content of mercury.

(ii) During the compliance demonstration for mercury, you must determine the fraction of total heat input for each fuel burned (Q_i) based on the fuel mixture that has the highest content of mercury, and the average mercury concentration of each fuel type burned (HG_i).

(iii) You must establish a maximum mercury input level using Equation 7 of this section.

$$Mercury_{input} = \sum_{i=1}^{n}\left[(HG_i)(Q_i)\right] \qquad \text{(Eq. 7)}$$

Where:

$Mercury_{input}$ = Maximum amount of mercury entering the boiler or process heater through fuels burned in units of pounds per million Btu.

HG_i = Arithmetic average concentration of mercury in fuel type, i, analyzed according to § 63.7521, in units of pounds per million Btu.

Q_i = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types during the performance test, it is not necessary to determine the value of this term. Insert a value of ''1'' for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of mercury.

(4) You must establish parameter operating limits according to paragraphs (c)(4)(i) through (iv) of this section.

(i) For a wet scrubber, you must establish the minimum scrubber effluent pH, liquid flowrate, and pressure drop as defined in § 63.7575, as your operating limits during the three-run performance test. If you use a wet scrubber and you conduct separate performance tests for particulate matter, HCl, and mercury emissions, you must establish one set of minimum scrubber effluent pH, liquid flowrate, and pressure drop operating limits. The minimum scrubber effluent pH operating limit must be established during the HCl performance test. If you conduct multiple performance tests, you must set the minimum liquid flowrate and pressure drop operating limits at the highest minimum values established during the performance tests.

(ii) For an electrostatic precipitator, you must establish the minimum voltage and secondary current (or total power input), as defined in § 63.7575, as your operating limits during the three-run performance test.

(iii) For a dry scrubber, you must establish the minimum sorbent injection rate, as defined in § 63.7575, as your operating limit during the three-run performance test.

(iv) The operating limit for boilers or process heaters with fabric filters that choose to demonstrate continuous compliance through bag leak detection systems is that a bag leak detection system be installed according to the requirements in § 63.7525, and that each fabric filter must be operated such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period.

(d) If you elect to demonstrate compliance with an applicable emission limit through fuel analysis, you must conduct fuel analyses according to § 63.7521 and follow the procedures in paragraphs (d)(1) through (5) of this section.

(1) If you burn more than one fuel type, you must determine the fuel mixture you could burn in your boiler or process heater that would result in the maximum emission rates of the pollutants that you elect to demonstrate compliance through fuel analysis.

(2) You must determine the 90th percentile confidence level fuel pollutant concentration of the composite samples analyzed for each fuel type using the one-sided z-statistic test described in Equation 8 of this section.

$$P_{90} = \text{mean} + (SD \times t) \qquad \text{(Eq. 8)}$$

Where:

P_{90} = 90th percentile confidence level pollutant concentration, in pounds per million Btu.

mean = Arithmetic average of the fuel pollutant concentration in the fuel samples analyzed according to § 63.7521, in units of pounds per million Btu.

SD = Standard deviation of the pollutant concentration in the fuel samples analyzed according to § 63.7521, in units of pounds per million Btu.

t = t distribution critical value for 90th percentile (0.1) probability for the appropriate degrees of freedom (number of samples minus one) as obtained from a Distribution Critical Value Table.

(3) To demonstrate compliance with the applicable emission limit for HCl, the HCl emission rate that you calculate for your boiler or process heater using Equation 9 of this section must be less than the applicable emission limit for HCl.

$$HCl = \sum_{i=1}^{n}\left[\left(C_{i90}\right)\left(Q_i\right)\left(1.028\right)\right] \qquad \text{(Eq. 9)}$$

Where:

HCl = HCl emission rate from the boiler or process heater in units of pounds per million Btu.

C_{i90} = 90th percentile confidence level concentration of chlorine in fuel type, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

Q_i = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of chlorine. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of ''1'' for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of chlorine.

1.028 = Molecular weight ratio of HCl to chlorine.

(4) To demonstrate compliance with the applicable emission limit for TSM, the TSM emission rate that you calculate for your boiler or process heater using Equation 10 of this section must be less than the applicable emission limit for TSM.

$$TSM = \sum_{i=1}^{n}\left[\left(M_{i90}\right)\left(Q_i\right)\right] \qquad \text{(Eq. 10)}$$

Where:

TSM = TSM emission rate from the boiler or process heater in units of pounds per million Btu.

M_{i90} = 90th percentile confidence level concentration of TSM in fuel, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

Q_i = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest content of total selected metals. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of ''1'' for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest content of TSM.

(5) To demonstrate compliance with the applicable emission limit for mercury, the mercury emission rate that you calculate for your boiler or process heater using Equation 11 of this section must be less than the applicable emission limit for mercury.

$$Mercury = \sum_{i=1}^{n}\left[\left(HG_{i90}\right)\left(Q_i\right)\right] \qquad \text{(Eq. 11)}$$

Where:

Mercury = Mercury emission rate from the boiler or process heater in units of pounds per million Btu.

HG_{i90} = 90th percentile confidence level concentration of mercury in fuel, i, in units of pounds per million Btu as calculated according to Equation 8 of this section.

Q_i = Fraction of total heat input from fuel type, i, based on the fuel mixture that has the highest mercury content. If you do not burn multiple fuel types, it is not necessary to determine the value of this term. Insert a value of ''1'' for Q_i.

n = Number of different fuel types burned in your boiler or process heater for the mixture that has the highest mercury content.

(e) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.7545(e).

Continuous Compliance Requirements

§ 63.7535 How do I monitor and collect data to demonstrate continuous compliance?

(a) You must monitor and collect data according to this section and the site-specific monitoring plan required by § 63.7505(d).

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times that the affected source is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must use all the data collected during all other periods in assessing the operation of the control device and associated control system. Boilers and process heaters that have an applicable carbon monoxide work practice standard and are required to install and operate a CEMS, may not use data recorded during periods when the boiler or process heater is operating at less than 50 percent of its rated capacity.

§ 63.7540 How do I demonstrate continuous compliance with the emission limits and work practice standards?

(a) You must demonstrate continuous compliance with each emission limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that applies to you according to the methods specified in Table 8 to this subpart and paragraphs (a)(1) through (10) of this section.

(1) Following the date on which the initial performance test is completed or is required to be completed under §§ 63.7 and 63.7510, whichever date comes first, you must not operate above any of the applicable maximum operating limits or below any of the applicable minimum operating limits listed in Tables 2 through 4 to this subpart at all times except during periods of startup, shutdown and malfunction. Operating limits do not apply during performance tests. Operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits.

(2) You must keep records of the type and amount of all fuels burned in each boiler or process heater during the reporting period to demonstrate that all fuel types and mixtures of fuels burned would either result in lower emissions of TSM, HCl, and mercury, than the applicable emission limit for each pollutant (if you demonstrate compliance through fuel analysis), or result in lower fuel input of TSM, chlorine, and mercury than the maximum values calculated during the last performance tests (if you demonstrate compliance through performance testing).

(3) If you demonstrate compliance with an applicable HCl emission limit through fuel analysis and you plan to burn a new type of fuel, you must recalculate the HCl emission rate using Equation 9 of § 63.7530 according to paragraphs (a)(3)(i) through (iii) of this section.

(i) You must determine the chlorine concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to § 63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of chlorine.

(iii) Recalculate the HCl emission rate from your boiler or process heater under these new conditions using Equation 9 of § 63.7530. The recalculated HCl emission rate must be less than the applicable emission limit.

(4) If you demonstrate compliance with an applicable HCl emission limit through performance testing and you plan to burn a new type of fuel type or a new mixture of fuels, you must recalculate the maximum chlorine input using Equation 5 of § 63.7530. If the results of recalculating the maximum chlorine input using Equation 5 of § 63.7530 are higher than the maximum chlorine input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.7520 to demonstrate that the HCl emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(c).

(5) If you demonstrate compliance with an applicable TSM emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the TSM emission rate using Equation 10 of § 63.7530 according to the procedures specified in paragraphs (a)(5)(i) through (iii) of this section.

(i) You must determine the TSM concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to § 63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of TSM.

(iii) Recalculate the TSM emission rate from your boiler or process heater under these new conditions using Equation 10 of § 63.7530. The recalculated TSM emission rate must be less than the applicable emission limit.

(6) If you demonstrate compliance with an applicable TSM emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum TSM input using Equation 6 of § 63.7530. If the results of recalculating the maximum total selected metals input using Equation 6 of § 63.7530 are higher than the maximum TSM input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.7520 to demonstrate that the TSM emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(c).

(7) If you demonstrate compliance with an applicable mercury emission limit through fuel analysis, and you plan to burn a new type of fuel, you must recalculate the mercury emission rate using Equation 11 of § 63.7530 according to the procedures specified in paragraphs (a)(7)(i) through (iii) of this section.

(i) You must determine the mercury concentration for any new fuel type in units of pounds per million Btu, based on supplier data or your own fuel analysis, according to the provisions in your site-specific fuel analysis plan developed according to § 63.7521(b).

(ii) You must determine the new mixture of fuels that will have the highest content of mercury.

(iii) Recalculate the mercury emission rate from your boiler or process heater under these new conditions using Equation 11 of § 63.7530. The recalculated mercury emission rate must be less than the applicable emission limit.

(8) If you demonstrate compliance with an applicable mercury emission limit through performance testing, and you plan to burn a new type of fuel or a new mixture of fuels, you must recalculate the maximum mercury input using Equation 7 of § 63.7530. If the results of recalculating the maximum mercury input using Equation 7 of § 63.7530 are higher than the maximum mercury input level established during the previous performance test, then you must conduct a new performance test within 60 days of burning the new fuel type or fuel mixture according to the procedures in § 63.7520 to demonstrate that the mercury emissions do not exceed the emission limit. You must also establish new operating limits based on this performance test according to the procedures in § 63.7530(c).

(9) If your unit is controlled with a fabric filter, and you demonstrate continuous compliance using a bag leak detection system, you must initiate corrective action within 1 hour of a bag leak detection system alarm and complete corrective actions according to your SSMP, and operate and maintain the fabric filter system such that the alarm does not sound more than 5 percent of the operating time during a 6-month period. You must also keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of the operating time during each 6-month period that the alarm sounds. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken to initiate corrective action.

(10) If you have an applicable work practice standard for carbon monoxide, and you are required to install a CEMS according to § 63.7525(a), then you must meet the requirements in paragraphs (a)(10)(i) through (iii) of this section.

(i) You must continuously monitor carbon monoxide according to §§ 63.7525(a) and 63.7535.

(ii) Maintain a carbon monoxide emission level below your applicable carbon monoxide work practice standard in Table 1 to this subpart at all times except during periods of startup, shutdown, malfunction, and when your boiler or process heater is operating at less than 50 percent of rated capacity.

(iii) Keep records of carbon monoxide levels according to § 63.7555(b).

(b) You must report each instance in which you did not meet each emission limit, operating limit, and work practice standard in Tables 1 through 4 to this subpart that apply to you. You must also report each instance during a startup, shutdown, or malfunction when you did not meet each applicable emission limit, operating limit, and work practice standard. These instances are deviations from the emission limits and work practice standards in this subpart. These deviations must be reported according to the requirements in § 63.7550.

(c) During periods of startup, shutdown, and malfunction, you must operate in accordance with the SSMP as required in § 63.7505(e).

(d) Consistent with §§ 63.6(e)and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the EPA Administrator's satisfaction that you were operating in accordance with your SSMP. The EPA Administrator will determine whether

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deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in § 63.6(e).

§ 63.7541 How do I demonstrate continuous compliance under the emission averaging provision?

(a) Following the compliance date, the owner or operator must demonstrate compliance with this subpart on a continuous basis by meeting the requirements of paragraphs (a)(1) through (4) of this section.

(1) For each calendar month, demonstrate compliance with the average weighted emissions limit for the existing large solid fuel boilers participating in the emissions averaging option as determined in § 63.7522(f) and (g);

(2) For each existing solid fuel boiler participating in the emissions averaging option that is equipped with a dry control system, maintain opacity at or below the applicable limit;

(3) For each existing solid fuel boiler participating in the emissions averaging option that is equipped with a wet scrubber, maintain the 3-hour average parameter values at or below the operating limits established during the most recent performance test; and

(4) For each existing solid fuel boiler participating in the emissions averaging option that has an approved alternative operating plan, maintain the 3-hour average parameter values at or below the operating limits established in the most recent performance test.

(b) Any instance where the owner or operator fails to comply with the continuous monitoring requirements in paragraphs (a)(1) through (4) of this section, except during periods of startup, shutdown, and malfunction, is a deviation.

Notification, Reports, and Records

§ 63.7545 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) that apply to you by the dates specified.

(b) As specified in § 63.9(b)(2), if you startup your affected source before November 12, 2004, you must submit an Initial Notification not later than 120 days after November 12, 2004. The Initial Notification must include the information required in paragraphs (b)(1) and (2) of this section, as applicable.

(1) If your affected source has an annual capacity factor of greater than 10 percent, your Initial Notification must include the information required by § 63.9(b)(2).

(2) If your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories (the limited use solid fuel subcategory, the limited use liquid fuel subcategory, or the limited use gaseous fuel subcategory), your Initial Notification must include the information required by § 63.9(b)(2) and also a signed statement indicating your affected source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent.

(c) As specified in § 63.9(b)(4) and (b)(5), if you startup your new or reconstructed affected source on or after November 12, 2004, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.

(d) If you are required to conduct a performance test you must submit a Notification of Intent to conduct a performance test at least 30 days before the performance test is scheduled to begin.

(e) If you are required to conduct an initial compliance demonstration as specified in § 63.7530(a), you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii). For each initial compliance demonstration, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of the performance test and/or other initial compliance demonstrations according to § 63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (9), as applicable.

(1) A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.

(2) Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.

(3) Identification of whether you are complying with the particulate matter emission limit or the alternative total selected metals emission limit.

(4) Identification of whether you plan to demonstrate compliance with each applicable emission limit through performance testing or fuel analysis.

(5) Identification of whether you plan to demonstrate compliance by emissions averaging.

(6) A signed certification that you have met all applicable emission limits and work practice standards.

(7) A summary of the carbon monoxide emissions monitoring data and the maximum carbon monoxide emission levels recorded during the performance test to show that you have met any applicable work practice standard in Table 1 to this subpart.

(8) If your new or reconstructed boiler or process heater is in one of the liquid fuel subcategories and burns only liquid fossil fuels other than residual oil either alone or in combination with gaseous fuels, you must submit a signed statement certifying this in your Notification of Compliance Status report.

(9) If you had a deviation from any emission limit or work practice standard, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report.

§ 63.7550 What reports must I submit and when?

(a) You must submit each report in Table 9 to this subpart that applies to you.

(b) Unless the EPA Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days after the compliance date that is specified for your source in § 63.7495.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in § 63.7495.

(3) Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must be postmarked or delivered

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no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The compliance report must contain the information required in paragraphs (c)(1) through (11) of this section.

(1) Company name and address.

(2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) The total fuel use by each affected source subject to an emission limit, for each calendar month within the semiannual reporting period, including, but not limited to, a description of the fuel and the total fuel usage amount with units of measure.

(5) A summary of the results of the annual performance tests and documentation of any operating limits that were reestablished during this test, if applicable.

(6) A signed statement indicating that you burned no new types of fuel. Or, if you did burn a new type of fuel, you must submit the calculation of chlorine input, using Equation 5 of § 63.7530, that demonstrates that your source is still within its maximum chlorine input level established during the previous performance testing (for sources that demonstrate compliance through performance testing) or you must submit the calculation of HCl emission rate using Equation 9 of § 63.7530 that demonstrates that your source is still meeting the emission limit for HCl emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel, you must submit the calculation of TSM input, using Equation 6 of § 63.7530, that demonstrates that your source is still within its maximum TSM input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of TSM emission rate using Equation 10 of § 63.7530 that demonstrates that your source is still meeting the emission limit for TSM emissions (for boilers or process heaters that demonstrate compliance through fuel analysis). If you burned a new type of fuel, you must submit the calculation of mercury input, using Equation 7 of § 63.7530, that demonstrates that your source is still within its maximum mercury input level established during the previous performance testing (for sources that demonstrate compliance through performance testing), or you must submit the calculation of mercury emission rate using Equation 11 of § 63.7530 that demonstrates that your source is still meeting the emission limit for mercury emissions (for boilers or process heaters that demonstrate compliance through fuel analysis).

(7) If you wish to burn a new type of fuel and you can not demonstrate compliance with the maximum chlorine input operating limit using Equation 5 of § 63.7530, the maximum TSM input operating limit using Equation 6 of § 63.7530, or the maximum mercury input operating limit using Equation 7 of § 63.7530, you must include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel.

(8) The hours of operation for each boiler and process heater that is subject to an emission limit for each calendar month within the semiannual reporting period. This requirement applies only to limited use boilers and process heaters.

(9) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your SSMP, the compliance report must include the information in § 63.10(d)(5)(i).

(10) If there are no deviations from any emission limits or operating limits in this subpart that apply to you, and there are no deviations from the requirements for work practice standards in this subpart, a statement that there were no deviations from the emission limits, operating limits, or work practice standards during the reporting period.

(11) If there were no periods during which the CMSs, including CEMS, COMS, and CPMS, were out of control as specified in § 63.8(c)(7), a statement that there were no periods during which the CMSs were out of control during the reporting period.

(d) For each deviation from an emission limit or operating limit in this subpart and for each deviation from the requirements for work practice standards in this subpart that occurs at an affected source where you are not using a CMSs to comply with that emission limit, operating limit, or work practice standard, the compliance report must contain the information in paragraphs (c)(1) through (10) of this section and the information required in paragraphs (d)(1) through (4) of this section. This includes periods of startup, shutdown, and malfunction.

(1) The total operating time of each affected source during the reporting period.

(2) A description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated.

(3) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

(4) A copy of the test report if the annual performance test showed a deviation from the emission limit for particulate matter or the alternative TSM limit, a deviation from the HCl emission limit, or a deviation from the mercury emission limit.

(e) For each deviation from an emission limitation and operating limit or work practice standard in this subpart occurring at an affected source where you are using a CMS to comply with that emission limit, operating limit, or work practice standard, you must include the information in paragraphs (c) (1) through (10) of this section and the information required in paragraphs (e) (1) through (12) of this section. This includes periods of startup, shutdown, and malfunction and any deviations from your site-specific monitoring plan as required in § 63.7505(d).

(1) The date and time that each malfunction started and stopped and description of the nature of the deviation (*i.e.*, what you deviated from).

(2) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out of control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems,

process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMSs downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during that reporting period.

(8) An identification of each parameter that was monitored at the affected source for which there was a deviation, including opacity, carbon monoxide, and operating parameters for wet scrubbers and other control devices.

(9) A brief description of the source for which there was a deviation.

(10) A brief description of each CMS for which there was a deviation.

(11) The date of the latest CMS certification or audit for the system for which there was a deviation.

(12) A description of any changes in CMSs, processes, or controls since the last reporting period for the source for which there was a deviation.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a compliance report pursuant to Table 9 to this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all required information concerning deviations from any emission limit, operating limit, or work practice requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you operate a new gaseous fuel unit that is subject to the work practice standard specified in Table 1 to this subpart, and you intend to use a fuel other than natural gas or equivalent to fire the affected unit, you must submit a notification of alternative fuel use within 48 hours of the declaration of a period of natural gas curtailment or supply interruption, as defined in § 63.7575. The notification must include the information specified in paragraphs (g)(1) through (5) of this section.

(1) Company name and address.

(2) Identification of the affected unit.

(3) Reason you are unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began.

(4) Type of alternative fuel that you intend to use.

(5) Dates when the alternative fuel use is expected to begin and end.

§ 63.7555 What records must I keep?

(a) You must keep records according to paragraphs (a)(1) through (3) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in § 63.10(b)(2)(xiv).

(2) The records in § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests, fuel analyses, or other compliance demonstrations, performance evaluations, and opacity observations as required in § 63.10(b)(2)(viii).

(b) For each CEMS, CPMS, and COMS, you must keep records according to paragraphs (b)(1) through (5) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Monitoring data for continuous opacity monitoring system during a performance evaluation as required in § 63.6(h)(7)(i) and (ii).

(3) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(4) Request for alternatives to relative accuracy test for CEMS as required in § 63.8(f)(6)(i).

(5) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records required in Table 8 to this subpart including records of all monitoring data and calculated averages for applicable operating limits such as opacity, pressure drop, carbon monoxide, and pH to show continuous compliance with each emission limit, operating limit, and work practice standard that applies to you.

(d) For each boiler or process heater subject to an emission limit, you must also keep the records in paragraphs (d)(1) through (5) of this section.

(1) You must keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used.

(2) You must keep records of monthly hours of operation by each boiler or process heater. This requirement applies only to limited-use boilers and process heaters.

(3) A copy of all calculations and supporting documentation of maximum chlorine fuel input, using Equation 5 of § 63.7530, that were done to demonstrate continuous compliance with the HCl emission limit, for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of HCl emission rates, using Equation 9 of § 63.7530, that were done to demonstrate compliance with the HCl emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum chlorine fuel input or HCl emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler and process heater.

(4) A copy of all calculations and supporting documentation of maximum TSM fuel input, using Equation 6 of § 63.7530, that were done to demonstrate continuous compliance with the TSM emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of TSM emission rates, using Equation 10 of § 63.7530, that were done to demonstrate compliance with the TSM emission limit. Supporting documentation should include results of any fuel analyses and basis for the estimates of maximum TSM fuel input or TSM emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate TSM fuel input, or TSM emission rates, for each boiler and process heater.

(5) A copy of all calculations and supporting documentation of maximum mercury fuel input, using Equation 7 of § 63.7530, that were done to demonstrate continuous compliance with the mercury emission limit for sources that demonstrate compliance through performance testing. For sources that demonstrate compliance through fuel analysis, a copy of all calculations and supporting documentation of mercury emission rates, using Equation 11 of § 63.7530, that were done to demonstrate compliance with the mercury emission limit. Supporting documentation should

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include results of any fuel analyses and basis for the estimates of maximum mercury fuel input or mercury emission rates. You can use the results from one fuel analysis for multiple boilers and process heaters provided they are all burning the same fuel type. However, you must calculate mercury fuel input, or mercury emission rates, for each boiler and process heater.

(e) If your boiler or process heater is subject to an emission limit or work practice standard in Table 1 to this subpart and has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent such that the unit is in one of the limited use subcategories, you must keep the records in paragraphs (e)(1) and (2) of this section.

(1) A copy of the federally enforceable permit that limits the annual capacity factor of the source to less than or equal to 10 percent.

(2) Fuel use records for the days the boiler or process heater was operating.

§ 63.7560 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You can keep the records off site for the remaining 3 years.

Other Requirements and Information

§ 63.7565 What parts of the General Provisions apply to me?

Table 10 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you.

§ 63.7570 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities listed in paragraphs (b)(1) through (5) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency, however, the U.S. EPA retains oversight of this subpart and can take enforcement actions, as appropriate.

(1) Approval of alternatives to the non-opacity emission limits and work practice standards in § 63.7500(a) and (b) under § 63.6(g).

(2) Approval of alternative opacity emission limits in § 63.7500(a) under § 63.6(h)(9).

(3) Approval of major change to test methods in Table 5 to this subpart under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(4) Approval of major change to monitoring under § 63.8(f) and as defined in § 63.90.

(5) Approval of major change to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

§ 63.7575 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in § 63.2 (the General Provisions), and in this section as follows:

Annual capacity factor means the ratio between the actual heat input to a boiler or process heater from the fuels burned during a calendar year, and the potential heat input to the boiler or process heater had it been operated for 8,760 hours during a year at the maximum steady state design heat input capacity.

Bag leak detection system means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (*i.e.*, baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on electrodynamic, triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.

Biomass fuel means unadulterated wood as defined in this subpart, wood residue, and wood products (*e.g.*, trees, tree stumps, tree limbs, bark, lumber, sawdust, sanderdust, chips, scraps, slabs, millings, and shavings); animal litter; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (*e.g.*, almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds.

Blast furnace gas fuel-fired boiler or process heater means an industrial/commercial/institutional boiler or process heater that receives 90 percent or more of its total heat input (based on an annual average) from blast furnace gas.

Boiler means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water. Waste heat boilers are excluded from this definition.

Coal means all solid fuels classifiable as anthracite, bituminous, sub-bituminous, or lignite by the American Society for Testing and Materials in ASTM D388–991 $^{\epsilon 1}$, ''Standard Specification for Classification of Coals by Rank ^{1}'' (incorporated by reference, see § 63.14(b)), coal refuse, and petroleum coke. Synthetic fuels derived from coal for the purpose of creating useful heat including but not limited to, solvent-refined coal, coal-oil mixtures, and coal-water mixtures, for the purposes of this subpart. Coal derived gases are excluded from this definition.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (6,000 Btu per pound) on a dry basis.

Commercial/institutional boiler means a boiler used in commercial establishments or institutional establishments such as medical centers, research centers, institutions of higher education, hotels, and laundries to provide electricity, steam, and/or hot water.

Construction/demolition material means waste building material that result from the construction or demolition operations on houses and commercial and industrial buildings.

Deviation. (1) Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(i) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emission limit, operating limit, or work practice standard;

(ii) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(iii) Fails to meet any emission limit, operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless or whether or not such failure is permitted by this subpart.

(2) A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the

standard is up to the discretion of the entity responsible for enforcement of the standards.

Distillate oil means fuel oils, including recycled oils, that comply with the specifications for fuel oil numbers 1 and 2, as defined by the American Society for Testing and Materials in ASTM D396–02a, ''Standard Specifications for Fuel Oils [1]'' (incorporated by reference, see § 63.14(b)).

Dry scrubber means an add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gas in the exhaust stream forming a dry powder material. Sorbent injection systems in fluidized bed boilers and process heaters are included in this definition.

Electric utility steam generating unit means a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A fossil fuel-fired unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale is considered an electric utility steam generating unit.

Electrostatic precipitator means an add-on air pollution control device used to capture particulate matter by charging the particles using an electrostatic field, collecting the particles using a grounded collecting surface, and transporting the particles into a hopper.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

Federally enforceable means all limitations and conditions that are enforceable by the EPA Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 40 CFR 51.24.

Firetube boiler means a boiler in which hot gases of combustion pass through the tubes and water contacts the outside surfaces of the tubes.

Fossil fuel means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials.

Fuel type means each category of fuels that share a common name or classification. Examples include, but are not limited to, bituminous coal, subbituminous coal, lignite, anthracite, biomass, construction/demolition material, salt water laden wood, creosote treated wood, tires, residual oil. Individual fuel types received from different suppliers are not considered new fuel types except for construction/demolition material.

Gaseous fuel includes, but is not limited to, natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. Blast furnace gas is exempted from this definition.

Heat input means heat derived from combustion of fuel in a boiler or process heater and does not include the heat input from preheated combustion air, recirculated flue gases, or exhaust gases from other sources such as gas turbines, internal combustion engines, kilns, etc.

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous or liquid fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which the heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210°F (99°C).

Industrial boiler means a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity.

Large gaseous fuel subcategory includes any watertube boiler or process heater that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

Large liquid fuel subcategory includes any watertube boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent. Large gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

Large solid fuel subcategory includes any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has an annual capacity factor of greater than 10 percent.

Limited use gaseous fuel subcategory includes any watertube boiler or process heater that burns gaseous fuels not combined with any liquid or solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

Limited use liquid fuel subcategory includes any watertube boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent. Limited use gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

Limited use solid fuel subcategory includes any watertube boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, has a rated capacity of greater than 10 MMBtu per hour heat input, and has a federally enforceable annual average capacity factor of equal to or less than 10 percent.

Liquid fossil fuel means petroleum, distillate oil, residual oil and any form of liquid fuel derived from such material.

Liquid fuel includes, but is not limited to, distillate oil, residual oil, waste oil, and process liquids.

Minimum pressure drop means 90 percent of the lowest test-run average pressure drop measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum scrubber effluent pH means 90 percent of the lowest test-run average effluent pH measured at the outlet of the wet scrubber according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable hydrogen chloride emission limit.

Minimum scrubber flow rate means 90 percent of the lowest test-run average flow rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limit.

Minimum sorbent flow rate means 90 percent of the lowest test-run average sorbent (or activated carbon) flow rate measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

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Minimum voltage or amperage means 90 percent of the lowest test-run average voltage or amperage to the electrostatic precipitator measured according to Table 7 to this subpart during the most recent performance test demonstrating compliance with the applicable emission limits.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquid petroleum gas, as defined by the American Society for Testing and Materials in ASTM D1835–03a, ''Standard Specification for Liquid Petroleum Gases'' (incorporated by reference, see § 63.14(b)).

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.

Particulate matter means any finely divided solid or liquid material, other than uncombined water, as measured by the test methods specified under this subpart, or an alternative method.

Period of natural gas curtailment or supply interruption means a period of time during which the supply of natural gas to an affected facility is halted for reasons beyond the control of the facility. An increase in the cost or unit price of natural gas does not constitute a period of natural gas curtailment or supply interruption.

Process heater means an enclosed device using controlled flame, that is not a boiler, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas, or solid) or to a heat transfer material for use in a process unit, instead of generating steam. Process heaters are devices in which the combustion gases do not directly come into contact with process materials. Process heaters do not include units used for comfort heat or space heat, food preparation for on-site consumption, or autoclaves.

Residual oil means crude oil, and all fuel oil numbers 4, 5 and 6, as defined by the American Society for Testing and Materials in ASTM D396–02a, ''Standard Specifications for Fuel Oils [1]'' (incorporated by reference, see § 63.14(b)).

Responsible official means responsible official as defined in 40 CFR 70.2.

Small gaseous fuel subcategory includes any firetube boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment or gas supply emergencies, and any boiler or process heater that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment or gas supply emergencies, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

Small liquid fuel subcategory includes any firetube boiler that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, and any boiler or process heater that does not burn any solid fuel and burns any liquid fuel either alone or in combination with gaseous fuels, and has a rated capacity of less than or equal to 10 MMBtu per hour heat input. Small gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply emergencies are not included in this definition.

Small solid fuel subcategory includes any firetube boiler that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels, and any other boiler or process heater that burns any amount of solid fuel either alone or in combination with liquid or gaseous fuels and has a rated capacity of less than or equal to 10 MMBtu per hour heat input.

Solid fuel includes, but is not limited to, coal, wood, biomass, tires, plastics, and other nonfossil solid materials.

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another. A temporary boiler that remains at a location for more than 180 consecutive days is no longer considered to be a temporary boiler. Any temporary boiler that replaces a temporary boiler at a location and is intended to perform the same or similar function will be included in calculating the consecutive time period.

Total selected metals means the combination of the following metallic HAP: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel and selenium.

Unadulterated wood means wood or wood products that have not been painted, pigment-stained, or pressure treated with compounds such as chromate copper arsenate, pentachlorophenol, and creosote. Plywood, particle board, oriented strand board, and other types of wood products bound by glues and resins are included in this definition.

Waste heat boiler means a device that recovers normally unused energy and converts it to usable heat. Waste heat boilers incorporating duct or supplemental burners that are designed to supply 50 percent or more of the total rated heat input capacity of the waste heat boiler are not considered waste heat boilers, but are considered boilers. Waste heat boilers are also referred to as heat recovery steam generators.

Watertube boiler means a boiler in which water passes through the tubes and hot gases of combustion pass over the outside surfaces of the tubes.

Wet scrubber means any add-on air pollution control device that mixes an aqueous stream or slurry with the exhaust gases from a boiler or process heater to control emissions of particulate matter and/or to absorb and neutralize acid gases, such as hydrogen chloride.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

Tables to Subpart DDDDD of Part 63

TABLE 1 TO SUBPART DDDDD OF PART 63.—EMISSION LIMITS AND WORK PRACTICE STANDARDS

As stated in § 63.7500, you must comply with the following applicable emission limits and work practice standards:

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	You must meet the following emission limits and work practice standards . . .
1. New or reconstructed large solid fuel	a. Particulate Matter (or Total Selected Metals).	0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input).
	b. Hydrogen Chloride	0.02 lb per MMBtu of heat input.
	c. Mercury	0.000003 lb per MMBtu of heat input.
	d. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 7 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr).

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TABLE 1 TO SUBPART DDDDD OF PART 63.—EMISSION LIMITS AND WORK PRACTICE STANDARDS—Continued

As stated in § 63.7500, you must comply with the following applicable emission limits and work practice standards:

If your boiler or process heater is in this subcategory . . .	For the following pollutants . . .	You must meet the following emission limits and work practice standards . . .
2. New or reconstructed limited use solid fuel ...	a. Particulate Matter (or Total Selected Metals).	0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input).
	b. Hydrogen Chloride	0.02 lb per MMBtu of heat input.
	c. Mercury	0.000003 lb per MMBtu of heat input.
	d. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 7 percent oxygen (3-run average).
3. New or reconstructed small solid fuel	a. Particulate Matter (or Total Selected Metals).	0.025 lb per MMBtu of heat input; or (0.0003 lb per MMBtu of heat input).
	b. Hydrogen Chloride	0.02 lb per MMBtu of heat input.
	c. Mercury	0.000003 lb per MMBtu of heat input.
4. New reconstructed large liquid fuel	a. Particulate Matter	0.03 lb per MMBtu of heat input.
	b. Hydrogen Chloride	0.0005 lb per MMBtu of heat input.
	c. Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr).
5. New or reconstructed limited use liquid fuel ..	a. Particulate Matter	0.03 lb per MMBtu of heat input.
	b. Hydrogen Chloride	0.0009 lb per MMBtu of heat input.
	c. Carbon Monoxide	400 ppm by volume on a dry basis liquid corrected to 3 percent oxygen (3-run average).
6. New or reconstructed small liquid fuel	a. Particulate Matter	0.03 lb per MMBtu of heat input.
	b. Hydrogen Chloride	0.0009 lb per MMBtu of heat input.
7. New reconstructed large gaseous fuel	Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen (30-day rolling average for units 100 MMBtu/hr or greater, 3-run average for units less than 100 MMBtu/hr).
8. New or reconstructed limited use gaseous fuel.	Carbon Monoxide	400 ppm by volume on a dry basis corrected to 3 percent oxygen (3-run average).
9. Existing large solid fuel	a. Particulate Matter (or Total Selected Metals).	0.07 lb per MMBtu of heat input; or (0.001 lb per MMBtu of heat input).
	b. Hydrogen Chloride	0.09 lb per MMBtu of heat input.
	c. Mercury	0.000009 lb per MMBtu of heat input.
10. Existing limited use solid fuel	Particulate Matter (or Total Selected Metals) ..	0.21 lb per MMBtu of heat input; or (0.004 lb per MMBtu of heat input).

TABLE 2 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH PARTICULATE MATTER EMISSION LIMITS

As stated in § 63.7500, you must comply with the applicable operating limits:

If you demonstrate compliance with applicable particulate matter emission limits using . . .	You must meet these operating limits . . .
1. Wet scrubber control	a. Maintain the minimum pressure drop and liquid flow-rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for particulate matter.
2. Fabric filter control	a. Install and operate a bag leak detection system according to § 63.7525 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during each 6-month period; or
	b. This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).
3. Electrostatic precipitator control	a. This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average); or

TABLE 2 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH PARTICULATE MATTER EMISSION LIMITS—Continued

As stated in § 63.7500, you must comply with the applicable operating limits:

If you demonstrate compliance with applicable particulate matter emission limits using . . .	You must meet these operating limits . . .
	b. This option is only for boilers and process heaters that operate additional wet control systems. Maintain the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating limits established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for particulate matter.
4. Any other control type	This option is for boilers and process heaters that operate dry control systems. Existing boilers and process heaters must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New boilers and process heaters must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).

TABLE 3 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH MERCURY EMISSION LIMITS AND BOILERS AND PROCESS HEATERS THAT CHOOSE TO COMPLY WITH THE ALTERNATIVE TOTAL SELECTED METALS EMISSION LIMITS

As stated in § 63.7500, you must comply with the applicable operating limits:

If you demonstrate compliance with applicable mercury and/or total selected metals emission limits using . . .	You must meet these operating limits . . .
1. Wet scrubber control	Maintain the minimum pressure drop and liquid flow-rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limits for mercury and/or total selected metals.
2. Fabric filter control	a. Install and operate a bag leak detection system according to § 63.7525 and operate the fabric filter such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period; or
	b. This option is for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).
3. Electrostatic precipitator control	a. This option is for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average); or
	b. This option is only for boilers and process heaters that operate additional wet control systems. Maintain the minimum voltage and secondary current or total power input of the electrostatic precipitator at or above the operating limits established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limits for mercury and/or total selected metals.
4. Dry scrubber or carbon injection control	Maintain the minimum sorbent or carbon injection rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for mercury.
5. Any other control type	This option is only for boilers and process heaters that operate dry control systems. Existing sources must maintain opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent. New sources must maintain opacity to less than or equal to 10 percent opacity (1-hour block average).
6. Fuel analysis	Maintain the fuel type or fuel mixture such that the mercury and/or total selected metals emission rates calculated according to § 63.7530(d)(4) and/or (5) is less than the applicable emission limits for mercury and/or total selected metals.

TABLE 4 TO SUBPART DDDDD OF PART 63.—OPERATING LIMITS FOR BOILERS AND PROCESS HEATERS WITH HYDROGEN CHLORIDE EMISSION LIMITS

As stated in § 63.7500, you must comply with the following applicable operating limits:

If you demonstrate compliance with applicable hydrogen chloride emission limits using . . .	You must meet these operating limits . . .
1. Wet scrubber control	Maintain the minimum scrubber effluent pH, pressure drop, and liquid flow-rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for hydrogen chloride.
2. Dry scrubber control	Maintain the minimum sorbent injection rate at or above the operating levels established during the performance test according to § 63.7530(c) and Table 7 to this subpart that demonstrated compliance with the applicable emission limit for hydrogen chloride.
3. Fuel analysis	Maintain the fuel type or fuel mixture such that the hydrogen chloride emission rate calculated according to § 63.7530(d)(3) is less than the applicable emission limit for hydrogen chloride.

TABLE 5 TO SUBPART DDDDD OF PART 63.—PERFORMANCE TESTING REQUIREMENTS

As stated in § 63.7520, you must comply with the following requirements for performance test for existing, new or reconstructed affected sources:

To conduct a performance test for the following pollutant . . .	You must . . .	Using . . .
1. Particulate Matter	a. Select sampling ports location and the number of traverse points.	Method 1 in appendix A to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in appendix A to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)).
	d. Measure the moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.
	e. Measure the particulate matter emission concentration.	Method 5 or 17 (positive pressure fabric filters must use Method 5D) in appendix A to part 60 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology in appendix A to part 60 of this chapter.
2. Total selected metals	a. Select sampling ports location and the number of traverse points.	Method 1 in appendix A to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in appendix A to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)).
	d. Measure the moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.
	e. Measure the total selected metals emission concentration.	Method 29 in appendix A to part 60 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology in appendix A to part 60 of this chapter.
3. Hydrogen chloride	a. Select sampling ports location and the number of traverse points.	Method 1 in appendix A to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in appendix A to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)).
	d. Measure the moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.
	e. Measure the hydrogen chloride emission concentration.	Method 26 or 26A in appendix A to part 60 of this chapter.
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology in appendix A to part 60 of this chapter.
4. Mercury	a. Select sampling ports location and the number of traverse points.	Method 1 in appendix A to part 60 of this chapter.
	b. Determine velocity and volumetric flow-rate of the stack gas.	Method 2, 2F, or 2G in appendix A to part 60 of this chapter.
	c. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter, or ASME PTC 19, Part 10 (1981) (IBR, see § 62.14(i)).

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TABLE 5 TO SUBPART DDDDD OF PART 63.—PERFORMANCE TESTING REQUIREMENTS—Continued

As stated in § 63.7520, you must comply with the following requirements for performance test for existing, new or reconstructed affected sources:

To conduct a performance test for the following pollutant . . .	You must . . .	Using . . .
	d. Measure the moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.
	e. Measure the mercury emission concentration.	Method 29 in appendix A to part 60 of this chapter or Method 101A in appendix B to part 61 of this chapter or ASTM Method D6784–02 (IBR, see § 63.14(b)).
	f. Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology in appendix A to part 60 of this chapter.
5. Carbon Monoxide	a. Select the sampling ports location and the number of traverse points.	Method 1 in appendix A to part 60 of this chapter.
	b. Determine oxygen and carbon dioxide concentrations of the stack gas.	Method 3A or 3B in appendix A to part 60 of this chapter, or ASTM D6522–00 (IBR, see § 63.14(b)), or ASME PTC 19, Part 10 (1981) (IBR, see § 63.14(i)).
	c. Measure the moisture content of the stack gas.	Method 4 in appendix A to part 60 of this chapter.
	d. Measure the carbon monoxide emission concentration.	Method 10, 10A, or 10B in appendix A to part 60 of this chapter, or ASTM D6522–00 (IBR, see § 63.14(b)) when the fuel is natural gas.

TABLE 6 TO SUBPART DDDDD OF PART 63.—FUEL ANALYSIS REQUIREMENTS

As stated in § 63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources:

To conduct a fuel analysis for the following pollutant . . .	You must . . .	Using . . .
1. Mercury	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D2234–00 ∈1 (for coal)(IBR, see § 63.14(b)) or ASTM D6323–98 (2003)(for biomass)(IBR, see § 63.14(b)) or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples	SW–846–3050B (for solid samples) or SW–846–3020A (for liquid samples) or ASTM D2013–01 (for coal) (IBR, see § 63.14(b)) or ASTM D5198–92 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865–03a (for coal)(IBR, see § 63.14(b)) or ASTM E711–87 (1996) (for biomass)(IBR, see § 63.14(b)) or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173–02 (IBR, see § 63.14(b)) or ASTM E871–82 (1998)(IBR, see § 63.14(b)) or equivalent.
	f. Measure mercury concentration in fuel sample.	ASTM D3684–01 (for coal)(IBR, see § 63.14(b)) or SW–846–7471A (for solid samples) or SW–846 7470A (for liquid samples).
	g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content.	
2. Total selected metals	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D2234–00 ∈1 (for coal)(IBR, see § 63.14(b)) or ASTM D6323–98 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples	SW–846–3050B (for solid samples) or SW–846–3020A (for liquid samples) or ASTM D2013–01 (for coal)(IBR, see § 63.14(b)) or ASTM D5198–92 (2003)(for biomass)(IBR, see § 63.14(b)) or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865–03a (for coal)(IBR, see § 63.14(b)) or ASTM E 711–87 (for biomass)(IBR, see § 63.14(b)) or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173–02 (IBR, see § 63.14(b)) or ASTM E871 (IBR, see § 63.14(b)) or equivalent.

TABLE 6 TO SUBPART DDDDD OF PART 63.—FUEL ANALYSIS REQUIREMENTS—Continued

As stated in § 63.7521, you must comply with the following requirements for fuel analysis testing for existing, new or reconstructed affected sources:

To conduct a fuel analysis for the following pollutant . . .	You must . . .	Using . . .
	f. Measure total selected metals concentration in fuel sample.	SW–846–6010B or ASTM D3683–94 (2000) (for coal) (IBR, see § 63.14(b)) or ASTM E885–88 (1996) (for biomass)(IBR, see § 63.14(b)).
	g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content.	
3. Hydrogen chloride	a. Collect fuel samples	Procedure in § 63.7521(c) or ASTM D2234∈1 (for coal)(IBR, see § 63.14(b)) or ASTM D6323–98 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent.
	b. Composite fuel samples	Procedure in § 63.7521(d) or equivalent.
	c. Prepare composited fuel samples	SW–846–3050B (for solid samples) or SW–846–3020A (for liquid samples) or ASTM D2013–01 (for coal)(IBR, see § 63.14(b)) or ASTM D5198–92 (2003) (for biomass)(IBR, see § 63.14(b)) or equivalent.
	d. Determine heat content of the fuel type	ASTM D5865–03a (for coal)(IBR, see § 63.14(b)) or ASTM E711–87 (1996) (for biomass)(IBR, see § 63.14(b)) or equivalent.
	e. Determine moisture content of the fuel type	ASTM D3173–02 (IBR, see § 63.14(b)) or ASTM E871–82 (1998)(IBR, see § 63.14(b)) or equivalent.
	f. Measure chlorine concentration in fuel sample.	SW–846–9250 or ASTM E776–87 (1996) (for biomass)(IBR, see § 63.14(b)) or equivalent.
	g. Convert concentrations into units of pounds of pollutant per MMBtu of heat content.	

TABLE 7 TO SUBPART DDDDD OF PART 63.—ESTABLISHING OPERATING LIMITS

As stated in § 63.7520, you must comply with the following requirements for establishing operating limits:

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
1. Particulate matter, mercury, or total selected metals.	a. Wet scrubber operating parameters.	i. Establish a site-specific minimum pressure drop and minimum flow rate operating limit according to § 63.7530(c).	(1) Data from the pressure drop and liquid flow rate monitors and the particulate matter, mercury, or total selected metals performance test.	(a) You must collect pressure drop and liquid flow-rate data every 15 minutes during the entire period of the performance tests; (b) Determine the average pressure drop and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run.
	b. Electrostatic precipitator operating parameters (option only for units with additional wet scrubber control).	i. Establish a site-specific minimum voltage and secondary current or total power input according to § 63.7530(c).	(1) Data from the pressure drop and liquid flow rate monitors and the particulate matter, mercury, or total selected metals performance test.	(a) You must collect voltage and secondary current or total power input data every 15 minutes during the entire period of the performance tests; (b) Determine the average voltage and secondary current or total power input for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run.

TABLE 7 TO SUBPART DDDDD OF PART 63.—ESTABLISHING OPERATING LIMITS—Continued

As stated in § 63.7520, you must comply with the following requirements for establishing operating limits:

If you have an applicable emission limit for . . .	And your operating limits are based on . . .	You must . . .	Using . . .	According to the following requirements
2. Hydrogen Chloride ...	a. Wet scrubber operating parameters.	i. Establish a site-specific minimum pressure drop and minimum flow rate operating limit according to § 63.7530(c).	(1) Data from the pH, pressure drop, and liquid flow-rate monitors and the hydrogen chloride performance test.	(a) You must collect pH, pressure drop, and liquid flow-rate data every 15 minutes during the entire period of the performance tests; (b) Determine the average pH, pressure drop, and liquid flow-rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run.
	b. Dry scrubber operating parameters.	i. Establish a site-specific minimum sorbent injection rate operating limit according to § 63.7530(c).	(1) Data from the sorbent injection rate monitors and hydrogen chloride performance test.	(a) You must collect sorbent injection rate data every 15 minutes during the entire period of the performance tests; (b) Determine the average sorbent injection rate for each individual test run in the three-run performance test by computing the average of all the 15-minute readings taken during each test run.

TABLE 8 TO SUBPART DDDDD OF PART 63.—DEMONSTRATING CONTINUOUS COMPLIANCE

As stated in § 63.7540, you must show continuous compliance with the emission limitations for affected sources according to the following:

If you must meet the following operating limits or work practice standards . . .	You must demonstrate continuous compliance by . . .
1. Opacity	a. Collecting the opacity monitoring system data according to §§ 63.7525(b) and 63.7535; and b. Reducing the opacity monitoring data to 6-minute averages; and c. Maintaining opacity to less than or equal to 20 percent (6-minute average) except for one 6-minute period per hour of not more than 27 percent for existing sources; or maintaining opacity to less than or equal to 10 percent (1-hour block average) for new sources.
2. Fabric Filter Bag Leak Detection Operation	Installing and operating a bag leak detection system according to § 63.7525 and operating the fabric filter such that the requirements in § 63.7540(a)(9) are met.
3. Wet Scrubber Pressure Drop and Liquid Flow-rate	a. Collecting the pressure drop and liquid flow rate monitoring system data according to §§ 63.7525 and 63.7535; and b. Reducing the data to 3-hour block averages; and c. Maintaining the 3-hour average pressure drop and liquid flow-rate at or above the operating limits established during the performance test according to § 63.7530(c).
4. Wet Scrubber pH	a. Collecting the pH monitoring system data according to §§ 63.7525 and 63.7535; and b. Reducing the data to 3-hour block averages; and c. Maintaining the 3-hour average pH at or above the operating limit established during the performance test according to § 63.7530(c).
5. Dry Scrubber Sorbent or Carbon Injection Rate	a. Collecting the sorbent or carbon injection rate monitoring system data for the dry scrubber according to §§ 63.7525 and 63.7535; and b. Reducing the data to 3-hour block averages; and c. Maintaining the 3-hour average sorbent or carbon injection rate at or above the operating limit established during the performance test according to §§ 63.7530(c).
6. Electrostatic Precipitator Secondary Current and Voltage or Total Power Input.	a. Collecting the secondary current and voltage or total power input monitoring system data for the electrostatic precipitator according to §§ 63.7525 and 63.7535; and b. Reducing the data to 3-hour block averages; and

TABLE 8 TO SUBPART DDDDD OF PART 63.—DEMONSTRATING CONTINUOUS COMPLIANCE—Continued

As stated in § 63.7540, you must show continuous compliance with the emission limitations for affected sources according to the following:

If you must meet the following operating limits or work practice standards . . .	You must demonstrate continuous compliance by . . .
7. Fuel Pollutant Content	c. Maintaining the 3-hour average secondary current and voltage or total power input at or above the operating limits established during the performance test according to §§ 63.7530(c). a. Only burning the fuel types and fuel mixtures used to demonstrate compliance with the applicable emission limit according to § 63.7530(c) or (d) as applicable; and b. Keeping monthly records of fuel use according to § 63.7540(a).

TABLE 9 TO SUBPART DDDDD OF PART 63.—REPORTING REQUIREMENTS

As stated in § 63.7550, you must comply with the following requirements for reports:

You must submit a(n)	The report must contain . . .	You must submit the report . . .
1. Compliance report	a. Information required in § 63.7550(c)(1) through (11); and b. If there are no deviations from any emission limitation (emission limit and operating limit) that applies to you and there are no deviations from the requirements for work practice standards in Table 8 to this subpart that apply to you, a statement that there were no deviations from the emission limitations and work practice standards during the reporting period. If there were no periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control as specified in § 63.8(c)(7), a statement that there were no periods during which the CMSs were out-of-control during the reporting period; and c. If you have a deviation from any emission limitation (emission limit and operating limit) or work practice standard during the reporting period, the report must contain the information in § 63.7550(d). If there were periods during which the CMSs, including continuous emissions monitoring system, continuous opacity monitoring system, and operating parameter monitoring systems, were out-of-control, as specified in § 63.8(c)(7), the report must contain the information in § 63.7550(e); and d. If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in § 63.10(d)(5)(i)	Semiannually according to the requirements in § 63.7550(b).
2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard.	a. Actions taken for the event; and	i. By fax or telephone within 2 working days after starting actions inconsistent with the plan; and
	b. The information in § 63.10(d)(5)(ii)	ii. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authority.

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

Citation	Subject	Brief description	Applicable
§ 63.1	Applicability	Initial Applicability Determination; Applicability After Standard Established; Permit Requirements; Extensions, Notifications.	Yes.
§ 63.2	Definitions	Definitions for part 63 standards	Yes.
§ 63.3	Units and Abbreviations	Units and abbreviations for part 63 standards.	Yes.
§ 63.4	Prohibited Activities	Prohibited Activities; Compliance date; Circumvention, Severability.	Yes.
§ 63.5	Construction/Reconstruction	Applicability; applications; approvals	Yes.
§ 63.6(a)	Applicability	GP apply unless compliance extension; and GP apply to area sources that become major.	Yes.
§ 63.6(b)(1)–(4)	Compliance Dates for New and Reconstructed sources.	Standards apply at effective date; 3 years after effective date; upon startup; 10 years after construction or reconstruction commences for 112(f).	Yes.
§ 63.6(b)(5)	Notification	Must notify if commenced construction or reconstruction after proposal.	Yes.
§ 63.6(b)(6)	[Reserved].		
§ 63.6(b)(7)	Compliance Dates for New and Reconstructed Area Sources That Become Major.	Area sources that become major must comply with major source standards immediately upon becoming major, regardless of whether required to comply when they were an area source.	Yes.
§ 63.6(c)(1)–(2)	Compliance Dates for Existing Sources	Comply according to date in subpart, which must be no later than 3 years after effective date; and for 112(f) standards, comply within 90 days of effective date unless compliance extension.	Yes.
§ 63.6(c)(3)–(4)	[Reserved].		
§ 63.6(c)(5)	Compliance Dates for Existing Area Sources That Become Major.	Area sources that become major must comply with major source standards by date indicated in subpart or by equivalent time period (for example, 3 years).	Yes.
§ 63.6(d)	[Reserved].		
§ 63.6(e)(1)–(2)	Operation & Maintenance	Operate to minimize emissions at all times; and Correct malfunctions as soon as practicable; and Operation and maintenance requirements independently enforceable; information Administrator will use to determine if operation and maintenance requirements were met.	Yes.
§ 63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP).	Requirement for SSM and startup, shutdown, malfunction plan; and content of SSMP.	Yes.
§ 63.6(f)(1)	Compliance Except During SSM	Comply with emission standards at all times except during SSM.	Yes.
§ 63.6(f)(2)–(3)	Methods for Determining Compliance	Compliance based on performance test, operation and maintenance plans, records, inspection.	Yes.
§ 63.6(g)(1)–(3)	Alternative Standard	Procedures for getting an alternative standard.	Yes.
§ 63.6(h)(1)	Compliance with Opacity/VE Standards	Comply with opacity/VE emission limitations at all times except during SSM.	Yes.
§ 63.6(h)(2)(i)	Determining Compliance with Opacity/Visible Emission (VE) Standards.	If standard does not state test method, use Method 9 for opacity and Method 22 for VE.	No.
§ 63.6(h)(2)(ii)	[Reserved].		
§ 63.6(h)(2)(iii)	Using Previous Tests to Demonstrate Compliance with Opacity/VE Standards	Criteria for when previous opacity/VE testing can be used to show compliance with this subpart.	Yes.
§ 63.6(h)(3)	[Reserved].		
§ 63.6(h)(4)	Notification of Opacity/VE Observation Date.	Notify Administrator of anticipated date of observation.	No.
§ 63.6(h)(5)(i),(iii)–(v)	Conducting Opacity/VE Observations	Dates and Schedule for conducting opacity/VE observations.	No.

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

Citation	Subject	Brief description	Applicable
§ 63.6(h)(5)(ii)	Opacity Test Duration and Averaging Times.	Must have at least 3 hours of observation with thirty, 6-minute averages.	No.
§ 63.6(h)(6)	Records of Conditions During Opacity/VE observations.	Keep records available and allow Administrator to inspect.	No.
§ 63.6(h)(7)(i)	Report continuous opacity monitoring system Monitoring Data from Performance Test.	Submit continuous opacity monitoring system data with other performance test data.	Yes.
§ 63.6(h)(7)(ii)	Using continuous opacity monitoring system instead of Method 9.	Can submit continuous opacity monitoring system data instead of Method 9 results even if subpart requires Method 9, but must notify Administrator before performance test.	No.
§ 63.6(h)(7)(iii)	Averaging time for continuous opacity monitoring system during performance test.	To determine compliance, must reduce continuous opacity monitoring system data to 6-minute averages.	Yes.
§ 63.6(h)(7)(iv)	Continuous opacity monitoring system requirements.	Demonstrate that continuous opacity monitoring system performance evaluations are conducted according to §§ 63.8(e), continuous opacity monitoring systems are properly maintained and operated according to § 63.8(c) and data quality as § 63.8(d).	Yes.
§ 63.6(h)(7)(v)	Determining Compliance with Opacity/VE Standards.	Continuous opacity monitoring system is probative but not conclusive evidence of compliance with opacity standard, even if Method 9 observation shows otherwise. Requirements for continuous opacity monitoring system to be probative evidence-proper maintenance, meeting PS 1, and data have not been altered.	Yes.
§ 63.6(h)(8)	Determining Compliance with Opacity/VE Standards.	Administrator will use all continuous opacity monitoring system, Method 9, and Method 22 results, as well as information about operation and maintenance to determine compliance.	Yes.
§ 63.6(h)(9)	Adjusted Opacity Standard	Procedures for Administrator to adjust an opacity standard.	Yes.
§ 63.6(i)(1)–(14)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension.	Yes.
§ 63.6(j)	Presidential Compliance Exemption	President may exempt source category from requirement to comply with rule.	Yes.
§ 63.7(a)(1)	Performance Test Dates	Dates for Conducting Initial Performance Testing and Other Compliance Demonstrations.	Yes.
§ 63.7(a)(2)	Performance Test Dates	New source with initial startup date before effective date has 180 days after effective date to demonstrate compliance	Yes.
§ 63.7(a)(2)(ii–viii)	[Reserved].		
§ 63.7(a)(2)(ix)	Performance Test Dates	1. New source that commenced construction between proposal and promulgation dates, when promulgated standard is more stringent than proposed standard, has 180 days after effective date or 180 days after startup of source, whichever is later, to demonstrate compliance; and.	Yes.
		2. If source initially demonstrates compliance with less stringent proposed standard, it has 3 years and 180 days after the effective date of the standard or 180 days after startup of source, whichever is later, to demonstrate compliance with promulgated standard.	No.
§ 63.7(a)(3)	Section 114 Authority	Administrator may require a performance test under CAA Section 114 at any time.	Yes.

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TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

Citation	Subject	Brief description	Applicable
§ 63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test.	No.
§ 63.7(b)(2)	Notification of Rescheduling	If rescheduling a performance test is necessary, must notify Administrator 5 days before scheduled date of rescheduled date.	Yes.
§ 63.7(c)	Quality Assurance/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with: test plan approval procedures; and performance audit requirements; and internal and external QA procedures for testing.	Yes.
§ 63.7(d)	Testing Facilities	Requirements for testing facilities	Yes.
§ 63.7(e)(1)	Conditions for Conducting Performance Tests.	1. Performance tests must be conducted under representative conditions; and	No.
		2. Cannot conduct performance tests during SSM; and	Yes.
		3. Not a deviation to exceed standard during SSM; and	Yes.
		4. Upon request of Administrator, make available records necessary to determine conditions of performance tests.	Yes.
§ 63.7(e)(2)	Conditions for Conducting Performance Tests.	Must conduct according to rule and EPA test methods unless Administrator approves alternative.	Yes.
§ 63.7(e)(3)	Test Run Duration	Must have three separate test runs; and Compliance is based on arithmetic mean of three runs; and conditions when data from an additional test run can be used.	Yes.
§ 63.7(e)(4)	Interaction with other sections of the Act	Nothing in § 63.7(e)(1) through (4) can abrogate the Administrator's authority to require testing under Section 114 of the Act.	Yes.
§ 63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method.	Yes.
§ 63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; and must submit performance test data 60 days after end of test with the Notification of Compliance Status; and keep data for 5 years.	Yes.
§ 63.7(h)	Waiver of Tests	Procedures for Administrator to waive performance test.	Yes.
§ 63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard.	Yes.
§ 63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of part 60 apply.	Yes.
§ 63.8(a)(3)	[Reserved].		
§ 63.8(a)(4)	Monitoring with Flares	Unless your rule says otherwise, the requirements for flares in § 63.11 apply.	No.
§63.8(b)(1)(i)–(ii)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative.	Yes.
§ 63.8(b)(1)(iii)	Monitoring	Flares not subject to this section unless otherwise specified in relevant standard.	No.
§ 63.8(b)(2)–(3)	Multiple Effluents and Multiple Monitoring Systems.	Specific requirements for installing monitoring systems; and must install on each effluent before it is combined and before it is released to the atmosphere unless Administrator approves otherwise; and if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup.	Yes.
§ 63.8(c)(1)	Monitoring System Operation and Maintenance.	Maintain monitoring system in a manner consistent with good air pollution control practices.	Yes.

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

Citation	Subject	Brief description	Applicable
§ 63.8(c)(1)(i)	Routine and Predictable SSM	Maintain and operate CMS according to § 63.6(e)(1).	Yes.
§ 63.8(c)(1)(ii)	SSM not in SSMP	Must keep necessary parts available for routine repairs of CMSs.	Yes.
§ 63.8(c)(1)(iii)	Compliance with Operation and Maintenance Requirements.	Must develop and implement an SSMP for CMSs.	Yes.
§ 63.8(c)(2)–(3)	Monitoring System Installation	Must install to get representative emission and parameter measurements; and must verify operational status before or at performance test.	Yes.
§ 63.8(c)(4)	Continuous Monitoring System (CMS) Requirements.	CMSs must be operating except during breakdown, out-of-control, repair, maintenance, and high-level calibration drifts.	No.
§ 63.8(c)(4)(i)	Continuous Monitoring System (CMS) Requirements.	Continuous opacity monitoring system must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period.	Yes.
§ 63.8(c)(4)(ii)	Continuous Monitoring System (CMS) Requirements.	Continuous emissions monitoring system must have a minimum of one cycle of operation for each successive 15-minute period.	No.
§ 63.8(c)(5)	Continuous Opacity Monitoring system (COMS) Requirements.	Must do daily zero and high level calibrations.	Yes.
§ 63.8(c)(6)	Continuous Monitoring System (CMS) Requirements.	Must do daily zero and high level calibrations.	No.
§ 63.8(c)(7)–(8)	Continuous Monitoring Systems Requirements.	Out-of-control periods, including reporting	Yes.
§ 63.8(d)	Continuous Monitoring Systems Quality Control.	Requirements for continuous monitoring systems quality control, including calibration, etc.; and must keep quality control plan on record for the life of the affected source. Keep old versions for 5 years after revisions.	Yes.
§ 63.8(e)	Continuous monitoring systems Performance Evaluation.	Notification, performance evaluation test plan, reports.	Yes.
§ 63.8(f)(1)–(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring.	Yes.
§ 63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator to approve alternative relative accuracy tests for continuous emissions monitoring system.	No.
§ 63.8(g)(1)–(4)	Data Reduction	Continuous opacity monitoring system 6-minute averages calculated over at least 36 evenly spaced data points; and continuous emissions monitoring system 1-hour averages computed over at least 4 equally spaced data points.	Yes.
§ 63.8(g)(5)	Data Reduction	Data that cannot be used in computing averages for continuous emissions monitoring system and continuous opacity monitoring system.	No.
§ 63.9(a)	Notification Requirements	Applicability and State Delegation	Yes.
§ 63.9(b)(1)–(5)	Initial Notifications	Submit notification 120 days after effective date; and Notification of intent to construct/reconstruct; and Notification of commencement of construct/reconstruct; Notification of startup; and Contents of each.	Yes.
§ 63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed BACT/LAER.	Yes.
§ 63.9(d)	Notification of Special Compliance Requirements for New Source.	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date.	Yes.
§ 63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	No.

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TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

Citation	Subject	Brief description	Applicable
§ 63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	No.
§ 63.9(g)	Additional Notifications When Using Continuous Monitoring Systems.	Notification of performance evaluation; and notification using continuous opacity monitoring system data; and notification that exceeded criterion for relative accuracy.	Yes.
§ 63.9(h)(1)–(6)	Notification of Compliance Status	Contents; and due 60 days after end of performance test or other compliance demonstration, and when to submit to Federal vs. State authority.	Yes.
§ 63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator to approve change in when notifications must be submitted.	Yes.
§ 63.9(j)	Change in Previous Information	Must submit within 15 days after the change.	Yes.
§ 63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; and when to submit to Federal vs. State authority; and procedures for owners of more than 1 source.	Yes.
§ 63.10(b)(1)	Recordkeeping/Reporting	General Requirements; and keep all records readily available and keep for 5 years.	Yes.
§ 63.10(b)(2)(i)–(v)	Records related to Startup, Shutdown, and Malfunction.	Occurrence of each of operation (process, equipment); and occurrence of each malfunction of air pollution equipment; and maintenance of air pollution control equipment; and actions during startup, shutdown, and malfunction.	Yes.
§ 63.10(b)(2)(vi) and (x–xi)	Continuous monitoring systems Records	Malfunctions, inoperative, out-of-control; and calibration checks; and adjustments, maintenance.	Yes.
§ 63.10(b)(2)(vii)–(ix)	Records	Measurements to demonstrate compliance with emission limitations; and performance test, performance evaluation, and visible emission observation results; and measurements to determine conditions of performance tests and performance evaluations.	Yes.
§ 63.10(b)(2)(xii)	Records	Records when under waiver	Yes.
§ 63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test.	No.
§ 63.10(b)(2)(xiv)	Records	All documentation supporting Initial Notification and Notification of Compliance Status.	Yes.
§ 63.10(b)(3)	Records	Applicability Determinations	Yes.
§ 63.10(c)(1),(5)–(8),(10)–(15)	Records	Additional Records for continuous monitoring systems.	Yes.
§ 63.10(c)(7)–(8)	Records	Records of excess emissions and parameter monitoring exceedances for continuous monitoring systems.	No.
§ 63.10(d)(1)	General Reporting Requirements	Requirement to report	Yes.
§ 63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority.	Yes.
§ 63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	Yes.
§ 63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension.	Yes.
§ 63.10(d)(5)	Startup, Shutdown, and Malfunction Reports.	Contents and submission	Yes.
§ 63.10(e)(1)(2)	Additional continuous monitoring systems Reports.	Must report results for each CEM on a unit; and written copy of performance evaluation; and 3 copies of continuous opacity monitoring system performance evaluation.	Yes.
§ 63.10(e)(3)	Reports	Excess Emission Reports	No.
§ 63.10(e)(3)(i–iii)	Reports	Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations).	No.

TABLE 10 TO SUBPART DDDDD OF PART 63.—APPLICABILITY OF GENERAL PROVISIONS TO SUBPART DDDDD—Continued

As stated in § 63.7565, you must comply with the applicable General Provisions according to the following:

Citation	Subject	Brief description	Applicable
§ 63.10(e)(3)(iv–v)	Excess Emissions Reports	Requirement to revert to quarterly submission if there is an excess emissions and parameter monitor exceedance (now defined as deviations); and provision to request semiannual reporting after compliance for one year; and submit report by 30th day following end of quarter or calendar half; and if there has not been an exceedance or excess emission (now defined as deviations), report contents is a statement that there have been no deviations.	No.
§ 63.10(e)(3)(iv–v)	Excess Emissions Reports	Must submit report containing all of the information in § 63.10(c)(5–13), § 63.8(c)(7–8).	No.
§ 63.10(e)(3)(vi–viii)	Excess Emissions Report and Summary Report.	Requirements for reporting excess emissions for continuous monitoring systems (now called deviations); Requires all of the information in § 63.10(c)(5–13), § 63.8(c)(7–8).	No.
§ 63.10(e)(4)	Reporting continuous opacity monitoring system data.	Must submit continuous opacity monitoring system data with performance test data.	Yes.
§ 63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator to waive	Yes.
§ 63.11	Flares	Requirements for flares	No.
§ 63.12	Delegation	State authority to enforce standards	Yes.
§ 63.13	Addresses	Addresses where reports, notifications, and requests are sent.	Yes.
§ 63.14	Incorporation by Reference	Test methods incorporated by reference	Yes.
§ 63.15	Availability of Information	Public and confidential Information	Yes.

Appendix A to Subpart DDDDD—Methodology and Criteria for Demonstrating Eligibility for the Health-Based Compliance Alternatives Specified for the Large Solid Fuel Subcategory

1. Purpose/Introduction

This appendix provides the methodology and criteria for demonstrating that your affected source is eligible for the compliance alternative for the HCl emission limit and/or the total selected metals (TSM) emission limit. This appendix specifies emissions testing methods that you must use to determine HCl, chlorine, and manganese emissions from the affected units and what parts of the affected source facility must be included in the eligibility demonstration. You must demonstrate that your affected source is eligible for the health-based compliance alternatives using either a look-up table analysis (based on the look-up tables included in this appendix) or a site-specific compliance demonstration performed according to the criteria specified in this appendix. This appendix also specifies how and when you file any eligibility demonstrations for your affected source and how to show that your affected source remains eligible for the health-based compliance alternatives in the future.

2. Who Is Eligible To Demonstrate That They Qualify for the Health-Based Compliance Alternatives?

Each new, reconstructed, or existing affected source may demonstrate that they are eligible for the health-based compliance alternatives. Section 63.7490 of subpart DDDDD defines the affected source and explains which affected sources are new, existing, or reconstructed.

3. What Parts of My Facility Have To Be Included in the Health-Based Eligibility Demonstration?

If you are attempting to determine your eligibility for the compliance alternative for HCl, you must include every emission point subject to subpart DDDDD that emits either HCl or Cl_2 in the eligibility demonstration.

If you are attempting to determine your eligibility for the compliance alternative for TSM, you must include every emission point subject to subpart DDDDD that emits manganese in the eligibility demonstration.

4. How Do I Determine HAP Emissions From My Affected Source?

(a) You must conduct HAP emissions tests or fuel analysis for every emission point covered under subpart DDDDD within the affected source facility according to the requirements in paragraphs (b) through (f) of this section and the methods specified in Table 1 of this appendix.

(1) If you are attempting to determine your eligibility for the compliance alternative for HCl, you must test the subpart DDDDD units at your facility for both HCl and Cl_2. When conducting fuel analysis, you must assume any chlorine detected will be emitted as Cl_2.

(2) If you are attempting to determine your eligibility for the compliance alternative for TSM, you must test the subpart DDDDD units at your facility for manganese.

(b) *Periods when emissions tests must be conducted.*

(1) You must not conduct emissions tests during periods of startup, shutdown, or malfunction, as specified in § 63.7(e)(1).

(2) You must test under worst-case operating conditions as defined in this appendix. You must describe your worst-case operating conditions in your performance test report for the process and control systems (if applicable) and explain why the conditions are worst-case.

(c) *Number of test runs.* You must conduct three separate test runs for each test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour.

(d) *Sampling locations.* Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

(e) *Collection of monitoring data for HAP control devices.* During the emissions test, you must collect operating parameter monitoring system data at least every 15 minutes during the entire emissions test and establish the site-specific operating requirements in Tables 3 or 4, as appropriate, of subpart DDDDD using data from the monitoring system and the procedures specified in § 63.7530 of subpart DDDDD.

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(f) *Nondetect data.* You may treat emissions of an individual HAP as zero if all of the test runs result in a nondetect measurement and the condition in paragraph (f)(1) of this section is met for the manganese test method. Otherwise, nondetect data for individual HAP must be treated as one-half of the method detection limit.

(1) For manganese measured using Method 29 in appendix A to 40 CFR part 60, you analyze samples using atomic absorption spectroscopy (AAS).

(g) You must determine the maximum hourly emission rate for each appropriate emission point according to Equation 1 of this appendix.

$$\text{Max Hourly Emissions} = \sum_{i=1}^{n} (\text{Er} \times \text{Hm}) \qquad \text{(Eq. 1)}$$

Where:

Max Hourly Emissions = Maximum hourly emissions for hydrogen chloride, chlorine, or manganese, in units of pounds per hour.

Er = Emission rate (the 3-run average as determined according to Table 1 of this appendix or the pollutant concentration in the fuel samples analyzed according to § 63.7521) for hydrogen chloride, chlorine, or manganese, in units of pounds per million Btu of heat input.

Hm = Maximum rated heat input capacity of appropriate emission point, in units of million Btu per hour.

5. What Are the Criteria for Determining If My Facility Is Eligible for the Health-Based Compliance Alternatives?

(a) Determine the HAP emissions from each appropriate emission point within the affected source facility using the procedures specified in section 4 of this appendix.

(b) Demonstrate that your facility is eligible for either of the health-based compliance alternatives using either the methods described in section 6 of this appendix (look-up table analysis) or section 7 of this appendix (site-specific compliance demonstration).

(c) Your facility is eligible for the health-based compliance alternative for HCl if one of the following two statements is true:

(1) The calculated HCl-equivalent emission rate is below the appropriate value in the look-up table;

(2) Your site-specific compliance demonstration indicates that your maximum HI for HCl and $C1_2$ at a location where people live is less than or equal to 1.0;

(d) Your facility is eligible for the health-based compliance alternative for TSM if one of the following two statements is true:

(1) The manganese emission rate for all your subpart DDDDD sources is below the appropriate value in the look-up table;

(2) Your site-specific compliance demonstration indicates that your maximum HQ for manganese at a location where people live is less than or equal to 1.0.

6. How Do I Conduct a Look-Up Table Analysis?

You may use look-up tables to demonstrate that your facility is eligible for either the compliance alternative for the HCl emission limit or the compliance alternative for TSM emission limit.

(a) *HCl health-based compliance alternative.* (1) To calculate the total toxicity-weighted HCl-equivalent emission rate for your facility, first calculate the total affected source emission rate of HCl by summing the maximum hourly HCl emission rates from all your subpart DDDDD sources. Then, similarly, calculate the total affected source emission rate for Cl_2. Finally, calculate the toxicity-weighted emission rate (expressed in HCl equivalents) according to Equation 2 of this appendix.

$$\text{ER}_{tw} = \sum \left(\text{ER}_i \times \left(\text{RfC}_{HCl} / \text{RfC}_i \right) \right) \qquad \text{(Eq. 2)}$$

Where:

ER_{tw} is the HCl-equivalent emission rate, lb/hr.

ER_i is the emission rate of HAP i in lbs/hr

RfC_i is the reference concentration of HAP i

RfC_{HCl} is the reference concentration of HCl (RfCs for HCl and Cl_2 can be found at *http://www.epa.gov/ttn/atw/toxsource/summary.html).*

(2) The calculated HCl-equivalent emission rate will then be compared to the appropriate allowable emission rate in Table 2 of this appendix. To determine the correct value from the table, an average value for the appropriate subpart DDDDD emission points should be used for stack height and the minimum distance between any appropriate subpart DDDDD stack at the facility and the property boundary should be used for property boundary distance. Appropriate emission points and stacks are those that emit HCl and/or Cl_2. If one or both of these values does not match the exact values in the lookup tables, then use the next lowest table value. (**Note:** If your average stack height is less than 5 meters, you must use the 5 meter row.) Your facility is eligible to comply with the health-based alternative HCl emission limit if your toxicity-weighted HCl equivalent emission rate, determined using the methods specified in this appendix, does not exceed the appropriate value in Table 2 of this appendix.

(b) *TSM Compliance Alternative.* To calculate the total manganese emission rate for your affected source, sum the maximum hourly manganese emission rates for all your subpart DDDDD sources. The calculated manganese emission rate will then be compared to the allowable emission rate in the Table 3 of this appendix. To determine the correct value from the table, an average value for the appropriate subpart DDDDD emission points should be used for stack height and the minimum distance between any appropriate subpart DDDDD stack at the facility and the property boundary should be used for property boundary distance. Appropriate emission points and stacks are those that emit manganese. If one or both of these values does not match the exact values in the lookup tables, then use the next lowest table value. (**Note:** If your average stack height is less than 5 meters, you must use the 5 meter row.) Your facility may exclude manganese when demonstrating compliance with the TSM emission limit if your manganese emission rate, determined using the methods specified in this appendix, does not exceed the appropriate value specified in Table 3 of this appendix.

7. How Do I Conduct a Site-Specific Compliance Demonstration?

If you fail to demonstrate that your facility is able to comply with one or both of the alternative health-based emission standards using the look-up table approach, you may choose to perform a site-specific compliance demonstration for your facility. You may use any scientifically-accepted peer-reviewed risk assessment methodology for your site-specific compliance demonstration. An example of one approach for performing a site-specific compliance demonstration for air toxics can be found in the EPA's ''Air Toxics Risk Assessment Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document'', which may be obtained through the EPA's Air Toxics Web site at *http://www.epa.gov/ttn/fera/risk_atoxic.html.*

(a) Your facility is eligible for the HCl alternative compliance option if your site-specific compliance demonstration shows that the maximum HI for HCl and Cl_2 from your subpart DDDDD sources is less than or equal to 1.0.

(b) Your facility is eligible for the TSM alternative compliance option if your site-specific compliance demonstration shows that the maximum HQ for manganese from your subpart DDDDD sources is less than or equal to 1.0.

(c) At a minimum, your site-specific compliance demonstration must:

(1) Estimate long-term inhalation exposures through the estimation of annual

or multi-year average ambient concentrations;

(2) Estimate the inhalation exposure for the individual most exposed to the facility's emissions;

(3) Use site-specific, quality-assured data wherever possible;

(4) Use health-protective default assumptions wherever site-specific data are not available, and;

(5) Contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emissions measurement expert.

(d) Your site-specific compliance demonstration need not:

(1) Assume any attenuation of exposure concentrations due to the penetration of outdoor pollutants into indoor exposure areas;

(2) Assume any reaction or deposition of the emitted pollutants during transport from the emission point to the point of exposure.

8. What Must My Health-Based Eligibility Demonstration Contain?

(a) Your health-based eligibility demonstration must contain, at a minimum, the information specified in paragraphs (a)(1) through (6) of this section.

(1) Identification of each appropriate emission point at the affected source facility, including the maximum rated capacity of each appropriate emission point.

(2) Stack parameters for each appropriate emission point including, but not limited to, the parameters listed in paragraphs (a)(2)(i) through (iv) below:

(i) Emission release type.

(ii) Stack height, stack area, stack gas temperature, and stack gas exit velocity.

(iii) Plot plan showing all emission points, nearby residences, and fenceline.

(iv) Identification of any control devices used to reduce emissions from each appropriate emission point.

(3) Emission test reports for each pollutant and appropriate emission point which has been tested using the test methods specified in Table 1 of this appendix, including a description of the process parameters identified as being worst case. Fuel analyses for each fuel and emission point which has been conducted including collection and analytical methods used.

(4) Identification of the RfC values used in your look-up table analysis or site-specific compliance demonstration.

(5) Calculations used to determine the HCl-equivalent or manganese emission rates according to sections 6(a) or (b) of this appendix.

(6) Identification of the controlling process factors (including, but not limited to, fuel type, heat input rate, type of control devices, process parameters reflecting the emissions rates used for your eligibility demonstration) that will become Federally enforceable permit conditions used to show that your facility remains eligible for the health-based compliance alternatives.

(b) If you use the look-up table analysis in section 6 of this appendix to demonstrate that your facility is eligible for either health-based compliance alternative, your eligibility demonstration must contain, at a minimum, the information in paragraphs (a) and (b)(1) through (3) of this section.

(1) Calculations used to determine the average stack height of the subpart DDDDD emission points that emit either manganese or HCl and Cl_2.

(2) Identification of the subpart DDDDD emission point, that emits either manganese or HCl and Cl_2, with the minimum distance to the property boundary of the facility.

(3) Comparison of the values in the look-up tables (Tables 2 and 3 of this appendix) to your maximum HCl-equivalent or manganese emission rates.

(c) If you use a site-specific compliance demonstration as described in section 7 of this appendix to demonstrate that your facility is eligible, your eligibility demonstration must contain, at a minimum, the information in paragraphs (a) and (c)(1) through (7) of this section:

(1) Identification of the risk assessment methodology used.

(2) Documentation of the fate and transport model used.

(3) Documentation of the fate and transport model inputs, including the information described in paragraphs (a)(1) through (5) of this section converted to the dimensions required for the model and all of the following that apply: meteorological data; building, land use, and terrain data; receptor locations and population data; and other facility-specific parameters input into the model.

(4) Documentation of the fate and transport model outputs.

(5) Documentation of any exposure assessment and risk characterization calculations.

(6) Comparison of the HQ HI to the limit of 1.0.

9. When Do I Have to Complete and Submit My Health-Based Eligibility Demonstration?

(a) If you have an existing affected source, you must complete and submit your eligibility demonstration to your permitting authority, along with a signed certification that the demonstration is an accurate depiction of your facility, no later than the date one year prior to the compliance date of subpart DDDDD. A separate copy of the eligibility demonstration must be submitted to: U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404–01), Attn: Group Leader, Research Triangle Park, North Carolina 27711, electronic mail address *REAG@epa.gov*.

(b) If you have a new or reconstructed affected source that starts up before the effective date of subpart DDDDD, or an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before the effective date of subpart DDDDD, then you must comply with the requirements of subpart DDDDD until your eligibility demonstration is completed and submitted to your permitting authority.

(c) If you have a new or reconstructed affected source that starts up after the effective date of subpart DDDDD, or an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP after the effective date for subpart DDDDD, then you must follow the schedule in paragraphs (c)(1) and (2) of this section.

(1) You must complete and submit a preliminary eligibility demonstration based on the information (*e.g.*, equipment types, estimated emission rates, etc.) used to obtain your title V permit. You must base your preliminary eligibility demonstration on the maximum emissions allowed under your title V permit. If the preliminary eligibility demonstration indicates that your affected source facility is eligible for either compliance alternative, then you may start up your new affected source and your new affected source will be considered in compliance with the alternative HCl standard and subject to the compliance requirements in this appendix or, in the case of manganese, your compliance demonstration with the TSM emission limit is based on 7 metals (excluding manganese).

(2) You must conduct the emission tests or fuel analysis specified in section 4 of this appendix upon initial startup and use the results of these emissions tests to complete and submit your eligibility demonstration within 180 days following your initial startup date. To be eligible, you must meet the criteria in section 11 of this appendix within 18 months following initial startup of your affected source.

10. When Do I Become Eligible for the Health-Based Compliance Alternatives?

To be eligible for either health-based compliance alternative, the parameters that defined your affected source as eligible for the health-based compliance alternatives (including, but not limited to, fuel type, fuel mix (annual average), type of control devices, process parameters reflecting the emissions rates used for your eligibility demonstration) must be submitted for incorporation as Federally enforceable limits into your title V permit. If you do not meet these criteria, then your affected source is subject to the applicable emission limits, operating limits, and work practice standards in Subpart DDDDD.

11. How Do I Ensure That My Facility Remains Eligible for the Health-Based Compliance Alternatives?

(a) You must update your eligibility demonstration and resubmit it each time you have a process change, such that any of the parameters that defined your affected source changes in a way that could result in increased HAP emissions (including, but not limited to, fuel type, fuel mix (annual average), change in type of control device, changes in process parameters documented as worst-case conditions during the emissions testing used for your approved eligibility demonstration).

(b) If you are updating your eligibility demonstration to account for an action in paragraph (a) of this section, then you must perform emission testing or fuel analysis according to section 4 of this appendix for the subpart DDDDD emission points that may have increased HAP emissions beyond the levels reflected in your previously approved eligibility demonstration due to the process

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change. You must submit your revised eligibility demonstration to the permitting authority prior to revising your permit to incorporate the process change. If your updated eligibility demonstration indicates that your affected source is no longer eligible for the health-based compliance alternatives, then you must comply with the applicable emission limits, operating limits, and compliance requirements in Subpart DDDDD prior to making the process change and revising your permit.

12. What Records Must I Keep?

You must keep records of the information used in developing the eligibility demonstration for your affected source, including all of the information specified in section 8 of this appendix.

13. Definitions

The definitions in § 63.7575 of subpart DDDDD apply to this appendix. Additional definitions applicable for this appendix are as follows:

Hazard Index (HI) means the sum of more than one hazard quotient for multiple substances and/or multiple exposure pathways.

Hazard Quotient (HQ) means the ratio of the predicted media concentration of a pollutant to the media concentration at which no adverse effects are expected. For inhalation exposures, the HQ is calculated as the air concentration divided by the RfC.

Look-up table analysis means a risk screening analysis based on comparing the HAP or HAP-equivalent emission rate from the affected source to the appropriate maximum allowable HAP or HAP-equivalent emission rates specified in Tables 2 and 3 of this appendix.

Reference Concentration (RfC) means an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

Worst-case operating conditions means operation of an affected unit during emissions testing under the conditions that result in the highest HAP emissions or that result in the emissions stream composition (including HAP and non-HAP) that is most challenging for the control device if a control device is used. For example, worst-case conditions could include operation of an affected unit firing solid fuel likely to produce the most HAP.

TABLE 1 TO APPENDIX B OF SUBPART DDDDD—EMISSION TEST METHODS

For . . .	You must . . .	Using . . .
(1) Each subpart DDDDD emission point for which you choose to use a compliance alternative.	Select sampling ports' location and the number of traverse points.	Method 1 of 40 CFR part 60, appendix A.
(2) Each subpart DDDDD emission point for which you choose to use a compliance alternative.	Determine velocity and volumetric flow rate; ...	Method 2, 2F, or 2G in appendix A to 40 CFR part 60.
(3) Each subpart DDDDD emission point for which you choose to use a compliance alternative.	Conduct gas molecular weight analysis	Method 3A or 3B in appendix A to 40 CFR part 60.
(4) Each subpart DDDDD emission point for which you choose to use a compliance alternative.	Measure moisture content of the stack gas	Method 4 in appendix A to 40 CFR part 60.
(5) Each subpart DDDDD emission point for which you choose to use the HCl compliance alternative.	Measure the hydrogen chloride and chlorine emission concentrations.	Method 26 or 26A in appendix A to 40 CFR part 60.
(6) Each subpart DDDDD emission point for which you choose to use the TSM compliance alternative.	Measure the manganese emission concentration.	Method 29 in appendix A to 40 CFR part 60.
(7) Each subpart DDDDD emission point for which you choose to use a compliance alternative.	Convert emissions concentration to lb per MMBtu emission rates.	Method 19 F-factor methodology in appendix A to part 60 of this chapter.

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TABLE 2 TO APPENDIX A OF SUBPART DDDDD—ALLOWABLE TOXICITY-WEIGHTED EMISSION RATE EXPRESSED IN HCl EQUIVALENTS (lbs/hr)

Stack ht. (m)	Distance to property boundary (m)											
	0	50	100	150	200	250	500	1000	1500	2000	3000	5000
5	114.9	114.9	114.9	114.9	114.9	114.9	144.3	287.3	373.0	373.0	373.0	373.0
10	188.5	188.5	188.5	188.5	188.5	188.5	195.3	328.0	432.5	432.5	432.5	432.5
20	386.1	386.1	386.1	386.1	386.1	386.1	386.1	425.4	580.0	602.7	602.7	602.7
30	396.1	396.1	396.1	396.1	396.1	396.1	396.1	436.3	596.2	690.6	807.8	816.5
40	408.1	408.1	408.1	408.1	408.1	408.1	408.1	448.2	613.3	715.5	832.2	966.0
50	421.4	421.4	421.4	421.4	421.4	421.4	421.4	460.6	631.0	746.3	858.2	1002.8
60	435.5	435.5	435.5	435.5	435.5	435.5	435.5	473.4	649.0	778.6	885.0	1043.4
70	450.2	450.2	450.2	450.2	450.2	450.2	450.2	486.6	667.4	813.8	912.4	1087.4
80	465.5	465.5	465.5	465.5	465.5	465.5	465.5	500.0	685.9	849.8	940.9	1134.8
100	497.5	497.5	497.5	497.5	497.5	497.5	497.5	527.4	723.6	917.1	1001.2	1241.3
200	677.3	677.3	677.3	677.3	677.3	677.3	677.3	682.3	919.8	1167.1	1390.4	1924.6

TABLE 3 TO APPENDIX A OF SUBPART DDDDD—ALLOWABLE MANGANESE EMISSION RATE (lbs/hr)

Stack ht. (m)	Distance to property boundary (m)											
	0	50	100	150	200	250	500	1000	1500	2000	3000	5000
5	0.29	0.29	0.29	0.29	0.29	0.29	0.36	0.72	0.93	0.93	0.93	0.94
10	0.47	0.47	0.47	0.47	0.47	0.47	0.49	0.82	1.08	1.08	1.08	1.08
20	0.97	0.97	0.97	0.97	0.97	0.97	0.97	1.06	1.45	1.51	1.51	1.51
30	0.99	0.99	0.99	0.99	0.99	0.99	0.99	1.09	1.49	1.72	2.02	2.04
40	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.12	1.53	1.79	2.08	2.42
50	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.15	1.58	1.87	2.15	2.51
60	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.18	1.62	1.95	2.21	2.61
70	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.22	1.67	2.03	2.28	2.72
80	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.25	1.71	2.12	2.35	2.84
100	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.32	1.81	2.29	2.50	3.10
200	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.71	2.30	2.92	3.48	4.81

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Subpart EEE--National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors

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Subpart EEE--National Emission Standards for Hazardous Air Pollutants from **Hazardous Waste Combustors**

§ 63.1200 Who is subject to these regulations?

The provisions of this subpart apply to all hazardous waste combustors**:** hazardous waste incinerators, hazardous waste burning cement kilns, and hazardous waste burning lightweight aggregate kilns, except as provided in Table 1 of this section. Hazardous waste combustors are also subject to applicable requirements under parts 260-270 of this chapter.

(a) What if I am an area source?

(1) Both area sources and major sources are subject to this subpart.

(2) Both area sources and major sources, not previously subject to title V, are immediately subject to the requirement to apply for and obtain a title V permit in all States, and in areas covered by part 71 of this chapter.

(b) These regulations in this subpart do not apply to sources that meet the criteria in Table 1 of this Section, as follows:

Table 1 to § 63.1200.-- Hazardous Waste Combustors Exempt from Subpart EEE

If	And if	Then
(1) You are a previously affected source.	(i) You ceased feeding hazardous waste for a period of time greater than the hazardous waste residence time (i.e., hazardous waste no longer resides in the combustion chamber);. (ii) You have initiated the closure requirements of subpart G, parts 264 or 265 of this chapter;. (iii) You begin complying with the requirements of all other applicable standards of this part (Part 63); and. (iv) You notify the Administrator in writing that you are no longer an affected source under this subpart (Subpart EEE).	You are no longer subject to this subpart (Subpart EEE).
(2) You are a research, development, and demon-stration source.	You operate for no longer than one year after first burning hazardous waste (Note that the Administratorcan extend this one-year restrictionon a case-by-case basis upon yourwritten request documenting whenyou first burned hazardous wasteand the justification for needing additional time to perform research, development, or demonstration operations.).	You are not subject to this subpart (Subpart EEE). This exemption applies even if there is a hazardous waste combustor at the plant site that is regulated under this subpart. You still, however, remain subject to § 270.65 of this chapter.
(3) The only hazardous wastes you burn are exempt from regulation under § 266.100(b) of this chapter.	.....	You are not subject to the require-ments of this subpart (Subpart EEE).

(c) Table 1 of this section specifies the provisions of subpart A (General Provisions, §§ 63.1-63.15) that apply and those that do not apply to sources affected by this subpart.

§ 63.1201 Definitions and acronyms used in this subpart.

(a) The terms used in this subpart are defined in the Act, in subpart A of this part, or in this section as follows:

Air pollution control system means the equipment used to reduce the release of particulate matter and other pollutants to the atmosphere.

Automatic waste feed cutoff (AWFCO) system means a system comprised of cutoff valves, actuator, sensor, data manager, and other necessary components and electrical circuitry designed, operated and maintained to stop the flow of hazardous waste to the combustion unit automatically and immediately (except as provided by Sec. 63.1206(c)(3)(viii)) when any operating requirement is exceeded.

By-pass duct means a device which diverts a minimum of 10 percent of a cement kiln's off gas, or a device which the Administrator determines on a case-by-case basis diverts a sample of kiln gas that contains levels of carbon monoxide or hydrocarbons representative of the levels in the kiln.

Combustion chamber means the area in which controlled flame combustion of hazardous waste occurs.

Continuous monitor means a device which continuously samples the regulated parameter specified in § 63.1209 without interruption, evaluates the detector response at least once every 15 seconds, and computes and records the average value at least every 60 seconds, except during allowable periods of calibration and except as defined otherwise by the CEMS Performance Specifications in appendix B, part 60
of this chapter.

Dioxin/furan and dioxins and furans mean tetra-, penta-, hexa-, hepta-, and octa-chlorinated dibenzo dioxins and furans.

Existing source means any affected source that is not a new source.

Feedrate operating limits means limits on the feedrate of materials (e.g., metals, chlorine) to the combustor that are established based on comprehensive performance testing. The limits are established and
monitored by knowing the concentration of the limited material (e.g., chlorine) in each feedstream and the flowrate of each feedstream.

Feedstream means any material fed into a hazardous waste combustor, including, but not limited to, any pumpable or nonpumpable solid, liquid, or gas.

Flowrate means the rate at which a feedstream is fed into a hazardous waste combustor.

Hazardous waste is defined in § 261.3 of this chapter.

Hazardous waste burning cement kiln means a rotary kiln and any associated preheater or precalciner devices that produce clinker by heating limestone and other materials for subsequent production of cement for use in commerce, and that burns hazardous waste at any time.

Hazardous waste combustor means a hazardous waste incinerator, hazardous waste burning cement kiln, or hazardous waste burning lightweight aggregate kiln.

Hazardous waste incinerator means a device defined as an incinerator in § 260.10 of this chapter and that burns hazardous waste at any time. For the purposes of this subpart, the hazardous waste incinerator includes all associated firing systems and air pollution control devices, as well as the combustion chamber equipment.

Hazardous waste lightweight aggregate kiln means a rotary kiln that produces clinker by

heating materials such as slate, shale and clay for subsequent production of lightweight aggregate used in commerce, and that burns hazardous waste at any time.

Hazardous waste residence time means the time elapsed from cutoff of the flow of hazardous waste into the combustor (including, for example, the time required for liquids to flow from the cutoff valve into the combustor) until solid, liquid, and gaseous materials from the hazardous waste, excluding residues that may adhere to combustion chamber surfaces, exit the combustion chamber. For combustors with multiple firing systems whereby the residence time may vary for the firing systems, the hazardous waste residence time for purposes of complying with this subpart means the longest residence time for any firing system in use at the time of waste cutoff.

Initial comprehensive performance test means the comprehensive performance test that is used as the basis for initially demonstrating compliance with the standards.

In-line kiln raw mill means a hazardous waste burning cement kiln design whereby kiln gas is ducted through the raw material mill for portions of time to facilitate drying and heating of the raw material.

Instantaneous monitoring for combustion system leak control means detecting and recording pressure, without use of an averaging period, at a frequency adequate to detect combustion system leak events from hazardous waste combustion.

Monovent means an exhaust configuration of a building or emission control device (e.g. positive pressure fabric filter) that extends the length of the structure and has a width very small in relation to its

length (i.e., length to width ratio is typically greater than 5:1). The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features.

MTEC means maximum theoretical emissions concentration of metals or HCl/Cl, expressed as ?g/dscm, and is calculated by dividing the feedrate by the gas flowrate.

New source means any affected source the construction or reconstruction of which is commenced after April 19, 1996.

One-minute average means the average of detector responses calculated at least every 60 seconds from responses obtained at least every 15 seconds.

Operating record means a documentation retained at the facility for ready inspection by authorized officials of all information required by the standards to document and maintain compliance with the applicable regulations, including data and information, reports, notifications, and communications with regulatory officials.

Operating requirements means operating terms or conditions, limits, or operating parameter limits developed under this subpart that ensure compliance with the emission standards.

*Preheater tower combustion gas monitoring location*means a location within the preheater tower of a dry process cement kiln downstream (in terms of gas flow) of all hazardous waste firing locations and where a representative sample of combustion gas to measure combustion efficiency can be monitored.

Raw material feed means the prepared and mixed materials, which include but are not limited to materials such as limestone, clay, shale, sand, iron ore, mill scale, cement kiln dust and flyash, that are fed to a cement or lightweight aggregate kiln. Raw material feed does not include the fuels used in the kiln to produce heat to form the clinker product.

Research, development, and demonstration source means a source engaged in laboratory, pilot plant, or prototype demonstration operations:

(1) Whose primary purpose is to conduct research, development, or short-term demonstration of an innovative and experimental hazardous waste treatment technology or process; and

(2) Where the operations are under the close supervision of technically-trained personnel.
Rolling average means the average of all one-minute averages over the averaging period.
Run means the net period of time during which an air emission sample is collected under a given set of operating conditions. Three or more runs constitutes a test. Unless otherwise specified, a run may be
either intermittent or continuous.
Run average means the average of the one-minute average parameter values for a run.
TEQ means toxicity equivalence, the international method of relating the toxicity of various dioxin/furan congeners to the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin.
You means the owner or operator of a hazardous waste combustor.

(b) The acronyms used in this subpart refer to the following:
AWFCO means automatic waste feed cutoff.
CAS means chemical abstract services registry.
CEMS means continuous emissions monitoring system.
CMS means continuous monitoring system.
DRE means destruction and removal efficiency.
MACT means maximum achievable control technology.
MTEC means maximum theoretical emissions concentration.
NIC means notification of intent to comply.

§ 63.1202 [Reserved]

EMISSIONS STANDARDS AND OPERATING LIMITS

§ 63.1203 What are the standards for hazardous waste incinerators?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial particulate matter control device is 400 °F or lower based on the average of the test run average temperatures. (For purposes of compliance, operation of a wet particulate control device is presumed to meet the 400 °F or lower requirement);

(2) Mercury in excess of 130 µ?g/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 240 µ?g/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 97 µ?g/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions

monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 77 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 34 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) Dioxins and furans in excess of 0.20 ng TEQ/dscm, corrected to 7 percent oxygen;

(2) Mercury in excess of 45 µ?g/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 120 µ?g/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 97 µ?g/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 21 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 34 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard.* (1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 ! ?(W_{out} / W_{in})] \times 100\%$$

Where:

W_{in} = mass feedrate of one principal organic hazardous constituent (POHC) in a waste feedstream; and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principle organic hazardous constituent (POHC) that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the Principal Organic

Hazardous Constituents (POHCs) in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactam (CAS number 105602) as provided by § 63.60, for each waste to be burned. You must base this specification on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses or other data and information.

(d) *Significant figures*. The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

§ 63.1204 What are the standards for hazardous waste burning cement kilns?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) Mercury in excess of 120 &mgr;g/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 330 &mgr;g/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 56 &mgr;g/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) For kilns equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Carbon monoxide in the by-pass duct or mid-kiln gas sampling system in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(i)(B) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons in the by-pass duct or mid-kiln gas sampling system do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Carbon monoxide in the main stack in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard

under paragraph (a)(5)(ii)(A) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons in the main stack do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrochloric acid and chlorine gas in excess of 130 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis, corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 0.15 kg/Mg dry feed and opacity greater than 20 percent.

(i) You must use suitable methods to determine the kiln raw material feedrate.

(ii) Except as provided in paragraph (a)(7)(iii) of this section, you must compute the particulate matter emission rate, E, from the following equation:

$$E = (C_s \times Q_{sd}) / P$$

Where:
E = emission rate of particulate matter, kg/Mg of kiln raw material feed;
C_s = concentration of particulate matter, kg/dscm;
Q_{sd} = volumetric flowrate of effluent gas, dscm/hr; and
P = total kiln raw material feed (dry basis), Mg/hr.

(iii) If you operate a preheater or preheater/precalciner kiln with dual stacks, you must test simultaneously and compute the combined particulate matter emission rate, Ec, from the following equation:

$$E_c = (C_{sk} \times Q_{sdk} + C_{sb} \times Q_{sdb}) / P$$

Where:
Ec = the combined emission rate of particulate matter from the kiln and bypass stack, kg/Mg of kiln raw material feed;
C_{sk} = concentration of particulate matter in the kiln effluent, kg/dscm;
Q_{sdk} = volumetric flowrate of kiln effluent gas, dscm/hr;
C_{sb} = concentration of particulate matter in the bypass stack effluent, kg/dscm;
Q_{sdb} = volumetric flowrate of bypass stack effluent gas, dscm/hr; and
P = total kiln raw material feed (dry basis), Mg/hr.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) Mercury in excess of 120 µ?g/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 180 µ?g/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 54 µ?g/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) For kilns equipped with a by-pass duct or midkiln gas sampling system, carbon monoxide and hydrocarbons emissions are limited in both the bypass duct or midkiln gas sampling system and the main stack as follows:

(A) Emissions in the by-pass or midkiln gas sampling system are limited to either:

*(1)*Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(i)(A)(*2*) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*2*) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; and

(B) Hydrocarbons in the main stack are limited, if construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, hydrocarbons and carbon monoxide are limited in the main stack to either:

(A) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) (*1*) Carbon monoxide not exceeding 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen; and

(*2*) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7); and

(*3*) If construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, hydrocarbons are limited to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrochloric acid and chlorine gas in excess of 86 parts per million, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 0.15 kg/Mg dry feed and opacity greater than 20 percent.

(i) You must use suitable methods to determine the kiln raw material feedrate.

(ii) Except as provided in paragraph (a)(7)(iii) of this section, you must compute the particulate matter emission rate, E, from the equation specified in paragraph (a)(7)(ii) of this section.

(iii) If you operate a preheater or preheater/precalciner kiln with dual stacks, you must test simultaneously and compute the combined particulate matter emission rate, Ec, from the equation specified in paragraph (a)(7)(iii) of this section.

(c) *Destruction and removal efficiency (DRE) standard.* (1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 ! ?(W_{out} / W_{in})] \times 100\%$$

Where:
W_{in} = mass feedrate of one principal organic hazardous constituent (POHC) in a waste feedstream; and
W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principle organic hazardous constituent (POHC) that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs)*. (i) You must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactam (CAS number 105602) as provided by § 63.60, for each waste to be burned. You must base this specification on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses or other data and information.

(d) *Cement kilns with in-line kiln raw mills.* (1) *General.* (i) You must conduct performance testing when the raw mill is on-line and when the mill is off-line to demonstrate compliance with the emission standards, and you must establish separate operating parameter limits under § 63.1209 for each mode of operation, except as provided by paragraph (d)(1)(iv) of this section.

(ii) You must document in the operating record each time you change from one mode of operation to the alternate mode and begin complying with the operating parameter limits for that alternate mode of operation.

(iii) You must calculate rolling averages for operating parameter limits as provided by § 63.1209(q)(2).

(iv) If your in-line kiln raw mill has dual stacks, you may assume that the dioxin/furan emission levels in the by-pass stack and the operating parameter limits determined during performance testing of the by-pass stack when the raw mill is off-line are the same as when the mill is on-line.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrochloric acid/chlorine gas emission standards on a time-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the time-weighted average emission concentration with the following equation:

$$C_{total} = C_{mill\text{-}off} \times (T_{mill\text{-}off} /(T_{mill\text{-}off} + T_{mill\text{-}on})) + C_{mill\text{-}on} \times (T_{mill\text{-}on} /(T_{mill\text{-}off} + T_{mill\text{-}on}))$$

Where:
C_{total} = time-weighted average concentration of a regulated constituent considering both raw mill on time and off time;
$C_{mill\text{-}off}$ = average performance test concentration of regulated constituent with the raw mill off-line;
$C_{mill\text{-}on}$ = average performance test concentration of regulated constituent with the raw mill on-line;
$T_{mill\text{-}off}$ = time when kiln gases are not routed through the raw mill; and
$T_{mill\text{-}on}$ = time when kiln gases are routed through the raw mill.

(ii) *Compliance.* (A) If you use this emission averaging provision, you must document in the operating record compliance with the emission standards on an annual basis by using the equation provided by paragraph (d)(2) of this section.

(B) Compliance is based on one-year block averages beginning on the day you submit the initial notification of compliance.

(iii) *Notification.* (A) If you elect to document compliance with one or more emission standards using this emission averaging provision, you must notify the Administrator in the initial comprehensive performance test plan submitted under § 63.1207(e).

(B) You must include historical raw mill operation data in the performance test plan to estimate future raw mill down-time and document in the performance test plan that estimated emissions and estimated raw mill down-time will not result in an exceedance of an emission standard on an annual basis.

(C) You must document in the notification of compliance submitted under § 63.1207(j) that an emission standard will not be exceeded based on the documented emissions from the performance test and predicted raw mill down-time.

(e) *Preheater or preheater/precalciner kilns with dual stacks.* (1) *General.* You must conduct performance testing on each stack to demonstrate compliance with the emission standards, and you must establish operating parameter limits under § 63.1209 for each stack, except as provided by paragraph (d)(1)(iv) of this section for dioxin/furan emissions testing and operating parameter limits for the by-pass stack of in-line raw mills.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrochloric acid/chlorine gas emission standards specified in this section on a gas flowrate-weighted average basis under the following procedures:

(i)*Averaging methodology.*You must calculate the gas flowrate-weighted average emission concentration using the following equation:

$$C_{tot} = C_{main} \times (Q_{main} /(Q_{main} + Q_{bypass})) + C_{bypass} \text{ x } (Q_{bypass} / (Q_{main} + Q_{bypass}))$$

Where:
C_{tot} = gas flowrate-weighted average concentration of the regulated constituent;
C_{main} = average performance test concentration demonstrated in the main stack;
C_{bypass} = average performance test concentration demonstrated in the bypass stack;
Q_{main} = volumetric flowrate of main stack effluent gas; and
Q_{bypass} = volumetric flowrate of bypass effluent gas.

(ii) *Compliance.* (A) You must demonstrate compliance with the emission standard(s) using the emission concentrations determined from the performance tests and the equation provided by paragraph (e)(1) of this section; and

(B) You must develop operating parameter limits for bypass stack and main stack flowrates that ensure the emission concentrations calculated with the equation in paragraph (e)(1) of this section do not exceed the emission standards on a 12-hour rolling average basis. You must include these flowrate limits in the Notification of Compliance.

(iii) *Notification.* If you elect to document compliance under this emissions averaging

provision, you must:

(A) Notify the Administrator in the initial comprehensive performance test plan submitted under § 63.1207(e). The performance test plan must include, at a minimum, information describing the flowrate limits established under paragraph (e)(2)(ii)(B) of this section; and

(B) Document in the Notification of Compliance submitted under § 63.1207(j) the demonstrated gas flowrate-weighted average emissions that you calculate with the equation provided by paragraph (e)(2) of this section.

(f) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(g) [Reserved]

(h) When you comply with the particulate matter requirements of paragraphs (a)(7) or (b)(7) of this section, you are exempt from the New Source Performance Standard for particulate matter and opacity under § 60.60 of this chapter.

§ 63.1205 What are the standards for hazardous waste burning lightweight aggregate kilns?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system) to 400 °F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) Mercury in excess of 120 µ?g/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 250 &mgr;g/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 110 &mgr;g/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 57 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system) to 400 °F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) Mercury in excess of 120 &mgr;g/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 43 &mgr;g/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 110 &mgr;g/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 57 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard.* (1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 -- (W_{out} / W_{in})] \times 100\%$$

Where:
W_{in} = mass feedrate of one principal organic hazardous constituent (POHC) in a waste feedstream; and
W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to burn hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactam (CAS number 105602) as provided by § 63.60, for each waste to be burned. You must base this specification on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or

mass in the waste feed, considering the results of waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

MONITORING AND COMPLIANCE PROVISIONS

§ 63.1206 When and how must you comply with the standards and operating requirements?

(a) *Compliance dates* -- (1) *Compliance date for existing sources*. You must comply with the standards of this subpart no later than the compliance date, September 30, 2003, unless the Administrator grants you an extension of time under § 63.6(i) or § 63.1213.

(2) *New or reconstructed sources.* (i) If you commenced construction or reconstruction of your hazardous waste combustor after April 19, 1996, you must comply with this subpart by the later of September 30, 1999 or the date the source starts operations, except as provided by paragraph (a)(2)(ii) of this section. The costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart, between April 19, 1996 and a source's compliance date, are not considered to be reconstruction costs.

(ii) For a standard in this subpart that is more stringent than the standard proposed on April 19, 1996, you may achieve compliance no later than September 30, 2003 if you comply with the standard proposed on April 19, 1996 after September 30, 1999. This exception does not apply, however, to new or reconstructed area source hazardous waste combustors that become major sources after September 30, 1999. As provided by § 63.6(b)(7), such sources must comply with this subpart at startup.

(3) *Early compliance*. If you choose to comply with the emission standards of this subpart prior to September 30, 2003, your compliance date is the date you postmark the Notification of Compliance under § 63.1207(j)(1).

(b) *Compliance with standards* -- (1) *Applicability.* The emission standards and operating requirements set forth in this subpart apply at all times except:

(i) During periods of startup, shutdown, and malfunction; and

(ii) When hazardous waste is not in the combustion chamber (i.e., the hazardous waste feed to the combustor has been cut off for a period of time not less than the hazardous waste residence time) and you have documented in the operating record that you are complying with all otherwise applicable requirements and standards promulgated under authority of sections 112 (e.g., subpart LLL of this part for cement kilns) or 129 of the Clean Air Act in lieu of the emission standards of §§ 63.1203 through 63.1205; the monitoring and compliance standards of this section and §§ 63.1207 through 63.1209, except the modes of operation requirements of § 63.1209(q); and the notification, reporting, and recordkeeping requirements of §§ 63.1210 through 63.1212.

(2) *Methods for determining compliance.* The Administrator will determine compliance with the emission standards of this subpart as provided by § 63.6(f)(2). Conducting performance testing under operating conditions representative of the extreme range of normal conditions is consistent with the requirements of §§ 63.6(f)(2)(iii)(B) and 63.7(e)(1) to conduct performance testing under representative operating conditions.

(3) *Finding of compliance.* The Administrator will make a finding concerning compliance with the emission standards and other requirements of this subpart as provided by § 63.6(f)(3).

(4) *Extension of compliance with emission standards.* The Administrator may grant an extension of compliance with the emission standards of this subpart as provided by §§ 63.6(i) and 63.1213.

(5) *Changes in design, operation, or maintenance* -- (i) *Changes that may adversely affect compliance.* If you plan to change (as defined in paragraph (b)(5)(iii) of this section) the design, operation, or maintenance practices of the source in a manner that may adversely affect compliance with any emission standard that is not monitored with a CEMS:

(A) *Notification.* You must notify the Administrator at least 60 days prior to the change, unless you document circumstances that dictate that such prior notice is not reasonably feasible. The notification must include:

(*1*) A description of the changes and which emission standards may be affected; and

(*2*) A comprehensive performance test schedule and test plan under the requirements of § 63.1207(f) that will document compliance with the affected emission standard(s);

(B) *Performance test.* You must conduct a comprehensive performance test under the requirements of §§ 63.1207(f)(1) and (g)(1) to document compliance with the affected emission standard(s) and establish operating parameter limits as required under § 63.1209, and submit to the Administrator a Notification of Compliance under §§ 63.1207(j) and 63.1210(d); and

(C) *Restriction on waste burning.* (*1*) Except as provided by paragraph (b)(5)(i)(C)(*2*) of this section, after the change and prior to submitting the notification of compliance, you must not burn hazardous waste for more than a total of 720 hours (renewable at the discretion of the Administrator) and only for the purposes of pretesting or comprehensive performance testing. Pretesting is defined at § 63.1207(h)(2)(i) and (ii).

*(2)*You may petition the Administrator to obtain written approval to burn hazardous waste in the interim prior to submitting a Notification of Compliance for purposes other than testing or pretesting. You must specify operating requirements, including limits on operating parameters, that you determine will ensure compliance with the emission standards of this subpart based on available information. The Administrator will review, modify as necessary, and approve if warranted the interim operating requirements.

(ii) *Changes that will not affect compliance.* If you determine that a change will not adversely affect compliance with the emission standards or operating requirements, you must document the change in the operating record upon making such change. You must revise as necessary the performance test plan, Documentation of Compliance, Notification of Compliance, and start-up, shutdown, and malfunction plan to reflect these changes.

(iii) *Definition of "change."* For purposes of paragraph (b)(5) of this section, "change" means any change in design, operation, or maintenance practices that were documented in the comprehensive performance test plan, Notification of Compliance, or startup, shutdown, and malfunction plan.

(6) *Compliance with the carbon monoxide and hydrocarbon emission standards.* This paragraph applies to sources that elect to comply with the carbon monoxide and hydrocarbon emissions standards under §§ 63.1203 through 63.1205 by documenting continuous compliance with the carbon monoxide standard using a continuous emissions monitoring system and documenting compliance with the hydrocarbon standard during the destruction and removal efficiency (DRE) performance test or its equivalent.

(i) If a DRE test performed pursuant to § 63.1207(c)(2) is acceptable as documentation of compliance with the DRE standard, you may use the highest hourly rolling average hydrocarbon level achieved during the DRE test runs to document compliance with the

hydrocarbon standard. An acceptable DRE test is any test for which the data and results are determined to meet quality assurance objectives (on a site-specific basis) such that the results adequately demonstrate compliance with the DRE standard.

(ii) If during this acceptable DRE test you did not obtain hydrocarbon emissions data sufficient to document compliance with the hydrocarbon standard, you must either:

(A) Perform, as part of the performance test, an "equivalent DRE test" to document compliance with the hydrocarbon standard. An equivalent DRE test is comprised of a minimum of three runs each with a minimum duration of one hour during which you operate the combustor as close as reasonably possible to the operating parameter limits that you established based on the initial DRE test. You must use the highest hourly rolling average hydrocarbon emission level achieved during the equivalent DRE test to document compliance with the hydrocarbon standard; or

(B) Perform a DRE test as part of the performance test.

(7) *Compliance with the DRE standard*. (i) Except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section:

(A) You must document compliance with the Destruction and Removal Efficiency (DRE) standard under §§ 63.1203 through 63.1205 only once provided that you do not modify the source after the DRE test in a manner that could affect the ability of the source to achieve the DRE standard.

(B) You may use any DRE test data that documents that your source achieves the required level of DRE provided:

(*1*) You have not modified the design or operation of your source in a manner that could effect the ability of your source to achieve the DRE standard since the DRE test was performed; and,

(*2*) The DRE test data meet quality assurance objectives determined on a site-specific basis.

(ii) Sources that feed hazardous waste at a location in the combustion system other than the normal flame zone must demonstrate compliance with the DRE standard during each comprehensive performance test;

(iii) For sources that do not use DRE previous testing to document conformance with the DRE standard pursuant to § 63.1207(c)(2), you must perform DRE testing during the initial comprehensive performance test.

(8) *Applicability of particulate matter and opacity standards during particulate matter CEMS correlation tests*. (i) Any particulate matter and opacity standards of parts 60, 61, 63, 264, 265, and 266 of this chapter (*i.e.*, any title 40 particulate or opacity standards) applicable to a hazardous waste combustor do not apply while you conduct particulate matter continuous emissions monitoring system (CEMS) correlation tests (*i.e.*, correlation with manual stack methods) under the conditions of paragraphs (b)(8)(iii) through (vii) of this section.

(ii) Any permit or other emissions or operating parameter limits or conditions, including any limitation on workplace practices, that are applicable to hazardous waste combustors to ensure compliance with any particulate matter and opacity standards of parts 60, 61, 63, 264, 265, and 266 of this chapter (*i.e.*, any title 40 particulate or opacity standards) do not apply while you conduct particulate matter CEMS correlation tests under the conditions of paragraphs (b)(8)(iii) through (vii) of this section.

(iii) For the provisions of this section to apply, you must:

(A) Develop a particulate matter CEMS correlation test plan that includes the following information. This test plan may be included as part of the comprehensive performance test plan required under §§ 63.1207(e) and (f):

(*1*) Number of test conditions and number of runs for each test condition;

(*2*) Target particulate matter emission level for each test condition;

(*3*) How you plan to modify operations to attain the desired particulate matter emission levels; and

(*4*) Anticipated normal particulate matter emission levels; and

(B) Submit the test plan to the Administrator for approval at least 90 calendar days before the correlation test is scheduled to be conducted.

(iv) The Administrator will review and approve/disapprove the correlation test plan under the procedures for review and approval of the site-specific test plan provided by § 63.7(c)(3)(i) and (iii). If the Administrator fails to approve or disapprove the correlation test plan within the time period specified by § 63.7(c)(3)(i), the plan is considered approved, unless the Administrator has requested additional information.

(v) The particulate matter and opacity standards and associated operating limits and conditions will not be waived for more than 96 hours, in the aggregate, for a correlation test, including all runs of all test conditions, unless more time is approved by the Administrator.

(vi) The stack sampling team must be on-site and prepared to perform correlation testing no later than 24 hours after you modify operations to attain the desired particulate matter emissions concentrations, unless you document in the correlation test plan that a longer period of conditioning is appropriate.

(vii) You must return to operating conditions indicative of compliance with the applicable particulate matter and opacity standards as soon as possible after correlation testing is completed.

(9) *Alternative standards for existing or new hazardous waste burning lightweight aggregate kilns using MACT.* (i) You may petition the Administrator to recommend alternative semivolatile metal, low volatile metal, mercury, or hydrochloric acid/chlorine gas emission standards if:

(A) You cannot achieve one or more of these standards while using maximum achievable control technology (MACT) because of the raw material contribution to emissions of the regulated metals or hydrochloric acid/chlorine gas; or

(B) You determine that mercury is not present at detectable levels in your raw material.

(ii) The alternative standard that you recommend under paragraph (b)(9)(i)(A) of this section may be an operating requirement, such as a hazardous waste feedrate limitation for metals and/or chlorine, and/or an emission limitation.

(iii) The alternative standard must include a requirement to use MACT, or better, applicable to the standard for which the source is seeking relief, as defined in paragraphs (b)(9)(viii) and (ix) of this section.

(iv) *Documentation required.* (A) The alternative standard petition you submit under paragraph (b)(9)(i)(A) of this section must include data or information documenting that raw material contributions to emissions of the regulated metals or hydrochloric acid/chlorine gas prevent you from complying with the emission standard even though the source is using MACT, as defined in paragraphs (b)(9)(viii) and (ix) of this section, for the standard for which you are seeking relief.

(B) Alternative standard petitions that you submit under paragraph (b)(9)(i)(B) of this section must include data or information documenting that mercury is not present at detectable levels in raw materials.

(v) You must include data or information with semivolatile metal and low volatility metal alternative standard petitions that you submit under paragraph (b)(9)(i)(A) of this section documenting that increased chlorine feedrates associated with the burning of hazardous waste, when compared to non-hazardous waste operations, do not significantly increase metal emissions attributable to raw materials.

(vi) You must include data or information with semivolatile metal, low volatile metal, and hydrochloric acid/chlorine gas alternative standard petitions that you submit under paragraph

(b)(9)(i)(A) of this section documenting that semivolatile metal, low volatile metal, and hydrochloric acid/chlorine gas emissions attributable to the hazardous waste only will not exceed the emission standards in § 63.1205(a) and (b).

(vii) You must not operate pursuant to your recommended alternative standards in lieu of emission standards specified in § 63.1205(a) and (b):

(A) Unless the Administrator approves the provisions of the alternative standard petition request or establishes other alternative standards; and

(B) Until you submit a revised Notification of Compliance that incorporates the revised standards.

(viii) For purposes of this alternative standard provision, MACT for existing hazardous waste burning lightweight aggregate kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 24µ?g/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 280,000 µ?g/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 120,000 µ?g/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less; and

(D) For hydrochloric acid/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 2,000,000 µ?g/dscm or less, and use of an air pollution control device with a hydrochloric acid/chlorine gas removal efficiency of 85 percent or greater.

(ix) For purposes of this alternative standard provision, MACT for new hazardous waste burning lightweight aggregate kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 4 µ?g/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 280,000 µ?g/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 46,000 µ?g/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 57 mg/dscm or less;

(D) For hydrochloric acid/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 14,000,000 µ?g/dscm or less, and use of a wet scrubber with a hydrochloric acid/chlorine gas removal efficiency of 99.6 percent or greater.

(10) *Alternative standards for existing or new hazardous waste burning cement kilns using MACT.* (i) You may petition the Administrator to recommend alternative semivolatile, low volatile metal, mercury, and/or hydrochloric acid/chlorine gas emission standards if:

(A) You cannot achieve one or more of these standards while using maximum achievable control technology (MACT) because of raw material contributions to emissions of the regulated metals or hydrochloric acid/chlorine gas; or (B) You determine that mercury is not present at detectable levels in your raw material.

(ii) The alternative standard that you recommend under paragraph (b)(10)(i)(A) of this section may be an operating requirement, such as a hazardous waste feedrate limitation for metals and/or chlorine, and/or an emission limitation.

(iii) The alternative standard must include a requirement to use MACT, or better, applicable to the standard for which the source is seeking relief, as defined in paragraphs (b)(10)(viii) and (ix) of this section.

(iv) *Documentation required.* (A) The alternative standard petition you submit under

paragraph (b)(10)(i)(A) of this section must include data or information documenting that raw material contributions to emissions prevent you from complying with the emission standard even though the source is using MACT, as defined in paragraphs (b)(10)(viii) and (ix) of this section, for the standard for which you are seeking relief.

(B) Alternative standard petitions that you submit under paragraph (b)(10)(i)(B) of this section must include data or information documenting that mercury is not present at detectable levels in raw materials.

(v) You must include data or information with semivolatile metal and low volatile metal alternative standard petitions that you submit under paragraph (b)(10)(i)(A) of this section documenting that increased chlorine feedrates associated with the burning of hazardous waste, when compared to non-hazardous waste operations, do not significantly increase metal emissions attributable to raw materials.

(vi) You must include data or information with semivolatile metal, low volatile metal, and hydrochloric acid/chlorine gas alternative standard petitions that you submit under paragraph (b)(10)(i)(A) of this section documenting that emissions of the regulated metals and hydrochloric acid/chlorine gas attributable to the hazardous waste only will not exceed the emission standards in § 63.1204(a) and (b).

(vii) You must not operate pursuant to your recommended alternative standards in lieu of emission standards specified in § 63.1204(a) and (b):

(A) Unless the Administrator approves the provisions of the alternative standard petition request or establishes other alternative standards; and

(B) Until you submit a revised Notification of Compliance that incorporates the revised standards.

(viii) For purposes of this alternative standard provision, MACT for existing hazardous waste burning cement kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 88µ?g/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 31,000 µ?g/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 54,000 µ?g/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less; and

(D) For hydrochloric acid/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 720,000 µ?g/dscm or less.

(ix) For purposes of this alternative standard provision, MACT for new hazardous waste burning cement kilns is defined as:

(A) For mercury, a hazardous waste feedrate corresponding to an MTEC of 7 µ?g/dscm or less;

(B) For semivolatile metals, a hazardous waste feedrate corresponding to an MTEC of 31,000 µ?g/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less;

(C) For low volatile metals, a hazardous waste feedrate corresponding to an MTEC of 15,000 µ?g/dscm or less, and use of a particulate matter control device that achieves particulate matter emissions of 0.15 kg/Mg dry feed or less;

(D) For hydrochloric acid/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 420,000 µ?g/dscm or less.

(11) *Calculation of hazardous waste residence time*. You must calculate the hazardous waste residence time and include the calculation in the performance test plan under § 63.1207(f) and the operating record. You must also provide the hazardous waste residence time in the Documentation of

Compliance under § 63.1211(c) and the Notification of Compliance under §§ 63.1207(j) and 63.1210(b).

(12) *Documenting compliance with the standards based on performance testing.* (i) You must conduct a minimum of three runs of a performance test required under § 63.1207 to document compliance with the emission standards of this subpart.

(ii) You must document compliance with the emission standards based on the arithmetic average of the emission results of each run, except that you must document compliance with the destruction and removal efficiency standard for each run of the comprehensive performance test individually.

(13) *Cement kilns and lightweight aggregate kilns that feed hazardous waste at a location other than the end where products are normally discharged and where fuels are normally fired.*

(i) Cement kilns that feed hazardous waste at a location other than the end where products are normally discharged and where fuels are normally fired must comply with the carbon monoxide and hydrocarbon standards of § 63.1204 as follows:

(A) For existing sources, you must not discharge or cause combustion gases to be emitted into the atmosphere that contain either:

(*1*) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*2*) Hydrocarbons both in the by-pass duct and at a preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, at each location, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*3*) If the only firing location of hazardous waste upstream (in terms of gas flow) of the point where combustion gases are diverted into the bypass duct is at the kiln end where products are normally discharged, then both hydrocarbons at the preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, and either hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, or carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, and corrected to 7 percent oxygen. If you comply with the carbon monoxide standard of 100 parts per million by volume in the by-pass duct, then you must also not discharge or cause combustion gases to be emitted into the atmosphere that contain hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7).

(B) For new sources, you must not discharge or cause combustion gases to be emitted into the atmosphere that contain either:

(*1*) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a

continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*2*) (*i*) Hydrocarbons both in the by-pass duct and at a preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, at each location, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, and

(*ii*) Hydrocarbons in the main stack, if construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*3*) (*i*) If the only firing location of hazardous waste upstream (in terms of gas flow) of the point where combustion gases are diverted into the bypass duct is at the kiln end where products are normally discharged, then both hydrocarbons at the preheater tower combustion gas monitoring location in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, and either hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, or carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, and corrected to 7 percent oxygen. If you comply with the carbon monoxide standard of 100 parts per million by volume in the by-pass duct, then you must also not discharge or cause combustion gases to be emitted into the atmosphere that contain hydrocarbons in the by-pass duct in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane, at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7).

(*ii*) If construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, hydrocarbons are limited to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(ii) *Alternative metal emission control requirements for existing incinerators.* (A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain lead, cadmium, and selenium in excess of 240 µ?g/dscm, combined emissions, corrected to 7 percent oxygen; and,

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel in excess of 97 µ?g/dscm, combined emissions, corrected to 7 percent oxygen; and,

(C) You must comply with the provisions specified in paragraph (b)(14)(iv) of this section.

(iii) *Alternative metal emission control requirements for new incinerators.* (A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain lead, cadmium, and selenium in excess of 24 µ?g/dscm, combined emissions, corrected to 7 percent oxygen; and,

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel in excess of 97 µ?g/dscm, combined emissions, corrected to 7 percent oxygen; and,

(C) You must comply with the provisions specified in paragraph (b)(14)(iv) of this section.

(iv) *Other requirements.* Existing and new incinerators must document in the operating record that they meet the requirements of paragraph (b)(14)(iv)(A) through (C) of this section.

(A) The twelve-hour rolling average of the maximum theoretical emissions concentration for lead, cadmium, and selenium, combined, for the combined hazardous waste feedstreams to the incinerator, must not exceed:

(*1*) For existing incinerators, 1,325 µ?g/dscm.

(*2*) For new incinerators, 875 µ?g/dscm.

(B) The twelve-hour rolling average of the maximum theoretical emissions concentration for arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined, for the combined hazardous waste feedstreams to the incinerator, must not exceed:

(*1*) For existing incinerators, 6,000 µ?g/dscm.

(*2*) For new incinerators, 3250 µ?g/dscm.

(C) You must document that your air pollution control system achieves at least a 90 percent system removal efficiency for semivolatile metals. In making this demonstration, you may spike semivolatile metals above the applicable levels of paragraph (b)(14)(iv)(A) or (B) of this section provided that the applicable alternative emission limitation of paragraph (b)(14)(ii)(A) or (iii)(A) of this section is attained during the test. This test may be performed independently of the comprehensive performance test and must be used to establish applicable operating parameter limits as described in § 63.1209(n), not including § 63.1209(n)(2), to ensure that a 90 percent semivolatile metal system removal efficiency is achieved during normal operations.

(v) *Operating limits.* (A) Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (b)(14)(ii) and (iii) of this section pursuant to § 63.1209(n), except that semivolatile metal feedrate limits would apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits would apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

(B) Twelve-hour rolling average hazardous waste metal feedrate limits required pursuant to paragraphs (b)(14)(iv)(A) and (B) of this section are based on the combined hazardous waste feedstreams to the incinerator and may be expressed either as an maximum theoretical emission concentration limit or as a restriction on maximum hazardous waste metals mass feedrate and minimum gas flow rate.

(C) For purposes of complying with the twelve-hour rolling average hazardous waste metal feedrate limits of paragraphs (b)(14)(iv)(A) and (B) of this section, non-detectable metal constituents in each hazardous waste feed must be assumed to be present at one-half the detection limit.

(15) *Alternative to the interim standards for mercury for cement and lightweight aggregate kilns.* (i) *General.* In lieu of complying with the applicable mercury standards of §§ 63.1204(a)(2) and (b)(2) for existing and new cement kilns and §§ 63.1205(a)(2) and (b)(2) for existing and new lightweight

aggregate kilns, you may instead elect to comply with the alternative mercury standard described in paragraphs (b)(15)(ii) through (b)(15)(v) of this section.

(ii) *Operating requirement.* You must not exceed a hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) of 120 &mgr;g/dscm on a twelve-hour rolling average.

(iii) To document compliance with the operating requirement of paragraph (b)(15)(ii) of this section, you must:

(A) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to § 63.1209(c);

(B) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(C) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

(D) Interlock the MTEC calculated in paragraph (b)(15)(iii)(C) of this section to the AWFCO system to stop hazardous waste burning when the MTEC exceeds the operating requirement of paragraph (b)(15)(ii) of this section.

(iv) In lieu of the requirement in paragraph (b)(15)(iii) of this section, you may:

(A) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (b)(15)(iii)(C) of this section is below the operating requirement of paragraph (b)(15)(ii) of this section; and

(B) Interlock the minimum gas flowrate limit and maximum feedrate limits in paragraph (b)(15)(iv)(A) of this section to the AWFCO system to stop hazardous waste burning when the gas flowrate or mercury feedrate exceeds the limits in paragraph (b)(15)(iv)(A) of this section.

(v) *Notification requirement.* You must notify in writing the RCRA authority that you intend to comply with the alternative standard.

(c) *Operating requirements* -- (1) *General.* (i) You must operate only under the operating requirements specified in the Documentation of Compliance under § 63.1211(c) or the Notification of Compliance under §§ 63.1207(j) and 63.1210(b), except:

(A) During performance tests under approved test plans according to § 63.1207(e), (f), and (g), and

(B) Under the conditions of paragraph (b)(1)(i) or (ii) of this section;

(ii) The Documentation of Compliance and the Notification of Compliance must contain operating requirements including, but not limited to, the operating requirements in this section and § 63.1209

(iii) Failure to comply with the operating requirements is failure to ensure compliance with the emission standards of this subpart;

(iv) Operating requirements in the Notification of Compliance are applicable requirements for purposes of parts 70 and 71 of this chapter;

(v) The operating requirements specified in the Notification of Compliance will be incorporated in the title V permit.

(2) *Startup, shutdown, and malfunction plan.* (i) You are subject to the startup, shutdown, and malfunction plan requirements of § 63.6(e)(3).

(ii) If you elect to comply with §§ 270.235(a)(1)(iii), 270.235(a)(2)(iii), or 270.235(b)(1)(ii) of this chapter to address RCRA concerns that you minimize emissions of toxic compounds from startup, shutdown, and malfunction events (including releases from emergency safety vents):

(A) The startup, shutdown, and malfunction plan must include a description of potential causes of malfunctions, including releases from emergency safety vents, that may result in significant releases of hazardous air pollutants, and actions the source is taking to minimize the frequency and severity of those malfunctions.

(B) You must submit the startup, shutdown, and malfunction plan to the Administrator for review and approval.

(*1*) *Approval procedure.* The Administrator will notify you of approval or intention to deny approval of the startup, shutdown, and malfunction plan within 90 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplemental information that you submit. Before disapproving the plan, the Administrator will notify you of the Administrator's intention to disapprove the plan together with:

*(i)*Notice of the information and findings on which intended disapproval is based; and

(*ii*) Notice of opportunity for you to present additional information to the Administrator before final action on disapproval of the plan. At the time the Administrator notifies you of intention to disapprove the plan, the Administrator will specify how much time you will have after being notified on the intended disapproval to submit additional information.

(*2*) *Responsibility of owners and operators.* You are responsible for ensuring that you submit any supplementary and additional information supporting your plan in a timely manner to enable the Administrator to consider whether to approve the plan. Neither your submittal of the plan, nor the Administrator's failure to approve or disapprove the plan, relieves you of the responsibility to comply with the provisions of this subpart.

(C) *Changes to the plan that may significantly increase emissions.* (*1*) You must request approval in writing from the Administrator within 5 days after making a change to the startup, shutdown, and malfunction plan that may significantly increase emissions of hazardous air pollutants.

(*2*) To request approval of such changes to the startup, shutdown, and malfunction plan, you must follow the procedures provided by paragraph (c)(2)(ii)(B) of this section for initial approval of the plan.

(iii) You must identify in the plan a projected oxygen correction factor based on normal operations to use during periods of startup and shutdown.

(iv) You must record the plan in the operating record.

(v) *Operating under the startup, shutdown, and malfunction plan.* (A) *Compliance with AWFCO requirements during malfunctions.* (*1*) During malfunctions, the automatic waste feed cutoff requirements of § 63.1206(c)(3) continue to apply, except for paragraphs (c)(3)(v) and (c)(3)(vi) of this section. If you exceed a part 63, Subpart EEE, of this chapter emission standard monitored by a CEMS or COMs or operating limit specified under § 63.1209, the automatic waste feed cutoff system must immediately and automatically cutoff the hazardous waste feed, except as provided by paragraph (c)(3)(viii) of this section. If the malfunction itself prevents immediate and automatic cutoff of the hazardous waste feed, however, you must cease feeding hazardous waste as quickly as possible.

(*2*) Although the automatic waste feed cutoff requirements continue to apply during a malfunction, an exceedance of an emission standard monitored by a CEMS or COMS or operating limit specified under § 63.1209 is not a violation of this subpart if you take the corrective measures prescribed in the startup, shutdown, and malfunction plan.

Attachment 5 Attachment 5

(*3*) *Excessive exceedances during malfunctions.* For each set of 10 exceedances of an emission standard or operating requirement while hazardous waste remains in the combustion chamber (*i.e.,* when the hazardous waste residence time has not transpired since the hazardous waste feed was cutoff) during a 60-day block period, you must:

(*i*) Within 45 days of the 10th exceedance, complete an investigation of the cause of each exceedance and evaluation of approaches to minimize the frequency, duration, and severity of each exceedance, and revise the startup, shutdown, and malfunction plan as warranted by the evaluation to minimize the frequency, duration, and severity of each exceedance; and

(*ii*) Record the results of the investigation and evaluation in the operating record, and include a summary of the investigation and evaluation, and any changes to the startup, shutdown, and malfunction plan, in the excess emissions report required under § 63.10(e)(3).

(B) *Compliance with AWFCO requirements when burning hazardous waste during startup and shutdown.* (*1*) If you feed hazardous waste during startup or shutdown, you must include waste feed restrictions (*e.g.,* type and quantity), and other appropriate operating conditions and limits in the startup, shutdown, and malfunction plan.

(*2*) You must interlock the operating limits you establish under paragraph (c)(2)(v)(B)(*1*) of this section with the automatic waste feed cutoff system required under § 63.1206(c)(3), except for paragraphs (c)(3)(v) and (c)(3)(vi) of this section.

(*3*) When feeding hazardous waste during startup or shutdown, the automatic waste feed cutoff system must immediately and automatically cutoff the hazardous waste feed if you exceed the operating limits you establish under paragraph (c)(2)(v)(B)(*1*) of this section, except as provided by paragraph (c)(3)(viii) of this section.

(*4*) Although the automatic waste feed cutoff requirements of this paragraph apply during startup and shutdown, an exceedance of an emission standard or operating limit is not a violation of this subpart if you comply with the operating procedures prescribed in the startup, shutdown, and malfunction plan.

(3) *Automatic waste feed cutoff (AWFCO)* -- (i) *General.* Upon the compliance date, you must operate the hazardous waste combustor with a functioning system that immediately and automatically cuts off the hazardous waste feed, except as provided by paragraph (c)(3)(viii) of this section:

(A) When any of the following are exceeded: Operating parameter limits specified under § 63.1209; an emission standard monitored by a CEMS; and the allowable combustion chamber pressure;

(B) When the span value of any CMS detector, except a CEMS, is met or exceeded;

(C) Upon malfunction of a CMS monitoring an operating parameter limit specified under § 63.1209 or an emission level; or

(D) When any component of the automatic waste feed cutoff system fails.

(ii) *Ducting of combustion gases.* During an AWFCO, you must continue to duct combustion gasses to the air pollution control system while hazardous waste remains in the combustion chamber (*i.e*., if the hazardous waste residence time has not transpired since the hazardous waste feed cutoff system was activated).

(iii) *Restarting waste feed.* You must continue to monitor during the cutoff the operating parameters for which limits are established under § 63.1209 and the emissions required under that section to be monitored by a CEMS, and you must not restart the hazardous waste feed until the operating parameters and emission levels are within the specified limits.

(iv) *Failure of the AWFCO system.* If the AWFCO system fails to automatically and

immediately cutoff the flow of hazardous waste upon exceedance of parameter required to be interlocked with the AWFCO system under paragraph (c)(3)(i) of this section, you have failed to comply with the AWFCO requirements of paragraph (c)(3) of this section.

(v) *Corrective measures.* If, after any AWFCO, there is an exceedance of an emission standard or operating requirement, irrespective of whether the exceedance occurred while hazardous waste remained in the combustion chamber (*i.e.*, whether the hazardous waste residence time has transpired since the hazardous waste feed cutoff system was activated), you must investigate the cause of the AWFCO, take appropriate corrective measures to minimize future AWFCOs, and record the findings and corrective measures in the operating record.

(vi) *Excessive exceedance reporting.* (A) For each set of 10 exceedances of an emission standard or operating requirement while hazardous waste remains in the combustion chamber (*i.e.*, when the hazardous waste residence time has not transpired since the hazardous waste feed was cutoff) during a 60-day block period, you must submit to the Administrator a written report within 5 calendar days of the 10th exceedance documenting the exceedances and results of the investigation and corrective measures taken.

(B) On a case-by-case basis, the Administrator may require excessive exceedance reporting when fewer than 10 exceedances occur during a 60-day block period.

(vii) *Testing.* The AWFCO system and associated alarms must be tested at least weekly to verify operability, unless you document in the operating record that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, you must conduct operability testing at least monthly. You must document and record in the operating record AWFCO operability test procedures and results.

(viii) *Ramping down waste feed.* (A) You may ramp down the waste feedrate of pumpable hazardous waste over a period not to exceed one minute, except as provided by paragraph (c)(3)(viii)(B) of this section. If you elect to ramp down the waste feed, you must document ramp down procedures in the operating and maintenance plan. The procedures must specify that the ramp down begins immediately upon initiation of automatic waste feed cutoff and the procedures must prescribe a bona fide ramping down. If an emission standard or operating limit is exceeded during the ramp down, you have failed to comply with the emission standards or operating requirements of this subpart.

(B) If the automatic waste feed cutoff is triggered by an exceedance of any of the following operating limits, you may not ramp down the waste feed cutoff: Minimum combustion chamber temperature, maximum hazardous waste feedrate, or any hazardous waste firing system operating limits that may be established for your combustor.

(4) *ESV openings* -- (i) *Failure to meet standards.* If an emergency safety vent (ESV) opens when hazardous waste remains in the combustion chamber (*i.e.,* when the hazardous waste residence time has not expired) during an event other than a malfunction as defined in the startup, shutdown, and malfunction plan such that combustion gases are not treated as during the most recent comprehensive performance test (*e.g.,* if the combustion gas by-passes any emission control device that was operating during the performance test), you must document in the operating record whether you remain in compliance with the emission standards of this subpart considering emissions during the ESV opening event.

(ii) *ESV operating plan.* (A) You must develop an ESV operating plan, comply with the operating plan, and keep the plan in the operating record.

(B) The ESV operating plan must provide detailed procedures for rapidly stopping the waste feed, shutting down the combustor, and maintaining temperature and negative pressure in the combustion chamber during the hazardous waste residence time, if feasible. The plan must include calculations and information and data documenting the effectiveness of the plan's procedures for ensuring that combustion chamber temperature and negative pressure are maintained as is reasonably feasible.

(iii) *Corrective measures.* After any ESV opening that results in a failure to meet the emission standards as defined in paragraph (c)(4)(i) of this section, you must investigate the cause of the ESV opening, take appropriate corrective measures to minimize such future ESV openings, and record the findings and corrective measures in the operating record.

(iv) *Reporting requirements.* You must submit to the Administrator a written report within 5 days of an ESV opening that results in failure to meet the emission standards of this subpart (as determined in paragraph (c)(4)(i) of this section) documenting the result of the investigation and corrective measures taken.

(5) *Combustion system leaks.* (i) Combustion system leaks of hazardous air pollutants must be controlled by:

(A) Keeping the combustion zone sealed to prevent combustion system leaks; or

(B) Maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor; or

(C) Upon prior written approval of the Administrator, an alternative means of control to provide control of combustion system leaks equivalent to maintenance of combustion zone pressure lower than ambient pressure; or

(D) Upon prior written approval of the Administrator, other technique(s) which can be demonstrated to prevent fugitive emissions without use of instantaneous pressure limits; and

(ii) You must specify in the performance test workplan and Notification of Compliance the method that will be used to control combustion system leaks. If you control combustion system leaks by maintaining the combustion zone pressure lower than ambient pressure using an instantaneous monitor, you must also specify in the performance test workplan and Notification of Compliance the monitoring and recording frequency of the pressure monitor, and specify how the monitoring approach will be integrated into the automatic waste feed cutoff system.

(6) *Operator training and certification*. (i) You must establish training programs for all categories of personnel whose activities may reasonably be expected to directly affect emissions of hazardous air pollutants from the source. Such persons include, but are not limited to, chief facility operators, control room operators, continuous monitoring system operators, persons that sample and analyze feedstreams, persons that manage and charge feedstreams to the combustor, persons that operate emission control devices, and ash and waste handlers. Each training program shall be of a technical level commensurate with the person's job duties specified in the training manual. Each commensurate training program shall require an examination to be administered by the instructor at the end of the training course. Passing of this test shall be deemed the "certification" for personnel, except that, for control room operators, the training and certification program shall be as specified in paragraphs (c)(6)(iii) through (c)(6)(vi) of this section.

(ii) You must ensure that the source is operated and maintained at all times by persons who are trained and certified to perform these and any other duties that may affect emissions of hazardous air pollutants. A certified control room operator must be on duty at the site at all times the source is in operation.

(iii) Hazardous waste incinerator control room operators must:

(A) Be trained and certified under a site-specific, source-developed and implemented program that meets the requirements of paragraph (c)(6)(v) of this section; or

(B) Be trained under the requirements of, and certified under, the American Society of Mechanical Engineers Standard Number QHO-1-1994 and QHO-1a-1996 Addenda (incorporated by reference -- see § 63.14(e)). If you choose to use the ASME program:

(*1*) Control room operators must, prior to the compliance date, achieve provisional certification, and must submit an application to ASME and be

scheduled for the full certification exam. Within one year of the compliance date, control room operators must achieve full certification;

(*2*) New operators and operators of new sources must, before assuming their duties, achieve provisional certification, and must submit an application to ASME, and be scheduled for the full certification exam. Within one year of assuming their duties, these operators must achieve full certification; or

(C) Be trained and certified under a State program.

(iv) Cement kiln and lightweight aggregate kiln control room operators must be trained and certified under:

(A) A site-specific, source-developed and implemented program that meets the requirements of paragraph (c)(6)(v) of this section; or

(B) A State program.

(v) Site-specific, source developed and implemented training programs for control room operators must include the following elements:

(A) Training on the following subjects:

(*1*) Environmental concerns, including types of emissions;

(*2*) Basic combustion principles, including products of combustion;

(*3*) Operation of the specific type of combustor used by the operator, including proper startup, waste firing, and shutdown procedures;

(*4*) Combustion controls and continuous monitoring systems;

(*5*) Operation of air pollution control equipment and factors affecting performance;

(*6*) Inspection and maintenance of the combustor, continuous monitoring systems, and air pollution control devices;

(*7*) Actions to correct malfunctions or conditions that may lead to malfunction;

(*8*) Residue characteristics and handling procedures; and

(*9*) Applicable Federal, state, and local regulations, including Occupational Safety and Health Administration workplace standards; and

(B) An examination designed and administered by the instructor; and

(C) Written material covering the training course topics that may serve as reference material following completion of the course.

(vi) To maintain control room operator qualification under a site-specific, source developed and implemented training program as provided by paragraph (c)(6)(v) of this section, control room operators must complete an annual review or refresher course covering, at a minimum, the following topics:

(A) Update of regulations;

(B) Combustor operation, including startup and shutdown procedures, waste firing, and residue handling;

(C) Inspection and maintenance;

(D) Responses to malfunctions or conditions that may lead to malfunction; and

(E) Operating problems encountered by the operator.

(vii) You must record the operator training and certification program in the operating record.

(7) *Operation and maintenance plan* -- (i) *General.* (A) You must prepare and at all times operate according to an operation and maintenance plan that describes in detail procedures for operation, inspection, maintenance, and corrective measures for all components of the combustor, including associated pollution control equipment, that could affect emissions of regulated hazardous air pollutants.

(B) The plan must prescribe how you will operate and maintain the combustor in a manner consistent with good air pollution control practices for minimizing emissions at

least to the levels achieved during the comprehensive performance test.

(C) This plan ensures compliance with the operation and maintenance requirements of § 63.6(e) and minimizes emissions of pollutants, automatic waste feed cutoffs, and malfunctions.

(D) You must record the plan in the operating record.

(ii) *Bag leak detection system requirements for baghouses at lightweight aggregate kilns and incinerators.* If you own or operate a hazardous waste incinerator or hazardous waste burning lightweight aggregate kiln equipped with a baghouse (fabric filter), you must continuously operate a bag leak detection system that meets the specifications and requirements of paragraph (c)(7)(ii)(A) of this section and you must comply with the corrective measures requirements of paragraph (c)(7)(ii)(B) of this section:

(A) *Bag leak detection system specification and requirements. (1)* The bag leak detection system must be certified by the manufacturer to be capable of continuously detecting and recording particulate matter emissions at concentrations of 1.0 milligrams per actual cubic meter unless you demonstrate, pursuant to procedures in § 63.1209(a)(1), that a higher sensitivity would adequately detect bag leaks;

(*2*) The bag leak detection system shall provide output of relative particulate matter loadings;

(*3*) The bag leak detection system shall be equipped with an alarm system that will sound an audible alarm when an increase in relative particulate loadings is detected over a preset level;

(*4*) The bag leak detection system shall be installed and operated in a manner consistent with available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the manufacturer's written specifications and recommendations for installation, operation, and adjustment of the system;

(*5*) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time;

(*6*) Following initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the operation and maintenance plan required under paragraph (c)(7)(i) of this section. You must not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365 day period unless such adjustment follows a complete baghouse inspection which demonstrates the baghouse is in good operating condition;

(*7*) For negative pressure or induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector shall be installed downstream of the baghouse and upstream of any wet acid gas scrubber; and

(*8*) Where multiple detectors are required, the system's instrumentation and alarm system may be shared among the detectors.

(B) *Bag leak detection system corrective measures requirements.* The operating and maintenance plan required by paragraph (c)(7)(i) of this section must include a corrective measures plan that specifies the procedures you will follow in the case of a bag leak detection system alarm. The corrective measures plan must include, at a minimum, the procedures used to determine and record the time and cause of the alarm as well as the corrective measures taken to correct the control device malfunction or minimize emissions as specified below. Failure to initiate the corrective measures required by this

paragraph is failure to ensure compliance with the emission standards in this subpart.

(*1*) You must initiate the procedures used to determine the cause of the alarm within 30 minutes of the time the alarm first sounds; and

(*2*) You must alleviate the cause of the alarm by taking the necessary corrective measure(s) which may include, but are not to be limited to, the following measures:

(*i*) Inspecting the baghouse for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions;

(*ii*) Sealing off defective bags or filter media;

(*iii*) Replacing defective bags or filter media, or otherwise repairing the control device;

(*iv*) Sealing off a defective baghouse compartment;

(*v*) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; or

(*vi*) Shutting down the combustor.

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§ 63.1207 What are the performance testing requirements?

(a) *General.* The provisions of § 63.7 apply, except as noted below.

(b) *Types of performance tests* -- (1) *Comprehensive performance test.* You must conduct comprehensive performance tests to demonstrate compliance with the emission standards provided by §§ 63.1203, 63.1204, and 63.1205, establish limits for the operating parameters provided by § 63.1209, and demonstrate compliance with the performance specifications for continuous monitoring systems.

(2) *Confirmatory performance test.* You must conduct confirmatory performance tests to:

(i) Demonstrate compliance with the dioxin/furan emission standard when the source operates under normal operating conditions; and

(ii) Conduct a performance evaluation of continuous monitoring systems required for compliance assurance with the dioxin/furan emission standard under § 63.1209(k).

(c) *Initial comprehensive performance test* -- (1) *Test date.* Except as provided by paragraph (c)(2) of this section, you must commence the initial comprehensive performance test not later than six months after the compliance date.

(2) *Data in lieu of the initial comprehensive performance test.* (i) You may request that previous emissions test data serve as documentation of conformance with the emission standards of this subpart provided that the previous testing:

(A) Was initiated after 54 months prior to the compliance date, except as provided by paragraphs (c)(2)(iii) or (c)(2)(iv) of this section;

(B) Results in data that meet quality assurance objectives (determined on a site-specific basis) such that the results demonstrate compliance with the applicable standards;

(C) Was in conformance with the requirements of paragraph (g)(1) of this section; and

(D) Was sufficient to establish the applicable operating parameter limits under § 63.1209.

(ii) You must submit data in lieu of the initial comprehensive performance test in lieu of (i.e., if the data are in lieu of all performance testing) or with the notification of performance test required under paragraph (e) of this section.

(iii) The data in lieu of test age restriction provided in paragraph (c)(2)(i)(A) of this section does not apply for the duration of the interim standards (*i.e.,* the standards published in the Federal Register on February 13, 2002. Paragraph (c)(2)(i)(A) of this section does not apply until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the Federal Register on November 16, 2001.

(iv) The data in lieu test age restriction provided in paragraph (c)(2)(i)(A) of this section does not apply to DRE data provided you do not feed hazardous waste at a location in the combustion system other than the normal flame zone.

(d) *Frequency of testing.* Except as otherwise specified in paragraph (d)(4) of this section, you must conduct testing periodically as prescribed in paragraphs (d)(1) through (d)(3) of this section. The date of commencement of the initial comprehensive performance test is the basis for establishing the deadline to commence the initial confirmatory performance test and the next comprehensive performance test. You may conduct performance testing at any time prior to the required date. The deadline for commencing subsequent confirmatory and comprehensive performance testing is based on the date of commencement of the previous comprehensive performance test. Unless the Administrator grants a time extension under paragraph (i) of this section, you must conduct testing as follows:

(1) *Comprehensive performance testing.* Except as otherwise specified in paragraph (d)(4) of this section, you must commence testing no later than 61 months after the date of commencing the previous comprehensive performance test. If you submit data in lieu of the initial performance test, you must commence the subsequent comprehensive performance test within 61 months of commencing the test used to provide the data in lieu of the initial performance test.

(2) *Confirmatory performance testing.* Except as otherwise specified in paragraph (d)(4) of this section, you must commence confirmatory performance testing no later than 31 months after the date of commencing the previous comprehensive performance test. If you submit data in lieu of the initial performance test, you must commence the initial confirmatory performance test within 31 months of the date six months after the compliance date. To ensure that the confirmatory test is conducted approximately midway between comprehensive performance tests, the Administrator will not approve a test plan that schedules testing within 18 months of commencing the previous comprehensive performance test.

(3) *Duration of testing.* You must complete performance testing within 60 days after the date of commencement, unless the Administrator determines that a time extension is warranted based on your documentation in writing of factors beyond your control that prevent you from meeting the 60-day deadline.

(4) *Applicable testing requirements under the interim standards.* (i) Waiver of periodic comprehensive performance tests. Except as provided by paragraph (c)(2) of this section, you must conduct only an initial comprehensive performance test under the interim standards (*i.e.,* the standards published in the Federal Register on February 13, 2002; all subsequent comprehensive performance testing requirements are waived under the interim standards. The provisions in the introductory text to paragraph (d) and in paragraph (d)(1) of this section do not apply until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the Federal Register on November 16, 2001.

(ii) *Waiver of confirmatory performance tests.* You are not required to conduct a confirmatory test under the interim standards (*i.e.,* the standards published in the Federal Register on February 13, 2002. The confirmatory testing requirements in the introductory text to paragraph (d) and in paragraph (d)(2) of this section are waived until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the Federal Register on November 16, 2001.

(e) *Notification of performance test and CMS performance evaluation, and approval of test plan and*

CMS performance evaluation plan. (1) The provisions of § 63.7(b) and (c) and § 63.8(e) apply, except:

(i) *Comprehensive performance test.* You must submit to the Administrator a notification of your intention to conduct a comprehensive performance test and CMS performance evaluation and a site-specific test plan and CMS performance evaluation test plan at least one year before the performance test and performance evaluation are scheduled to begin.

(A) The Administrator will notify you of approval or intent to deny approval of the site-specific test plan and CMS performance evaluation test plan within 9 months after receipt of the original plan.

(B) You must submit to the Administrator a notification of your intention to conduct the comprehensive performance test at least 60 calendar days before the test is scheduled to begin.

(ii) *Confirmatory performance test.* You must submit to the Administrator a notification of your intention to conduct a confirmatory performance test and CMS performance evaluation and a site-specific test plan and CMS performance evaluation test plan at least 60 calendar days before the performance test is scheduled to begin. The Administrator will notify you of approval or intent to deny approval of the site-specific test plan and CMS performance evaluation test plan within 30 calendar days after receipt of the original test plans.

(2) After the Administrator has approved the site-specific test plan and CMS performance evaluation test plan, you must make the test plans available to the public for review. You must issue a public notice announcing the approval of the test plans and the location where the test plans are available for review.

(3) *Petitions for time extension if Administrator fails to approve or deny test plans.* You may petition the Administrator under § 63.7(h) to obtain a "waiver" of any performance test -- initial or periodic performance test; comprehensive or confirmatory test. The "waiver" would be implemented as an extension of time to conduct the performance test at a later date.

(i) *Qualifications for the waiver.* (A) You may not petition the Administrator for a waiver under this section if the Administrator has issued a notification of intent to deny your test plan(s) under § 63.7(c)(3)(i)(B);

(B) You must submit a site-specific emissions testing plan and a continuous monitoring system performance evaluation test plan at least one year before a comprehensive performance test is scheduled to begin as required by paragraph (c)(1) of this section, or at least 60 days before a confirmatory performance test is scheduled to begin as required by paragraph (d) of this section. The test plans must include all required documentation, including the substantive content requirements of paragraph (f) of this section and § 63.8(e); and

(C) You must make a good faith effort to accommodate the Administrator's comments on the test plans.

(ii) *Procedures for obtaining a waiver and duration of the waiver:* (A) You must submit to the Administrator a waiver petition or request to renew the petition under § 63.7(h) separately for each source at least 60 days prior to the scheduled date of the performance test;

(B) The Administrator will approve or deny the petition within 30 days of receipt and notify you promptly of the decision;

(C) The Administrator will not approve an individual waiver petition for a duration exceeding 6 months;

(D) The Administrator will include a sunset provision in the waiver ending the waiver within 6 months;

(E) You may submit a revised petition to renew the waiver under § 63.7(h)(3)(iii) at least 60 days prior to the end date of the most recently approved waiver petition;

(F) The Administrator may approve a revised petition for a total waiver period up

to 12 months.

(iii) *Content of the waiver.* (A) You must provide documentation to enable the Administrator to determine that the source is meeting the relevant standard(s) on a continuous basis as required by § 63.7(h)(2). For extension requests for the initial comprehensive performance test, you must submit your Documentation of Compliance to assist the Administrator in making this determination.

(B) You must include in the petition information justifying your request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test, as required by § 63.7(h)(3)(iii).

(iv) P*ublic notice.* You must notify the public (e.g., distribute public mailing list) of your petition to waive a performance test.

(f) *Content of performance test plan.* The provisions of §§ 63.7(c)(2)(i)-(iii) and (v) regarding the content of the test plan apply. In addition, you must include the following information in the test plan:

(1) *Content of comprehensive performance test plan.* (i) An analysis of each feedstream, including hazardous waste, other fuels, and industrial furnace feedstocks, as fired, that includes:

(A) Heating value, levels of ash (for hazardous waste incinerators only), levels of semivolatile metals, low volatile metals, mercury, and total chlorine (organic and inorganic); and

(B) Viscosity or description of the physical form of the feedstream;

(ii) For organic hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactam (CAS number 105602) as provided by § 63.60:

(A) Except as provided by paragraph (f)(1)(ii)(D) of this section, an identification of such organic hazardous air pollutants that are present in each hazardous waste feedstream. You need not analyze for organic hazardous air pollutants that would reasonably not be expected to be found in the feedstream. You must identify any constituents you exclude from analysis and explain the basis for excluding them. You must conduct the feedstream analysis according to § 63.1208(b)(8);

(B) An approximate quantification of such identified organic hazardous air pollutants in the hazardous waste feedstreams, within the precision produced by analytical procedures of § 63.1208(b)(8); and

(C) A description of blending procedures, if applicable, prior to firing the hazardous waste feedstream, including a detailed analysis of the materials prior to blending, and blending ratios.

(D) The Administrator may approve on a case-by-case basis a hazardous waste feedstream analysis for organic hazardous air pollutants in lieu of the analysis required under paragraph (f)(1)(ii)(A) of this section if the reduced analysis is sufficient to ensure that the POHCs used to demonstrate compliance with the applicable DRE standard of § 63.1203, § 63.1204, or § 63.1205, continue to be representative of the organic hazardous air pollutants in your hazardous waste feedstreams;

(iii) A detailed engineering description of the hazardous waste combustor, including:

(A) Manufacturer's name and model number of the hazardous waste combustor;

(B) Type of hazardous waste combustor;

(C) Maximum design capacity in appropriate units;

(D) Description of the feed system for each feedstream;

(E) Capacity of each feed system;

(F) Description of automatic hazardous waste feed cutoff system(s);

(G) Description of the design, operation, and maintenance practices for any air pollution control system; and

(H) Description of the design, operation, and maintenance practices of any stack

gas monitoring and pollution control monitoring systems;

(iv) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis;

(v) A detailed test schedule for each hazardous waste for which the performance test is planned, including date(s), duration, quantity of hazardous waste to be burned, and other relevant factors;

(vi) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feedrate for each feed system, and, as appropriate, the feedrates of other fuels and feedstocks, and any other relevant parameters that may affect the ability of the hazardous waste combustor to meet the emission standards;

(vii) A description of, and planned operating conditions for, any emission control equipment that will be used;

(viii) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction;

(ix) A determination of the hazardous waste residence time as required by § 63.1206(b)(11);

(x) If you are requesting to extrapolate metal feedrate limits from comprehensive performance test levels under §§ 63.1209(l)(1)(i) or 63.1209(n)(2)(ii)(A):

(A) A description of the extrapolation methodology and rationale for how the approach ensures compliance with the emission standards;

(B) Documentation of the historical range of normal (*i.e.*, other than during compliance testing) metals feedrates for each feedstream;

(C) Documentation that the level of spiking recommended during the performance test will mask sampling and analysis imprecision and inaccuracy to the extent that the extrapolated feedrate limits adequately assure compliance with the emission standards;

(xi) If you do not continuously monitor regulated constituents in natural gas, process air feedstreams, and feedstreams from vapor recovery systems under § 63.1209(c)(5), you must include documentation of the expected levels of regulated constituents in those feedstreams;

(xii) Documentation justifying the duration of system conditioning required to ensure the combustor has achieved steady-state operations under performance test operating conditions, as provided by paragraph (g)(1)(iii) of this section;

(xiii) For cement kilns with in-line raw mills, if you elect to use the emissions averaging provision of § 63.1204(d), you must notify the Administrator of your intent in the initial (and subsequent) comprehensive performance test plan, and provide the information required under § 63.1204(d)(ii)(B).

(xiv) For preheater or preheater/precalciner cement kilns with dual stacks, if you elect to use the emissions averaging provision of § 63.1204(e), you must notify the Administrator of your intent in the initial (and subsequent) comprehensive performance test plan, and provide the information required under § 63.1204(e)(2)(iii)(A).

(xv) [Reserved]

(xvi) If you are not required to conduct performance testing to document compliance with the mercury, semivolatile metal, low volatile metal, or hydrochloric acid/chlorine gas emission standards under paragraph (m) of this section, you must include with the comprehensive performance test plan documentation of compliance with the provisions of that section.

(xvii) If you propose to use a surrogate for measuring or monitoring gas flowrate, you must document in the comprehensive performance test plan that the surrogate adequately correlates with gas flowrate, as required by paragraph (m)(7) of this section, and § 63.1209(j)(2), (k)(3), (m)(2)(i), (n)(5)(i), and (o)(2)(i).

(xviii) You must submit an application to request alternative monitoring under § 63.1209(g)(1) not later than with the comprehensive performance test plan, as required by § 63.1209(g)(1)(iii)(A).

(xix) You must document the temperature location measurement in the comprehensive performance test plan, as required by §§ 63.1209(j)(1)(i) and 63.1209(k)(2)(i).

(xx) If your source is equipped with activated carbon injection, you must document in the comprehensive performance test plan:

(A) The manufacturer specifications for minimum carrier fluid flowrate or pressure drop, as required by § 63.1209(k)(6)(ii); and

(B) Key parameters that affect carbon adsorption, and the operating limits you establish for those parameters based on the carbon used during the performance test, if you elect not to specify and use the brand and type of carbon used during the comprehensive performance test, as required by § 63.1209(k)(6)(iii).

(xxi) If your source is equipped with a carbon bed system, and you elect not to specify and use the brand and type of carbon used during the comprehensive performance test, you must include in the comprehensive performance test plan key parameters that affect carbon adsorption, and the operating limits you establish for those parameters based on the carbon used during the performance test, as required by Sec. 63.1209(k)(7)(ii).

(xxii) If you feed a dioxin/furan inhibitor into the combustion system, you must document in the comprehensive performance test plan key parameters that affect the effectiveness of the inhibitor, and the operating limits you establish for those parameters based on the inhibitor fed during the performance test, if you elect not to specify and use the brand and type of inhibitor used during the comprehensive performance test, as required by § 63.1209(k)(9)(ii).

(xxiii) If your source is equipped with a wet scrubber and you elect to monitor solids content of the scrubber liquid manually but believe that hourly monitoring of solids content is not warranted, you must support an alternative monitoring frequency in the comprehensive performance test plan, as required by § 63.1209(m)(1)(i)(B)(*1*)(*i*).

(xxiv) If your source is equipped with a particulate matter control device other than a wet scrubber, baghouse, or electrostatic precipitator, you must include in the comprehensive performance test plan:

(A) Documentation to support the operating parameter limits you establish for the control device, as required by § 63.1209(m)(1)(iv)(A)(*4*); and

(B) Support for the use of manufacturer specifications if you recommend such specifications in lieu of basing operating limits on performance test operating levels, as required by § 63.1209(m)(1)(iv)(D).

(xxv) If your source is equipped with a dry scrubber to control hydrochloric acid and chlorine gas, you must document in the comprehensive performance test plan key parameters that affect adsorption, and the limits you establish for those parameters based on the sorbent used during the performance test, if you elect not to specify and use the brand and type of sorbent used during the comprehensive performance test, as required by § 63.1209(o)(4)(iii)(A); and

(xxvi) For purposes of calculating semivolatile metal, low volatile metal, mercury, and total chlorine (organic and inorganic), and ash feedrate limits, a description of how you will handle performance test feedstream analytical results that determines these constituents are not present at detectable levels.

(xxvii) Such other information as the Administrator reasonably finds necessary to determine whether to approve the performance test plan.

(2) *Content of confirmatory test plan.* (i) A description of your normal hydrocarbon or carbon monoxide operating levels, as specified in paragraph (g)(2)(i) of this section, and an explanation of how these normal levels were determined;

(ii) A description of your normal applicable operating parameter levels, as specified in

paragraph (g)(2)(ii) of this section, and an explanation of how these normal levels were determined;

(iii) A description of your normal chlorine operating levels, as specified in paragraph (g)(2)(iii) of this section, and an explanation of how these normal levels were determined;

(iv) If you use carbon injection or a carbon bed, a description of your normal cleaning cycle of the particulate matter control device, as specified in paragraph (g)(2)(iv) of this section, and an explanation of how these normal levels were determined;

(v) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis;

(vi) A detailed test schedule for each hazardous waste for which the performance test is planned, including date(s), duration, quantity of hazardous waste to be burned, and other relevant factors;

(vii) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feedrate for each feed system, and, as appropriate, the feedrates of other fuels and feedstocks, and any other relevant parameters that may affect the ability of the hazardous waste combustor to meet the dioxin/furan emission standard;

(viii) A description of, and planned operating conditions for, any emission control equipment that will be used;

(ix) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction; and

(x) Such other information as the Administrator reasonably finds necessary to determine whether to approve the confirmatory test plan.

(g) *Operating conditions during testing.* You must comply with the provisions of § 63.7(e). Conducting performance testing under operating conditions representative of the extreme range of normal conditions is consistent with the requirement of § 63.7(e)(1) to conduct performance testing under representative operating conditions.

(1) *Comprehensive performance testing* -- (i) *Operations during testing.* For the following parameters, you must operate the combustor during the performance test under normal conditions (or conditions that will result in higher than normal emissions):

(A) *Chlorine feedrate.* You must feed normal (or higher) levels of chlorine during the dioxin/furan performance test;

(B) *Ash feedrate.* For hazardous waste incinerators, you must conduct the following tests when feeding normal (or higher) levels of ash: The semivolatile metal and low volatile metal performance tests; and the dioxin/furan and mercury performance tests if activated carbon injection or a carbon bed is used; and

(C) *Cleaning cycle of the particulate matter control device.* You must conduct the following tests when the particulate matter control device undergoes its normal (or more frequent) cleaning cycle: The particulate matter, semivolatile metal, and low volatile metal performance tests; and the dioxin/furan and mercury performance tests if activated carbon injection or a carbon bed is used.

(ii) *Modes of operation.* Given that you must establish limits for the applicable operating parameters specified in § 63.1209 based on operations during the comprehensive performance test, you may conduct testing under two or more operating modes to provide operating flexibility.

(iii) *Steady-state conditions.* (A) Prior to obtaining performance test data, you must operate under performance test conditions until you reach steady-state operations with respect to emissions of pollutants you must measure during the performance test and operating parameters under § 63.1209 for which you must establish limits. During system conditioning, you must

ensure that each operating parameter for which you must establish a limit is held at the level planned for the performance test. You must include documentation in the performance test plan under paragraph (f) of this section justifying the duration of system conditioning.

(B) If you own or operate a hazardous waste cement kiln that recycles collected particulate matter (*i.e.,* cement kiln dust) into the kiln, you must sample and analyze the recycled particulate matter prior to obtaining performance test data for levels of selected metals that must be measured during performance testing to document that the system has reached steady-state conditions (*i.e.,* that metals levels have stabilized). You must document the rationale for selecting metals that are indicative of system equilibrium and include the information in the performance test plan under paragraph (f) of this section. To determine system equilibrium, you must sample and analyze the recycled particulate matter hourly for each selected metal, unless you submit in the performance test plan a justification for reduced sampling and analysis and the Administrator approves in writing a reduced sampling and analysis frequency.

(2) *Confirmatory performance testing.* You must conduct confirmatory performance testing for dioxin/furan under normal operating conditions for the following parameters:

(i) Carbon monoxide (or hydrocarbon) CEMS emissions levels must be within the range of the average value to the maximum value allowed, except as provided by paragraph (g)(2)(iv) of this section. The average value is defined as the sum of the hourly rolling average values recorded (each minute) over the previous 12 months, divided by the number of rolling averages recorded during that time. The average value must not include calibration data, startup data, shutdown data, malfunction data, and data obtained when not burning hazardous waste;

(ii) Each operating limit (specified in § 63.1209) established to maintain compliance with the dioxin/furan emission standard must be held within the range of the average value over the previous 12 months and the maximum or minimum, as appropriate, that is allowed, except as provided by paragraph (g)(2)(iv) of this section. The average value is defined as the sum of the rolling average values recorded over the previous 12 months, divided by the number of rolling averages recorded during that time. The average value must not include calibration data, startup data, shutdown data, malfunction data, and data obtained when not burning hazardous waste;

(iii) You must feed chlorine at normal feedrates or greater; and

(iv) If the combustor is equipped with carbon injection or carbon bed, normal cleaning cycle of the particulate matter control device.

(v) The Administrator may approve an alternative range to that required by paragraphs (g)(2)(i) and (ii) of this section if you document in the confirmatory performance test plan that it may be problematic to maintain the required range during the test. In addition, when making the finding of compliance, the Administrator may consider test conditions outside of the range specified in the test plan based on a finding that you could not reasonably maintain the range specified in the test plan and considering factors including whether the time duration and level of the parameter when operations were out of the specified range were such that operations during the confirmatory test are determined to be reasonably representative of normal operations. In addition, the Administrator will consider the proximity of the emission test results to the standard.

(h) *Operating conditions during subsequent testing.* (1) Current operating parameter limits established under § 63.1209 are waived during subsequent comprehensive performance testing.

(2) Current operating parameter limits are also waived during pretesting prior to comprehensive performance testing for an aggregate time not to exceed 720 hours of operation (renewable at the discretion of the Administrator) under an approved test plan or if the source records the results of the pretesting. Pretesting means:

(i) Operations when stack emissions testing for dioxin/furan, mercury, semivolatile

metals, low volatile metals, particulate matter, or hydrochloric acid/chlorine gas is being performed; and

(ii) Operations to reach steady-state operating conditions prior to stack emissions testing under paragraph (g)(1)(iii) of this section.

(i) *Time extension for subsequent performance tests.* After the initial comprehensive performance test, you may request up to a one-year time extension for conducting a comprehensive or confirmatory performance test to consolidate performance testing with other state or federally required emission testing, or for other reasons deemed acceptable by the Administrator. If the Administrator grants a time extension for a comprehensive performance test, the deadlines for commencing the next comprehensive and confirmatory tests are based on the date that the subject comprehensive performance test commences.

(1) You must submit in writing to the Administrator any request under this paragraph for a time extension for conducting a performance test.

(2) You must include in the request for an extension for conducting a performance test the following:

(i) A description of the reasons for requesting the time extension;

(ii) The date by which you will commence performance testing.

(3) The Administrator will notify you in writing of approval or intention to deny approval of your request for an extension for conducting a performance test within 30 calendar days after receipt of sufficient information to evaluate your request. The 30-day approval or denial period will begin after you have been notified in writing that your application is complete. The Administrator will notify you in writing whether the application contains sufficient information to make a determination within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that you submit.

(4) When notifying you that your application is not complete, the Administrator will specify the information needed to complete the application. The Administrator will also provide notice of opportunity for you to present, in writing, within 30 calendar days after notification of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(5) Before denying any request for an extension for performance testing, the Administrator will notify you in writing of the Administrator's intention to issue the denial, together with:

(i) Notice of the information and findings on which the intended denial is based; and

(ii) Notice of opportunity for you to present in writing, within 15 calendar days after notification of the intended denial, additional information or arguments to the Administrator before further action on the request.

(6) The Administrator's final determination to deny any request for an extension will be in writing and will set forth specific grounds upon which the denial is based. The final determination will be made within 30 calendar days after the presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(j) *Notification of compliance* -- (1) *Comprehensive performance test.* (i) Except as provided by paragraphs (j)(4) and (j)(5) of this section, within 90 days of completion of a comprehensive performance test, you must postmark a Notification of Compliance documenting compliance with the emission standards and continuous monitoring system requirements, and identifying operating parameter limits under Sec. 63.1209.

(ii) Upon postmark of the Notification of Compliance, you must comply with all operating requirements specified in the Notification of Compliance in lieu of the limits specified in the Documentation of Compliance required under § 63.1211(c).

(2) *Confirmatory performance test.* Except as provided by paragraph (j)(4) of this section, within

90 days of completion of a confirmatory performance test, you must postmark a Notification of Compliance documenting compliance or noncompliance with the applicable dioxin/furan emission standard.

(3) See §§ 63.7(g), 63.9(h), and 63.1210(b) for additional requirements pertaining to the Notification of Compliance (*e.g.,* you must include results of performance tests in the Notification of Compliance).

(4) *Time extension.* You may submit a written request to the Administrator for a time extension documenting that, for reasons beyond your control, you may not be able to meet the 90-day deadline for submitting the Notification of Compliance after completion of testing. The Administrator will determine whether a time extension is warranted.

(5) Early compliance. If you conduct the initial comprehensive performance test prior to the compliance date, you must postmark the Notification of Compliance within 90 days of completion of the performance test or by the compliance date, whichever is later.

(k) *Failure to submit a timely notification of compliance.* (1) If you fail to postmark a Notification of Compliance by the specified date, you must cease hazardous waste burning immediately.

(2) Prior to submitting a revised Notification of Compliance as provided by paragraph (k)(3) of this section, you may burn hazardous waste only for the purpose of pretesting or comprehensive performance testing and only for a maximum of 720 hours (renewable at the discretion of the Administrator).

(3) You must submit to the Administrator a Notification of Compliance subsequent to a new comprehensive performance test before resuming hazardous waste burning.

(l) *Failure of performance test* -- (1) *Comprehensive performance test*. The provisions of this paragraph do not apply to the initial comprehensive performance test if you conduct the test prior to September 30, 2003 (or a later compliance date approved under § 63.6(i)).

(i) If you determine (based on CEM recordings, results of analyses of stack samples, or results of CMS performance evaluations) that you have exceeded any emission standard during a comprehensive performance test for a mode of operation, you must cease hazardous waste burning immediately under that mode of operation. You must make this determination within 90 days following completion of the performance test.

(ii) If you have failed to demonstrate compliance with the emission standards for any mode of operation:

(A) Prior to submitting a revised Notification of Compliance as provided by paragraph (l)(1)(ii)(C) of this section, you may burn hazardous waste only for the purpose of pretesting or comprehensive performance testing under revised operating conditions, and only for a maximum of 720 hours (renewable at the discretion of the Administrator), except as provided by paragraph (l)(3) of this section;

(B) You must conduct a comprehensive performance test under revised operating conditions following the requirements for performance testing of this section; and

(C) You must submit to the Administrator a Notification of Compliance subsequent to the new comprehensive performance test.

(2) *Confirmatory performance test.* If you determine (based on CEM recordings, results of analyses of stack samples, or results of CMS performance evaluations) that you have failed the dioxin/furan emission standard during a confirmatory performance test, you must cease burning hazardous waste immediately. You must make this determination within 90 days following completion of the performance test. To burn hazardous waste in the future:

(i) You must submit to the Administrator for review and approval a test plan to conduct a comprehensive performance test to identify revised limits on the applicable dioxin/furan operating parameters specified in § 63.1209(k);

(ii) You must submit to the Administrator a Notification of Compliance with the dioxin/furan emission standard under the provisions of paragraphs (j) and (k) of this section and this paragraph (l). You must include in the Notification of Compliance the revised limits on the applicable dioxin/furan operating parameters specified in § 63.1209(k); and

(iii) Until the Notification of Compliance is submitted, you must not burn hazardous waste except for purposes of pretesting or confirmatory performance testing, and for a maximum of 720 hours (renewable at the discretion of the Administrator), except as provided by paragraph (l)(3) of this section.

(3) You may petition the Administrator to obtain written approval to burn hazardous waste in the interim prior to submitting a Notification of Compliance for purposes other than testing or pretesting. You must specify operating requirements, including limits on operating parameters, that you determine will ensure compliance with the emission standards of this subpart based on available information including data from the failed performance test. The Administrator will review, modify as necessary, and approve if warranted the interim operating requirements. An approval of interim operating requirements will include a schedule for submitting a Notification of Compliance.

(m) *Waiver of performance test.* (1) The waiver provision of this paragraph applies in addition to the provisions of § 63.7(h).

(2) You are not required to conduct performance tests to document compliance with the mercury, semivolatile metal, low volatile metal or hydrochloric acid/chlorine gas emission standards under the conditions specified below. You are deemed to be in compliance with an emission standard if the twelve-hour rolling average maximum theoretical emission concentration (MTEC) determined as specified below does not exceed the emission standard:

(i) Determine the feedrate of mercury, semivolatile metals, low volatile metals, or total chlorine and chloride from all feedstreams;

(ii) Determine the stack gas flowrate; and

(iii) Calculate a MTEC for each standard assuming all mercury, semivolatile metals, low volatile metals, or total chlorine (organic and inorganic) from all feedstreams is emitted;

(3) To document compliance with this provision, you must:

(i) Monitor and record the feedrate of mercury, semivolatile metals, low volatile metals, and total chlorine and chloride from all feedstreams according to § 63.1209(c);

(ii) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(iii) Continuously calculate and record in the operating record the MTEC under the procedures of paragraph (m)(2) of this section; and

(iv) Interlock the MTEC calculated in paragraph (m)(2)(iii) of this section to the AWFCO system to stop hazardous waste burning when the MTEC exceeds the emission standard.

(4) In lieu of the requirement in paragraphs (m)(3)(iii) and (iv) of this section, you may:

(i) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury, semivolatile metals, low volatile metals, and/or total chlorine and chloride from all feedstreams that ensures the MTEC as calculated in paragraph (m)(2)(iii) of this section is below the applicable emission standard; and

(ii) Interlock the minimum gas flowrate limit and maximum feedrate limit of paragraph (m)(4)(i) of this section to the AWFCO system to stop hazardous waste burning when the gas flowrate or mercury, semivolatile metals, low volatile metals, and/or total chlorine and chloride feedrate exceeds the limits of paragraph (m)(4)(i) of this section.

(5) When you determine the feedrate of mercury, semivolatile metals, low volatile metals, or total chlorine and chloride for purposes of this provision, except as provided by paragraph (m)(6) of this section, you must assume that the analyte is present at the full detection limit when the feedstream analysis determines that the analyte is not detected in the feedstream.

(6) Owners and operators of hazardous waste burning cement kilns and lightweight aggregate kilns may assume that mercury is present in raw material at half the detection limit when the raw material feedstream analysis determines that mercury is not detected.

(7) You must state in the site-specific test plan that you submit for review and approval under paragraph (e) of this section that you intend to comply with the provisions of this paragraph. You must include in the test plan documentation that any surrogate that is proposed for gas flowrate adequately correlates with the gas flowrate.

§ 63.1208 What are the test methods?

(a) References. When required in subpart EEE of this part, the following publication is incorporated by reference, ``Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication
SW-846 Third Edition (November 1986), as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), and III (December 1996). The Third Edition of SW-846 and Updates I, II,
IIA, IIB, and III (document number 955-001-00000-1) are available for the Superintendent of Document, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800. Copies of the Third Edition and its updates are also available from the National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4650. Copies may be inspected at the Library, U.S. Environmental
Protection Agency, 401 M Street, SW, Washington, DC 20460; or at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC.

(b) Test methods. You must use the following test methods to determine compliance with the emissions standards of this subpart:

(1) Dioxins and furans.

(i) You must use Method 0023A, Sampling Method for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans emissions from Stationary Sources, EPA Publication SW-846, as incorporated by reference in paragraph (a) of this section, to determine compliance with the emission standard for dioxins and furans;

(ii) You must sample for a minimum of three hours, and you must collect a minimum sample volume of 2.5 dscm;

(iii) You may assume that nondetects are present at zero concentration.

(2) Mercury. You must use Method 29, provided in appendix A, part 60 of this chapter, to demonstrate compliance with emission standard for mercury.

(3) Cadmium and lead. You must use Method 29, provided in appendix A, part 60 of this chapter, to determine compliance with the emission standard for cadmium and lead (combined).

(4) Arsenic, beryllium, and chromium. You must use Method 29, provided in appendix A, part 60 of this chapter, to determine compliance with the emission standard for arsenic, beryllium, and chromium (combined).

(5) Hydrochloric acid and chlorine gas. You may use Methods 26A, 320, or 321 provided in appendix A, part 60 of this chapter, to determine compliance with the emission standard for hydrochloric acid and chlorine gas (combined). You may use Methods 320 or 321 to make major source determinations under § 63.9(b)(2)(v).

(6) Particulate matter. You must use Methods 5 or 5I, provided in appendix A, part 60 of

this chapter, to demonstrate compliance with the emission standard for particulate matter.

(7) Other Test Methods. You may use applicable test methods in EPA Publication SW-846, as incorporated by reference in paragraph (a) of this section, as necessary to demonstrate compliance with requirements of this subpart, except as otherwise specified in paragraphs (b)(2)-(b)(6) of this section.

(8) Feedstream analytical methods. You may use any reliable analytical method to determine feedstream concentrations of metals, chlorine, and other constituents. It is your responsibility to ensure
that the sampling and analysis procedures are unbiased, precise, and that the results are representative of the feedstream. For each feedstream, you must demonstrate that:

(i) Each analyte is not present above the reported level at the 80% upper confidence limit around the mean; and

(ii) The analysis could have detected the presence of the constituent at or below the reported level at the 80% upper confidence limit around the mean. (See Guidance for Data Quality Assessment--
Practical Methods for Data Analysis, EPA QA/G-9, January 1998, EPA/600/R-96/084).

(9) Opacity. If you determine compliance with the opacity standard under the monitoring requirements of §§ 63.1209(a)(1)(iv) and (a)(1)(v), you must use Method 9, provided in appendix A, part 60 of this chapter.

§ 63.1209 What are the monitoring requirements?

(a) *Continuous emissions monitoring systems (CEMS) and continuous opacity monitoring systems (COMS).* (1) (i) You must use either a carbon monoxide or hydrocarbon CEMS to demonstrate and monitor compliance with the carbon monoxide and hydrocarbon standard under this subpart. You must also use an oxygen CEMS to continuously correct the carbon monoxide or hydrocarbon level to 7 percent oxygen.

(ii) For cement kilns, except as provided by paragraphs (a)(1)(iv) and (a)(1)(v) of this section, you must use a COMS to demonstrate and monitor compliance with the opacity standard under §§ 63.1204(a)(7) and (b)(7) at each point where emissions are vented from these affected sources including the bypass stack of a preheater or preheater/precalciner kiln with dual stacks.

(A) You must maintain and operate each COMS in accordance with the requirements of § 63.8(c) except for the requirements under § 63.8(c)(3). The requirements of § 63.1211(c) shall be complied with instead of § 63.8(c)(3); and

(B) Compliance is based on six-minute block average.

(iii) You must install, calibrate, maintain, and operate a particulate matter CEMS to demonstrate and monitor compliance with the particulate matter standards under this subpart. However, compliance with the requirements in this section to install, calibrate, maintain and operate the PM CEMS is not required until such time that the Agency promulgates all performance specifications and operational requirements applicable to PM CEMS.

(iv) If you operate a cement kiln subject to the provisions of this subpart and use a fabric filter with multiple stacks or an electrostatic precipitator with multiple stacks, you may, in lieu of installing the COMS required by paragraph (a)(1)(ii) of this section, comply with the opacity standard in accordance with the procedures of Method 9 to part 60 of this chapter:

(A) You must conduct the Method 9 test while the affected source is operating at the highest load or capacity level reasonably expected to occur within the day;

(B) The duration of the Method 9 test shall be at least 30 minutes each day;

(C) You must use the Method 9 procedures to monitor and record the average opacity for each six-minute block period during the test; and

(D) To remain in compliance, all six-minute block averages must not exceed the opacity standard under §§ 63.1204(a)(7) and (b)(7).

(v) If you operate a cement kiln subject to the provisions of this subpart and use a particulate matter control device that exhausts through a monovent, or if the use of a COMS in accordance with the installation specification of Performance Specification 1 (PS-1) of appendix B to part 60 of this chapter is not feasible, you may, in lieu of installing the COMS required by paragraph (a)(1)(ii) of this section, comply with the opacity standard in accordance with the procedures of Method 9 to part 60 of this chapter:

(A) You must conduct the Method 9 test while the affected source is operating at the highest load or capacity level reasonably expected to occur within the day;

(B) The duration of the Method 9 test shall be at least 30 minutes each day;

(C) You must use the Method 9 procedures to monitor and record the average opacity for each six-minute block period during the test; and

(D) To remain in compliance, all six-minute block averages must not exceed the opacity standard under §§ 63.1204(a)(7) and (b)(7).

(2) *Performance specifications.* You must install, calibrate, maintain, and continuously operate the CEMS and COMS in compliance with the quality assurance procedures provided in the appendix to this subpart and Performance Specifications 1 (opacity), 4B (carbon monoxide and oxygen), and 8A (hydrocarbons) in appendix B, part 60 of this chapter.

(3) *Carbon monoxide readings exceeding the span.* (i) Except as provided by paragraph (a)(3)(ii) of this section, if a carbon monoxide CEMS detects a response that results in a one-minute average at or above the 3,000 ppmv span level required by Performance Specification 4B in appendix B, part 60 of this chapter, the one-minute average must be recorded as 10,000 ppmv. The one-minute 10,000 ppmv value must be used for calculating the hourly rolling average carbon monoxide level.

(ii) Carbon monoxide CEMS that use a span value of 10,000 ppmv when one-minute carbon monoxide levels are equal to or exceed 3,000 ppmv are not subject to paragraph (a)(3)(i) of this section. Carbon monoxide CEMS that use a span value of 10,000 are subject to the same CEMS performance and equipment specifications when operating in the range of 3,000 ppmv to 10,000 ppmv that are provided by Performance Specification 4B for other carbon monoxide CEMS, except:

(A) Calibration drift must be less than 300 ppmv; and

(B) Calibration error must be less than 500 ppmv.

(4) *Hydrocarbon readings exceeding the span.* (i) Except as provided by paragraph (a)(4)(ii) of this section, if a hydrocarbon CEMS detects a response that results in a one-minute average at or above the 100 ppmv span level required by Performance Specification 8A in appendix B, part 60 of this chapter, the one-minute average must be recorded as 500 ppmv. The one-minute 500 ppmv value must be used for calculating the hourly rolling average HC level.

(ii) Hydrocarbon CEMS that use a span value of 500 ppmv when one-minute hydrocarbon levels are equal to or exceed 100 ppmv are not subject to paragraph (a)(4)(i) of this section. Hydrocarbon CEMS that use a span value of 500 ppmv are subject to the same CEMS performance and equipment specifications when operating in the range of 100 ppmv to 500 ppmv that are provided by Performance Specification 8A for other hydrocarbon CEMS, except:

(A) The zero and high-level calibration gas must have a hydrocarbon level of between 0 and 100 ppmv, and between 250 and 450 ppmv, respectively;

(B) The strip chart recorder, computer, or digital recorder must be capable of recording all readings within the CEM measurement range and must have a resolution of 2.5 ppmv;

(C) The CEMS calibration must not differ by more than ±15 ppmv after each 24-

hour period of the seven day test at both zero and high levels;

(D) The calibration error must be no greater than 25 ppmv; and

(E) The zero level, mid-level, and high level calibration gas used to determine calibration error must have a hydrocarbon level of 0-200 ppmv, 150-200 ppmv, and 350-400 ppmv, respectively.

(5) *Petitions to use CEMS for other standards.* You may petition the Administrator to use CEMS for compliance monitoring for particulate matter, mercury, semivolatile metals, low volatile metals, and hydrochloric acid/chlorine gas under § 63.8(f) in lieu of compliance with the corresponding operating parameter limits under this section.

(6) *Calculation of rolling averages* -- (i) *Calculation of rolling averages initially.* The carbon monoxide or hydrocarbon CEMS must begin recording one-minute average values by 12:01 a.m. and hourly rolling average values by 1:01 a.m., when 60 one-minute values will be available for calculating the initial hourly rolling average for those sources that come into compliance on the regulatory compliance date. Sources that elect to come into compliance before the regulatory compliance date must begin recording one-minute and hourly rolling average values within 60 seconds and 60 minutes (when 60 one-minute values will be available for calculating the initial hourly rolling average), respectively, from the time at which compliance begins.

(ii) *Calculation of rolling averages upon intermittent operations.* You must ignore periods of time when one-minute values are not available for calculating the hourly rolling average. When one-minute values become available again, the first one-minute value is added to the previous 59 values to calculate the hourly rolling average.

(iii) *Calculation of rolling averages when the hazardous waste feed is cutoff.* (A) Except as provided by paragraph (a)(6)(iii)(B) of this section, you must continue monitoring carbon monoxide and hydrocarbons when the hazardous waste feed is cutoff if the source is operating. You must not resume feeding hazardous waste if the emission levels exceed the standard.

(B) You are not subject to the CEMS requirements of this subpart during periods of time you meet the requirements of § 63.1206(b)(1)(ii) (compliance with emissions standards for nonhazardous waste burning sources when you are not burning hazardous waste).

(7) *Operating parameter limits for hydrocarbons.* If you elect to comply with the carbon monoxide and hydrocarbon emission standard by continuously monitoring carbon monoxide with a CEMS, you must demonstrate that hydrocarbon emissions during the comprehensive performance test do not exceed the hydrocarbon emissions standard. In addition, the limits you establish on the destruction and removal efficiency (DRE) operating parameters required under paragraph (j) of this section also ensure that you maintain compliance with the hydrocarbon emission standard. If you do not conduct the hydrocarbon demonstration and DRE tests concurrently, you must establish separate operating parameter limits under paragraph (j) of this section based on each test and the more restrictive of the operating parameter limits applies.

(b) *Other continuous monitoring systems (CMS).* (1) You must use CMS (e.g., thermocouples, pressure transducers, flow meters) to document compliance with the applicable operating parameter limits under this section.

(2) Except as specified in paragraphs (b)(2)(i) and (ii) of this section, you must install and operate continuous monitoring systems other than CEMS in conformance with § 63.8(c)(3) that requires you, at a minimum, to comply with the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system:

(i) *Calibration of thermocouples and pyrometers.* The calibration of thermocouples must be verified at a frequency and in a manner consistent with manufacturer specifications, but no less frequent than once per year. You must operate and maintain optical pyrometers in accordance with manufacturer specifications unless otherwise approved by the Administrator. You must

calibrate optical pyrometers in accordance with the frequency and procedures recommended by the manufacturer, but no less frequent than once per year, unless otherwise approved by the Administrator. And,

(ii) *Accuracy and calibration of weight measurement devices for activated carbon injection systems.* If you operate a carbon injection system the accuracy of the weight measurement device must be ±1 percent of the weight being measured. The calibration of the device must be verified at least once every three months.

(3) CMS must sample the regulated parameter without interruption, and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds.

(4) The span of the non-CEMS CMS detector must not be exceeded. You must interlock the span limits into the automatic waste feed cutoff system required by § 63.1206(c)(3).

(5) *Calculation of rolling averages* -- (i) *Calculation of rolling averages initially.* Continuous monitoring systems must begin recording one-minute average values by 12:01 a.m., hourly rolling average values by 1:01 a.m.(e.g., when 60 one-minute values will be available for calculating the initial hourly rolling average), and twelve-hour rolling averages by 12:01 p.m.(e.g., when 720 one-minute averages are available to calculate a 12-hour rolling average), for those sources that come into compliance on the regulatory compliance date. Sources that elect to come into compliance before the regulatory compliance date must begin recording one-minute, hourly rolling average, and 12-hour rolling average values within 60 seconds, 60 minutes (when 60 one-minute values will be available for calculating the initial hourly rolling average), and 720 minutes (when 720 one-minute values will be available for calculating the initial 12-hour hourly rolling average) respectively, from the time at which compliance begins.

(ii) *Calculation of rolling averages upon intermittent operations.* You must ignore periods of time when one-minute values are not available for calculating rolling averages. When one-minute values become available again, the first one-minute value is added to the previous one-minute values to calculate rolling averages.

(iii) *Calculation of rolling averages when the hazardous waste feed is cutoff.* (A) Except as provided by paragraph (b)(5)(iii)(B) of this section, you must continue monitoring operating parameter limits with a CMS when the hazardous waste feed is cutoff if the source is operating. You must not resume feeding hazardous waste if an operating parameter exceeds its limit.

(B) You are not subject to the CMS requirements of this subpart during periods of time you meet the requirements of § 63.1206(b)(1)(ii) (compliance with emissions standards for nonhazardous waste burning sources when you are not burning hazardous waste).

(c) *Analysis of feedstreams* -- (1) *General.* Prior to feeding the material, you must obtain an analysis of each feedstream that is sufficient to document compliance with the applicable feedrate limits provided by this section.

(2) *Feedstream analysis plan.* You must develop and implement a feedstream analysis plan and record it in the operating record. The plan must specify at a minimum:

(i) The parameters for which you will analyze each feedstream to ensure compliance with the operating parameter limits of this section;

(ii) Whether you will obtain the analysis by performing sampling and analysis or by other methods, such as using analytical information obtained from others or using other published or documented data or information;

(iii) How you will use the analysis to document compliance with applicable feedrate limits (*e.g.*, if you blend hazardous wastes and obtain analyses of the wastes prior to blending but not of the blended, as-fired, waste, the plan must describe how you will determine the pertinent parameters of the blended waste);

(iv) The test methods which you will use to obtain the analyses;

(v) The sampling method which you will use to obtain a representative sample of each feedstream to be analyzed using sampling methods described in appendix IX, part 266, of this chapter, or an equivalent method; and

(vi) The frequency with which you will review or repeat the initial analysis of the feedstream to ensure that the analysis is accurate and up to date.

(3) *Review and approval of analysis plan.* You must submit the feedstream analysis plan to the Administrator for review and approval, if requested.

(4) *Compliance with feedrate limits.* To comply with the applicable feedrate limits of this section, you must monitor and record feedrates as follows:

(i) Determine and record the value of the parameter for each feedstream by sampling and analysis or other method;

(ii) Determine and record the mass or volume flowrate of each feedstream by a CMS. If you determine flowrate of a feedstream by volume, you must determine and record the density of the feedstream by sampling and analysis (unless you report the constituent concentration in units of weight per unit volume (e.g., mg/l)); and

(iii) Calculate and record the mass feedrate of the parameter per unit time.

(5) *Waiver of monitoring of constituents in certain feedstreams.* You are not required to monitor levels of metals or chlorine in the following feedstreams to document compliance with the feedrate limits under this section provided that you document in the comprehensive performance test plan the expected levels of the constituent in the feedstream and account for those assumed feedrate levels in documenting compliance with feedrate limits: natural gas, process air, and feedstreams from vapor recovery systems.

(d) *Performance evaluations.* (1) The requirements of §§ 63.8(d) (Quality control program) and (e) (Performance evaluation of continuous monitoring systems) apply, except that you must conduct performance evaluations of components of the CMS under the frequency and procedures (for example, submittal of performance evaluation test plan for review and approval) applicable to performance tests as provided by § 63.1207.

(2) You must comply with the quality assurance procedures for CEMS prescribed in the appendix to this subpart.

(e) *Conduct of monitoring.* The provisions of § 63.8(b) apply.

(f) *Operation and maintenance of continuous monitoring systems.* The provisions of § 63.8(c) apply except:

(1) *Section 63.8(c)(3).* The requirements of § 63.1211(c), that requires CMSs to be installed, calibrated, and operational on the compliance date, shall be complied with instead of section 63.8(c)(3);

(2) *Section 63.8(c)(4)(ii).* The performance specifications for carbon monoxide, hydrocarbon, and oxygen CEMSs in subpart B, part 60 of this chapter that requires detectors to measure the sample concentration at least once every 15 seconds for calculating an average emission rate once every 60 seconds shall be complied with instead of section 63.8(c)(4)(ii); and

(3) Sections 63.8(c)(4)(i), (c)(5), and (c)(7)(i)(C) pertaining to COMS apply only to owners and operators of hazardous waste burning cement kilns..

(g) *Alternative monitoring requirements other than continuous emissions monitoring systems (CEMS)* -- (1) *Requests to use alternative methods.* (i) You may submit an application to the Administrator under this paragraph for approval of alternative monitoring requirements to document compliance with the emission standards of this subpart. For requests to use additional CEMS, however, you must use paragraph (a)(5) of this section and § 63.8(f).

(A) The Administrator will not approve averaging periods for operating parameter limits longer than specified in this section unless you document using data or information that the longer averaging period will ensure that emissions do not exceed levels achieved during the comprehensive performance test over any increment of time equivalent to the time required to conduct three runs of the performance test.

(B) If the Administrator approves the application to use an alternative monitoring requirement, you must continue to use that alternative monitoring requirement until you receive approval under this paragraph to use another monitoring requirement.

(ii) You may submit an application to waive an operating parameter limit specified in this section based on documentation that neither that operating parameter limit nor an alternative operating parameter limit is needed to ensure compliance with the emission standards of this subpart.

(iii) You must comply with the following procedures for applications submitted under paragraphs (g)(1)(i) and (ii) of this section:

(A) *Timing of the application.* You must submit the application to the Administrator not later than with the comprehensive performance test plan.

(B) *Content of the application.* You must include in the application:

(*1*) Data or information justifying your request for an alternative monitoring requirement (or for a waiver of an operating parameter limit), such as the technical or economic infeasibility or the impracticality of using the required approach;

(*2*) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach/technique (*e.g.,* type of detector, monitoring location), the averaging period for the limit, and how the limit is to be calculated; and

(*3*) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard, or that it is the monitoring requirement that best assures compliance with the standard and that is technically and economically practicable.

(C) *Approval of request to use an alternative monitoring requirement or waive an operating parameter limit.* The Administrator will notify you of approval or intention to deny approval of the request within 90 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplementary information that you submit. The Administrator will not approve an alternative monitoring request unless the alternative monitoring requirement provides equivalent or better assurance of compliance with the relevant emission standard, or is the monitoring requirement that best assures compliance with the standard and that is technically and economically practicable. Before disapproving any request, the Administrator will notify you of the Administrator's intention to disapprove the request together with:

(*1*) Notice of the information and findings on which the intended disapproval is based; and

(*2*) Notice of opportunity for you to present additional information to the Administrator before final action on the request. At the time the Administrator notifies you of intention to disapprove the request, the Administrator will specify how much time you will have after being notified of the intended disapproval to submit the additional information.

(D) *Responsibility of owners and operators.* You are responsible for ensuring that you submit any supplementary and additional information supporting your application in a timely manner to enable the Administrator to consider your application

during review of the comprehensive performance test plan. Neither your submittal of an application, nor the Administrator's failure to approve or disapprove the application, relieves you of the responsibility to comply with the provisions of this subpart.

(2) *Administrator's discretion to specify additional or alternative requirements.* The Administrator may determine on a case-by-case basis at any time (e.g., during review of the comprehensive performance test plan, during compliance certification review) that you may need to limit additional or alternative operating parameters (e.g., opacity in addition to or in lieu of operating parameter limits on the particulate matter control device) or that alternative approaches to establish limits on operating parameters may be necessary to document compliance with the emission standards of this subpart.

(h) *Reduction of monitoring data.* The provisions of § 63.8(g) apply.

(i) *When an operating parameter is applicable to multiple standards.* Paragraphs (j) through (p) of this section require you to establish limits on operating parameters based on comprehensive performance testing to ensure you maintain compliance with the emission standards of this subpart. For several parameters, you must establish a limit for the parameter to ensure compliance with more than one emission standard. An example is a limit on minimum combustion chamber temperature to ensure compliance with both the DRE standard of paragraph (j) of this section and the dioxin/furan standard of paragraph (k) of this section. If the performance tests for such standards are not performed simultaneously, the most stringent limit for a parameter derived from independent performance tests applies.

(j) *DRE.* To remain in compliance with the destruction and removal efficiency (DRE) standard, you must establish operating limits during the comprehensive performance test (or during a previous DRE test under provisions of § 63.1206(b)(7)) for the following parameters, unless the limits are based on manufacturer specifications, and comply with those limits at all times that hazardous waste remains in the combustion chamber (*i.e.*, the hazardous waste residence time has not transpired since the hazardous waste feed cutoff system was activated):

(1) *Minimum combustion chamber temperature.* (i) You must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must document the temperature measurement location in the test plan you submit under § 63.1207(e);

(ii) You must establish a minimum hourly rolling average limit as the average of the test run averages;

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Maximum hazardous waste feedrate.* (i) You must establish limits on the maximum pumpable and total (i.e., pumpable and nonpumpable) hazardous waste feedrate for each location where hazardous waste is fed.

(ii) You must establish the limits as the average of the maximum hourly rolling averages for each run.

(iii) You must comply with the feedrate limit(s) on a hourly rolling average basis;

(4) *Operation of waste firing system.* You must specify operating parameters and limits to ensure that good operation of each hazardous waste firing system is maintained.

(k) *Dioxins and furans.* You must comply with the dioxin and furans emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Gas temperature at the inlet to a dry particulate matter control device.* (i) For hazardous waste burning incinerators and cement kilns, if the combustor is equipped with an electrostatic precipitator, baghouse (fabric filter), or other dry emissions control device where particulate matter is suspended in contact with combustion gas, you must establish a limit on the maximum temperature of the gas at the inlet to the device on an hourly rolling average. You must establish the hourly rolling average limit as the average of the test run averages.

(ii) For hazardous waste burning lightweight aggregate kilns, you must establish a limit on the maximum temperature of the gas at the exit of the (last) combustion chamber (or exit of any waste heat recovery system) on an hourly rolling average. The limit must be established as the average of the test run averages;

(2) *Minimum combustion chamber temperature.* (i) You must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must document the temperature measurement location in the test plan you submit under §§ 63.1207(e) and (f);

(ii) You must establish a minimum hourly rolling average limit as the average of the test run averages.

(3) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(4) *Maximum hazardous waste feedrate.* (i) You must establish limits on the maximum pumpable and total (pumpable and nonpumpable) hazardous waste feedrate for each location where waste is fed.

(ii) You must establish the limits as the average of the maximum hourly rolling averages for each run.

(iii) You must comply with the feedrate limit(s) on a hourly rolling average basis;

(5) *Particulate matter operating limit.* If your combustor is equipped with an activated carbon injection system, you must establish operating parameter limits on the particulate matter control device as specified by paragraph (m)(1) of this section;

(6) *Activated carbon injection parameter limits.* If your combustor is equipped with an activated carbon injection system:

(i) *Carbon feedrate.* You must establish a limit on minimum carbon injection rate on an hourly rolling average calculated as the average of the test run averages. If your carbon injection system injects carbon at more than one location, you must establish a carbon feedrate limit for each location.

(ii) *Carrier fluid.* You must establish a limit on minimum carrier fluid (gas or liquid) flowrate or pressure drop as an hourly rolling average based on the manufacturer's specifications. You must document the specifications in the test plan you submit under §§ 63.1207(e) and (f);

(iii) *Carbon specification.* (A) You must specify and use the brand (*i.e.,* manufacturer) and type of carbon used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the carbon used in the performance test.

(B) You may substitute at any time a different brand or type of carbon provided that the replacement has equivalent or improved properties compared to the carbon used in the performance test and conforms to the key sorbent parameters you identify under

paragraph (k)(6)(iii)(A) of this section. You must include in the operating record documentation that the substitute carbon will provide the same level of control as the original carbon.

(7) *Carbon bed parameter limits.* If your combustor is equipped with a carbon bed system:

(i) *Monitoring bed life.* You must:

(A) Monitor performance of the carbon bed consistent with manufacturer's specifications and recommendations to ensure the carbon bed (or bed segment for sources with multiple segments) has not reached the end of its useful life to minimize dioxin/furan and mercury emissions at least to the levels required by the emission standards;

(B) Document the monitoring procedures in the operation and maintenance plan;

(C) Record results of the performance monitoring in the operating record; and

(D) Replace the bed or bed segment before it has reached the end of its useful life to minimize dioxin/furan and mercury emissions at least to the levels required by the emission standards.

(ii) *Carbon specification.* (A) You must specify and use the brand (*i.e.,* manufacturer) and type of carbon used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the carbon used in the performance test.

(B) You may substitute at any time a different brand or type of carbon provided that the replacement has equivalent or improved properties compared to the carbon used in the performance test. You must include in the operating record documentation that the substitute carbon will provide an equivalent or improved level of control as the original carbon.

(iii) *Maximum temperature.* You must measure the temperature of the carbon bed at either the bed inlet or exit and you must establish a maximum temperature limit on an hourly rolling average as the average of the test run averages.

(8) *Catalytic oxidizer parameter limits.* If your combustor is equipped with a catalytic oxidizer, you must establish limits on the following parameters:

(i) *Minimum flue gas temperature at the entrance of the catalyst.* You must establish a limit on minimum flue gas temperature at the entrance of the catalyst on an hourly rolling average as the average of the test run averages.

(ii) *Maximum time in-use.* You must replace a catalytic oxidizer with a new catalytic oxidizer when it has reached the maximum service time specified by the manufacturer.

(iii) *Catalyst replacement specifications.* When you replace a catalyst with a new one, the new catalyst must be equivalent to or better than the one used during the previous comprehensive test, as measured by:

(A) Catalytic metal loading for each metal;

(B) Space time, expressed in the units s-1, the maximum rated volumetric flow of combustion gas through the catalyst divided by the volume of the catalyst; and

(C) Substrate construction, including materials of construction, washcoat type, and pore density.

(iv) *Maximum flue gas temperature.* You must establish a maximum flue gas temperature limit at the entrance of the catalyst as an hourly rolling average, based on manufacturer's specifications.

(9) *Inhibitor feedrate parameter limits.* If you feed a dioxin/furan inhibitor into the combustion system, you must establish limits for the following parameters:

(i) *Minimum inhibitor feedrate.* You must establish a limit on minimum inhibitor feedrate on an hourly rolling average as the average of the test run averages.

(ii) *Inhibitor specifications.* (A) You must specify and use the brand (*i.e.,* manufacturer) and type of inhibitor used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect the effectiveness of the inhibitor and establish limits on those parameters based on the inhibitor used in the performance test.

(B) You may substitute at any time a different brand or type of inhibitor provided that the replacement has equivalent or improved properties compared to the inhibitor used in the performance test and conforms to the key parameters you identify under paragraph (k)(9)(ii)(A) of this section. You must include in the operating record documentation that the substitute inhibitor will provide the same level of control as the original inhibitor.

(l) *Mercury.* You must comply with the mercury emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Feedrate of total mercury.* You must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages, unless mercury feedrate limits are extrapolated from performance test feedrate levels under the following provisions.

(i) You may request as part of the performance test plan under §§ 63.7(b) and (c) and §§ 63.1207(e) and (f) to use the mercury feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates.

(ii) The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(A) Performance test metal feedrates are appropriate (*i.e.,* whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(B) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

(iii) The Administrator will review the performance test results in making a finding of compliance required by §§ 63.6(f)(3) and 63.1206(b)(3) to ensure that you have interpreted emission test results properly and that the extrapolation procedure is appropriate for your source.

(2) *Wet scrubber.* If your combustor is equipped with a wet scrubber, you must establish operating parameter limits prescribed by paragraph (o)(3) of this section, except for paragraph (o)(3)(iv).

(3) *Activated carbon injection.* If your combustor is equipped with an activated carbon injection system, you must establish operating parameter limits prescribed by paragraphs (k)(5) and (k)(6) of this section.

(4) *Activated carbon bed.* If your combustor is equipped with an activated carbon bed system, you must comply with the requirements of (k)(7) of this section to assure compliance with the mercury emission standard.

(m) *Particulate matter.* You must comply with the particulate matter emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Control device operating parameter limits (OPLs).* (i) *Wet scrubbers.* For sources equipped with wet scrubbers, including ionizing wet scrubbers, high energy wet scrubbers such as venturi, hydrosonic, collision, or free jet wet scrubbers, and low energy wet scrubbers such as spray towers, packed beds, or tray towers, you must establish limits on the following parameters:

(A) For high energy scrubbers only, minimum pressure drop across the wet

scrubber on an hourly rolling average, established as the average of the test run averages;

(B) For all wet scrubbers:

(*1*) To ensure that the solids content of the scrubber liquid does not exceed levels during the performance test, you must either:

(*i*) Establish a limit on solids content of the scrubber liquid using a CMS or by manual sampling and analysis. If you elect to monitor solids content manually, you must sample and analyze the scrubber liquid hourly unless you support an alternative monitoring frequency in the performance test plan that you submit for review and approval; or

(*ii*) Establish a minimum blowdown rate using a CMS and either a minimum scrubber tank volume or liquid level using a CMS.

(*2*) For maximum solids content monitored with a CMS, you must establish a limit on a twelve-hour rolling average as the average of the test run averages.

(*3*) For maximum solids content measured manually, you must establish an hourly limit, as measured at least once per hour, unless you support an alternative monitoring frequency in the performance test plan that you submit for review and approval. You must establish the maximum hourly limit as the average of the manual measurement averages for each run.

(*4*) For minimum blowdown rate and either a minimum scrubber tank volume or liquid level using a CMS, you must establish a limit on an hourly rolling average as the average of the test run averages.

(C) For high energy wet scrubbers only, you must establish limits on either the minimum liquid to gas ratio or the minimum scrubber water flowrate and maximum flue gas flowrate on an hourly rolling average. If you establish limits on maximum flue gas flowrate under this paragraph, you need not establish a limit on maximum flue gas flowrate under paragraph (m)(2) of this section. You must establish these hourly rolling average limits as the average of the test run averages; and

(D) You must establish limits on minimum power input for ionizing wet scrubbers on an hourly rolling average as the average of the test run averages.

(ii)-(iii) [Reserved]

(iv) *Other particulate matter control devices.* For each control device that is not a high energy or ionizing wet scrubber, baghouse, or electrostatic precipitator but is operated to comply with the particulate matter emission standards of this subpart, you must ensure that the control device is properly operated and maintained as required by § 63.1206(c)(7) and by monitoring the operation of the control device as follows:

(A) During each comprehensive performance test conducted to demonstrate compliance with the particulate matter emissions standard, you must establish a range of operating values for the control device that is a representative and reliable indicator that the control device is operating within the same range of conditions as during the performance test. You must establish this range of operating values as follows:

(*1*) You must select a set of operating parameters appropriate for the control device design that you determine to be a representative and reliable indicator of the control device performance.

(*2*) You must measure and record values for each of the selected operating parameters during each test run of the performance test. A value for each selected parameter must be recorded using a continuous monitor.

(*3*) For each selected operating parameter measured in accordance with the requirements of paragraph (m)(1)(iv)(A)(*1*) of this section, you must establish a minimum operating parameter limit or a maximum operating parameter limit,

as appropriate for the parameter, to define the operating limits within which the control device can operate and still continuously achieve the same operating conditions as during the performance test.

(*4*) You must prepare written documentation to support the operating parameter limits established for the control device and you must include this documentation in the performance test plan that you submit for review and approval. This documentation must include a description for each selected parameter and the operating range and monitoring frequency required to ensure the control device is being properly operated and maintained.

(B) You must install, calibrate, operate, and maintain a monitoring device equipped with a recorder to measure the values for each operating parameter selected in accordance with the requirements of paragraph (m)(1)(iv)(A)(*1*) of this section. You must install, calibrate, and maintain the monitoring equipment in accordance with the equipment manufacturer's specifications. The recorder must record the detector responses at least every 60 seconds, as required in the definition of continuous monitor.

(C) You must regularly inspect the data recorded by the operating parameter monitoring system at a sufficient frequency to ensure the control device is operating properly. An excursion is determined to have occurred any time that the actual value of a selected operating parameter is less than the minimum operating limit (or, if applicable, greater than the maximum operating limit) established for the parameter in accordance with the requirements of paragraph (m)(1)(iv)(A)(3) of this section.

(D) Operating parameters selected in accordance with paragraph (m)(1)(iv) of this section may be based on manufacturer specifications provided you support the use of manufacturer specifications in the performance test plan that you submit for review and approval.

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Maximum ash feedrate.* Owners and operators of hazardous waste incinerators must establish a maximum ash feedrate limit as a 12-hour rolling average based on the average of the test run averages.

(n) *Semivolatile metals and low volatility metals.* You must comply with the semivolatile metal (cadmium and lead) and low volatile metal (arsenic, beryllium, and chromium) emission standards by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Maximum inlet temperature to dry particulate matter air pollution control device.* You must establish a limit on the maximum inlet temperature to the primary dry metals emissions control device (*e.g.,* electrostatic precipitator, baghouse) on an hourly rolling average basis as the average of the test run averages.

(2) *Maximum feedrate of semivolatile and low volatile metals.* (i) *General.* You must establish feedrate limits for semivolatile metals (cadmium and lead) and low volatile metals (arsenic, beryllium, and chromium) as follows, except as provided by paragraph (n)(2)(ii) of this section:

(A) You must establish a 12-hour rolling average limit for the feedrate of cadmium and lead, combined, in all feedstreams as the average of the test run averages;

(B) You must establish a 12-hour rolling average limit for the feedrate of arsenic, beryllium, and chromium, combined, in all feedstreams as the average of the test run averages; and

(C) You must establish a 12-hour rolling average limit for the feedrate of arsenic,

beryllium, and chromium, combined, in all pumpable feedstreams as the average of the test run averages. Dual feedrate limits for both pumpable and total feedstreams are not required, however, if you base the total feedrate limit solely on the feedrate of pumpable feedstreams.

(ii) *Feedrate extrapolation.* (A) You may request as part of the performance test plan under §§ 63.7(b) and (c) and §§ 63.1207(e) and (f) to use the semivolatile metal and low volatile metal feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates.

(B) The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(*1*) Performance test metal feedrates are appropriate (*i.e.,* whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(*2*) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

(C) The Administrator will review the performance test results in making a finding of compliance required by §§ 63.6(f)(3) and 63.1206(b)(3) to ensure that you have interpreted emission test results properly and that the extrapolation procedure is appropriate for your source.

(3) *Control device operating parameter limits (OPLs).* You must establish operating parameter limits on the particulate matter control device as specified by paragraph (m)(1) of this section;

(4) *Maximum total chlorine and chloride feedrate.* You must establish a 12-hour rolling average limit for the feedrate of total chlorine and chloride in all feedstreams as the average of the test run averages.

(5) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis.

(o) *Hydrochloric acid and chlorine gas.* You must comply with the hydrogen chloride and chlorine gas emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

(1) *Feedrate of total chlorine and chloride.* You must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the test run averages.

(2) *Maximum flue gas flowrate or production rate.* (i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) *Wet scrubber.* If your combustor is equipped with a wet scrubber:

(i) If your source is equipped with a high energy wet scrubber such as a venturi, hydrosonic, collision, or free jet wet scrubber, you must establish a limit on minimum pressure drop across the wet scrubber on an hourly rolling average as the average of the test run averages;

(ii) If your source is equipped with a low energy wet scrubber such as a spray tower, packed bed, or tray tower, you must establish a minimum pressure drop across the wet scrubber based on manufacturer's specifications. You must comply with the limit on an hourly rolling

average;

(iii) If your source is equipped with a low energy wet scrubber, you must establish a limit on minimum liquid feed pressure to the wet scrubber based on manufacturer's specifications. You must comply with the limit on an hourly rolling average;

(iv) You must establish a limit on minimum pH on an hourly rolling average as the average of the test run averages;

(v) You must establish limits on either the minimum liquid to gas ratio or the minimum scrubber water flowrate and maximum flue gas flowrate on an hourly rolling average as the average of the test run averages. If you establish limits on maximum flue gas flowrate under this paragraph, you need not establish a limit on maximum flue gas flowrate under paragraph (o)(2) of this section; and

(vi) Reserved

(4) *Dry scrubber.* If your combustor is equipped with a dry scrubber, you must establish the following operating parameter limits:

(i) *Minimum sorbent feedrate.* You must establish a limit on minimum sorbent feedrate on an hourly rolling average as the average of the test run averages.

(ii) *Minimum carrier fluid flowrate or nozzle pressure drop.* You must establish a limit on minimum carrier fluid (gas or liquid) flowrate or nozzle pressure drop based on manufacturer's specifications.

(iii) *Sorbent specifications.* (A) You must specify and use the brand (*i.e.,* manufacturer) and type of sorbent used during the comprehensive performance test until a subsequent comprehensive performance test is conducted, unless you document in the site-specific performance test plan required under §§ 63.1207(e) and (f) key parameters that affect adsorption and establish limits on those parameters based on the sorbent used in the performance test.

(B) You may substitute at any time a different brand or type of sorbent provided that the replacement has equivalent or improved properties compared to the sorbent used in the performance test and conforms to the key sorbent parameters you identify under paragraph (o)(4)(iii)(A) of this section. You must record in the operating record documentation that the substitute sorbent will provide the same level of control as the original sorbent.

(p) Maximum combustion chamber pressure. If you comply with the requirements for combustion system leaks under Sec. 63.1206(c)(5) by maintaining the maximum combustion chamber zone pressure lower than ambient pressure to prevent combustion systems leaks from hazardous waste combustion, you must perform instantaneous monitoring of pressure and the automatic waste feed cutoff system must be engaged when negative pressure is not adequately maintained.

(q) *Operating under different modes of operation.* If you operate under different modes of operation, you must establish operating parameter limits for each mode. You must document in the operating record when you change a mode of operation and begin complying with the operating limits for an alternative mode of operation.

(1) *Operating under otherwise applicable standards after the hazardous waste residence time has transpired.* As provided by § 63.1206(b)(1)(ii), you may operate under otherwise applicable requirements promulgated under sections 112 and 129 of the Clean Air Act in lieu of the substantive requirements of this subpart.

(i) The otherwise applicable requirements promulgated under sections 112 and 129 of the Clean Air Act are applicable requirements under this subpart.

(ii) You must specify (e.g., by reference) the otherwise applicable requirements as a mode of operation in your Documentation of Compliance under § 63.1211(c), your Notification of Compliance under § 63.1207(j), and your title V permit application. These requirements

include the otherwise applicable requirements governing emission standards, monitoring and compliance, and notification, reporting, and recordkeeping.

(2) *Calculating rolling averages under different modes of operation.* When you transition to a different mode of operation, you must calculate rolling averages as follows:

(i) *Retrieval approach.* Calculate rolling averages anew using the continuous monitoring system values previously recorded for that mode of operation (i.e., you ignore continuous monitoring system values subsequently recorded under other modes of operation when you transition back to a mode of operation); or

(ii) *Start anew.* Calculate rolling averages anew without considering previous recordings.

(A) Rolling averages must be calculated as the average of the available one-minute values for the parameter until enough one-minute values are available to calculate hourly or 12-hour rolling averages, whichever is applicable to the parameter.

(B) You may not transition to a new mode of operation using this approach if the most recent operation in that mode resulted in an exceedance of an applicable emission standard measured with a CEMS or operating parameter limit prior to the hazardous waste residence time expiring; or

(iii) *Seamless transition.* Continue calculating rolling averages using data from the previous operating mode provided that both the operating limit and the averaging period for the parameter are the same for both modes of operation.

NOTIFICATION, REPORTING AND RECORDKEEPING

§ 63.1210 What are the notification requirements?

(a) Summary of requirements.

(1) You must submit the following notifications to the Administrator:

Reference	Notification
63.9(b).....	Initial notifications that you are subject to Subpart EEE of this Part.
63.9(d).....	Notification that you are subject to special compliance requirements.
63.9(j).....	Notification and documentation of any change in information already provided under § 63.9.
63.1206(b)(5)(i).....	Notification of changes in design, operation, or maintenance.
63.1207(e), 63.9(e), 63.9(g)(1) and (3).	Notification of performance test and continuous monitoring system evaluation, including the performance test plan and CMS performance evaluation plan.[1]
63.1210(b), 63.1207(j), and 63.1207(k), 63.1207(l) 63.9(h), 63.10(d)(2), 63.10(e)(2).	Notification of compliance, including results of performance tests continuous monitoring system performance evaluations

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[1]You may also be required on a case-by-case basis to submit a feedstream analysis plan under 63.1209(c)(3).

(2) You must submit the following notifications to the Administrator if you request or elect to comply with alternative requirements:

Reference	Notification, request, petition, or application
63.9(i).....	You may request an adjustment to time periods or postmark deadlines for submittal and review of required information.
63.10(e)(3)(ii).....	You may request to reduce the frequency of excess emissions and CMS performance reports.
63.10(f).....	You may request to waive recordkeeping or reporting requirements.
63.1204(d)(2)(iii).....	Notification that you elect to comply with the emission averaging requirements for cement kilns with in-line raw mills.
63.1204(e)(2)(iii).....	Notification that you elect to comply with the emission averaging requirements for preheater or preheater/precalciner kilns with dual stacks.
63.1206(b)(4), 63.1213, 63.6(i), 63.9(c).	You may request an extension of the compliance date for up to one year.
63.1206(b)(5)(i)(C).....	You may request to burn hazardous waste for more than 720 hours and for purposes other than testing or pretesting after amaking a change in the design or operation that could affect compliance with emission standards and prior to submitting a revised Notification of Compliance.
63.1206(b)(8)(iii)(B).....	If you elect to conduct particulate matter CEMS correlation testing and wish to have federal particulate matter and opacity standards and associated operating limits waived during the testing, you must notify the Administrator by submitting the correlation test plan for review and approval.
63.1206b(8)(v)	You may request approval to have the particulate matter and opacity standards and associated operating limits and conditions waived for more than 96 hours for a correction test.
63.1206(b)(9).....	Owners and operators of lightweight aggregate kilns may request approval of alternative emission standards for mercury, semivolatile metal, low

volatile
metal, and hydrochloric acid/chlorine gas under certain conditions.

63.1206(b)(10)..... Owners and operators of cement kilns may request approval of alternative
emission standards for mercury, semivolatile metal, low volatile metal, and
hydrochloric acid/chlorine gas under certain conditions.

63.1206(b)(14)..... Owners and operators of incinerators may comply with an alternative particulate matter standard.

63.1206(b)(15) Owners and Operators of cement and lightweight aggregate kilns may request to comply with the interim standards for mercury.

63.1206(c)(2)(ii)(C) You may request to make changes to the startup, shutdown, and malfunction plan.

63.1206(c)(5)(i)(C)..... You may request an alternative means of control to provide control of combustion system leaks.

63.1206(c)(5)(i)(C) You may request an alternative means of control to provide control of combustion system leaks.

63.1206(c)(5)(i)(D) You may request other techniques to prevent fugitive emissions without use of instantaneous pressure limits.

63.1207(c)(2) You may request to base initial compliance on the date in lieu of the comprehensive performance test.

63.1207(d)(3) You may request more than 60 days to complete a performance test if
additional time is needed for reasons beyond your control.

63.1207(e)(3), 63.7(h) You may request a time extension if the Administrator fails to approve or deny your test plan.

63.1207(h)(2) You may request to waive current operating parameter limits during pretesting and for more than 720 hours.

63.1207(f)(1)(ii)(D) You may request a reduced hazardous waste feedstream analysis for organic hazardous air pollutants if the reduced analysis continues to be representative of organic hazardous air pollutants in your hazardous waste feedstreams.

63.1207(g)(2)(v) You may request to operate under a wider operating range for a parameter during confirmatory performance testing.

63.1207(i)..... You may request up to a one-year time extension for conducting a
performance test (other than the initial comprehensive performance test) to
consolidate testing with other state or federally-required testing.

63.1207(j)(4)..... You may request more than 90 days to submit a Notification of Compliance
after completing a performance test if additional time is needed for reasons
beyond your control.

63.1207(l)(3)..... After failure of a performance test, you may request to burn hazardous waste for more than 720 hours and for purposes other than testing or pretesting.

63.1209(a)(5), 63.8(f)..... You may request: (1) approval of alternative monitoring methods for compliance with standards that are monitored with a CEMS; and (2) approval to use a CEMS in lieu of operating parameter limits.

63.1209(g)(1)..... You may request approval of: (1) alternative monitoring methods, except for standards that you must monitor with a continuous emission monitoring system (CEMS) and except for requests to use a CEMS in lieu of operating parameter limits; or (2) a waiver of an operating parameter limit.

63.1209(l)(1)..... You may request to extrapolate mercury feedrate limits.

63.1209(n)(2)(ii)..... You may request to extrapolate semivolatile and low volatile metal feedrate limits.

63.1211(d)..... You may request to use data compression techniques to record data on a less frequent basis than required by §63.1209.

(b) Notification of compliance.

(1) The Notification of Compliance status requirements of § 63.9(h) apply, except that:

(i) The notification is a Notification of Compliance, rather than compliance status;

(ii) The notification is required for the initial comprehensive performance test and each subsequent comprehensive and confirmatory performance test; and

(iii) You must postmark the notification before the close of business on the 90th day following completion of relevant compliance demonstration activity specified in this subpart rather than the 60th day as required by § 63.9(h)(2)(ii).

(2) Upon postmark of the Notification of Compliance, the operating parameter limits identified in the Notification of Compliance, as applicable, shall be complied with, the limits identified in the Documentation of Compliance or a previous Notification of Compliance are no longer applicable.

(3) The Notification of Compliance requirements of § 63.1207(j) also apply.

§ 63.1211 What are the recordkeeping and reporting requirements?

(a) Summary of reporting requirements. You must submit the following reports to the Administrator:

Reference	Report

63.10(d)(4).....	Compliance progress reports, if required as a condition of an extension of the compliance date granted under § 63.6(i).
63.10(d)(5)(i).....	Periodic startup, shutdown, and malfunction reports.
63.10(d)(5)(ii).....	Immediate startup, shutdown, and malfunction reports.
63.10(e)(3).....	Excessive emissions and continuous monitoring system performance report and summary report.
63.1206(c)(2)(ii)(B).....	Startup, Shutdown, and Malfunction plan.
63.1206(c)(3)(vi).....	Excessive exceedances reports.
63.1206(c)(4)(iv).....	Emergency safety vent opening reports.

(b) Summary of recordkeeping requirements. You must retain the following in the operating record:

Reference	Document, data, or information
63.1200(a), 63.10(b) and (c).	General. Information required to document and maintain compliance with the regulations of this Subpart EEE, including data recorded by continuous monitoring systems (CMS), and copies of all notifications, reports, plans, and other documents submitted to the Administrator.
63.1204(d)(1)(ii).....	Documentation of mode of operation changes for cement kilns with in-line raw mills.
63.1204(d)(2)(ii).....	Documentation of compliance with the emission averaging requirements for cement kilns and in-line raw mills.
63.1204(e)(2)(ii).....	Documentation of compliance with the emission averaging requirements for preheater or preheater/precalciner kilns with dual stacks.
63.1206(b)(1)(ii)	If you elect to comply with all applicable requirements and standards promulgated under authority of the Clean Air Act, including Sections 112 and 129, in lieu of the requirements of Subpart EEE when not burning hazardous waste, you must document in the operating record that you are in compliance with those requirements.
63.1206(c)(2).....	Startup, shutdown, and malfunction plan.

63.1206(c)(2)(v)(A).....	Documentation of you investigation and evaluation of excessive exceedances during malfunctions.
63.1206(c)(3)(v).....	Corrective measures for any automatic waste feed cutoff that results in an exceedance of an emission standard or operating parameter limit.
63.1206(c)(3)(vii).....	Documentation and results of the automatic waste feed cutoff operability testing.
63.1206(c)(4)(ii).....	Emergency safety vent operating plan.
63.1206(c)(4)(iii).....	Corrective measures for any emergency safety vent opening.
63.1206(c)(5)(ii).....	Method used for control of combustion system leaks.
63.1206(c)(6).....	Operator training and certification program.
63.1206(c)(7)(i)(D).....	Operation and maintenance plan.
63.1209(c)(2).....	Feedstream analysis plan.
63.1209(k)(6)(iii), dioxin/furan	Documentation that a substitute activated carbon,
63.1209(k)(7)(ii), provide	formation reaction inhibitor, or dry scrubber sorbent will
63.1209(k)(9)(ii), 63.1209(o)(4)(iii).	the same level of control as the original material.
63.1209(k)(7)(i)(C)	Results of carbon bed performance monitoring
63.1209(q)	Documentation of changes in modes of operation
63.1211(c).....	Documentation of compliance.

(c) Documentation of compliance.

(1) By the compliance date, you must develop and include in the operating record a Documentation of Compliance.

(2) The Documentation of Compliance must identify the applicable emission standards under this subpart and the limits on the operating parameters under § 63.1209 that will ensure compliance with those emission standards.

(3) You must include a signed and dated certification in the Documentation of Compliance that:

(i) Required CEMs and CMS are installed, calibrated, and continuously operating in compliance with the requirements of this subpart; and

(ii) Based on an engineering evaluation prepared under your direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation, and considering at a minimum the design, operation, and maintenance characteristics of the combustor and emissions control equipment, the types, quantities, and characteristics of feedstreams, and available emissions data:

(A) You are in compliance with the emission standards of this subpart; and

(B) The limits on the operating parameters under § 63.1209 ensure compliance with the emission standards of this subpart.

(4) You must comply with the emission standards and operating parameter limits specified in the Documentation of Compliance.

(d) Data compression. You may submit a written request to the Administrator for approval to use data compression techniques to record data from CMS, including CEMS, on a frequency less than that required
by § 63.1209. You must submit the request for review and approval as part of the comprehensive performance test plan.

(1) You must record a data value at least once each ten minutes.

(2) For each CEMS or operating parameter for which you request to use data compression techniques, you must recommend:

(i) A fluctuation limit that defines the maximum permissible deviation of a new data value from a previously generated value without requiring you to revert to recording each one-minute value.

(A) If you exceed a fluctuation limit, you must record each one-minute value for a period of time not less than ten minutes.

(B) If neither the fluctuation limit nor the data compression limit are exceeded during that period of time, you may reinitiate recording data values on a frequency of at least once each ten minutes; and

(ii) A data compression limit defined as the closest level to an operating parameter limit or emission standard at which reduced data recording is allowed.

(A) Within this level and the operating parameter limit or emission standard, you must record each one-minute average.

(B) The data compression limit should reflect a level at which you are unlikely to exceed the specific operating parameter limit or emission standard, considering its averaging period, with the addition of a new one-minute average.

§ 63.1212 [Reserved]

OTHER

§ 63.1213 How can the compliance date be extended to install pollution prevention or waste **minimization controls?**

(a) Applicability. You may request from the Administrator or State with an approved Title V program an extension of the compliance date of up to one year. An extension may be granted if you can reasonably document that the installation of pollution prevention or waste minimization measures will significantly reduce the amount and/or toxicity of hazardous wastes entering the feedstream(s) of the hazardous waste combustor(s), and that you could not install the necessary control measures and comply with the emission standards and operating requirements of this subpart by the compliance date.

(b) Requirements for requesting an extension.

(1) You must make your requests for a (up to) one-year extension in writing in accordance with Sec. 63.6(i)(4)(B) and (C). The request must contain the following

information:

(i) A description of pollution prevention or waste minimization controls that, when installed, will significantly reduce the amount and/or toxicity of hazardous wastes entering the feedstream(s) of the hazardouswaste combustor(s). Pollution prevention or waste minimization measures may include: equipment or technology modifications, reformulation or redesign of products, substitution of raw materials, improvements in work practices, maintenance, training, inventory control, or recycling practices conducted as defined in § 261.1(c) of this chapter;

(ii) A description of other pollution controls to be installed that are necessary to comply with the emission standards and operating requirements;

(iii) A reduction goal or estimate of the annual reductions in quantity and/or toxicity of hazardous waste(s) entering combustion feedstream(s) that you will achieve by installing the proposed pollution prevention or waste minimization measures;

(iv) A comparison of reductions in the amounts and/or toxicity of hazardous wastes combusted after installation of pollution prevention or waste minimization measures to the amounts and/or toxicity of hazardous wastes combusted prior to the installation of these measures. If the difference is less than a fifteen percent reduction, include a comparison to pollution prevention and waste minimization reductions recorded during the previous five years;

(v) Reasonable documentation that installation of the pollution prevention or waste minimization changes will not result in a net increase (except for documented increases in production) of hazardous constituents released to the environment through other emissions, wastes or effluents;

(vi) Reasonable documentation that the design and installation of waste minimization and other measures that are necessary for compliance with the emission standards and operating requirements of this subpart cannot otherwise be installed within the three year compliance period, and

(vii) The information required in § 63.6(i)(6)(i)(B) through (D).

(2) You may enclose documentation prepared under an existing State-required pollution prevention program that contains the information prescribed in paragraph (b) of this section with a request for extension in lieu of complying with the time extension requirements of that paragraph.

(c) Approval of request for extension of compliance date. Based on the information provided in any request made under paragraph (a) of this section, the Administrator or State with an approved title V program may grant an extension of the compliance date of this subpart. The extension will be in writing in accordance with §§ 63.6(i)(10)(i) through 63.6(i)(10)(v)(A).

§ 63.1214 Implementation and Enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if this

subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to requirements in Sec. Sec. 63.1200, 63.1203 through 63.1205, and 63.1206(a).

(2) Approval of major alternatives to test methods under Sec. 63.7(e)(2)(ii) and (f), as defined in Sec. 63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under Sec. 63.8(f), as defined in Sec. 63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under Sec. 63.10(f), as defined in Sec. 63.90, and as required in this subpart.

Appendix to Subpart EEE of Part 63--Quality Assurance Procedures for Continuous Emissions Monitors Used for Hazardous Waste Combustors

1. Applicability and Principle

1.1 Applicability. These quality assurance requirements are used to evaluate the effectiveness of quality control (QC) and quality assurance (QA) procedures and the quality of data produced by continuous emission monitoring systems (CEMS) that are used for determining compliance with the emission standards on a continuous basis as specified in the applicable regulation. The QA procedures specified by these requirements represent the minimum requirements necessary for the control and assessment of the quality of CEMS data used to demonstrate compliance with the emission standards provided under this subpart EEE of part 63. Owners and operators must meet these minimum requirements and are encouraged to develop and implement a more extensive QA program. These requirements supersede those found in part 60, Appendix F, of this chapter. Appendix F does not apply to hazardous waste-burning devices.

1.2 Principle. The QA procedures consist of two distinct and equally important functions. One function is the assessment of the quality of the CEMS data by estimating accuracy. The other function is the control and improvement of the quality of the CEMS data by implementing QC policies and corrective actions. These two functions form a control loop. When the assessment function indicates that the data quality is inadequate, the source must immediately stop burning hazardous waste. The CEM data control effort must be increased until the data quality is acceptable before hazardous waste burning can resume.

a. In order to provide uniformity in the assessment and reporting of data quality, this procedure explicitly specifies the assessment methods for response drift and accuracy. The methods are based on procedures included in the applicable performance specifications provided in appendix B to part 60 of this chapter. These procedures also require the analysis of the EPA audit samples concurrent with certain reference method (RM) analyses as specified in the applicable RM's.

b. Because the control and corrective action function encompasses a variety of policies, specifications, standards, and corrective measures, this procedure treats QC requirements in

general terms to allow each source owner or operator to develop a QC system that is most effective and efficient for the circumstances.

2. Definitions

2.1 Continuous Emission Monitoring System (CEMS). The total equipment required for the determination of a pollutant concentration. The system consists of the following major subsystems:

2.1.1 Sample Interface. That portion of the CEMS used for one or more of the following: sample acquisition, sample transport, and sample conditioning, or protection of the monitor from the effects
of the stack effluent.

2.1.2 Pollutant Analyzer. That portion of the CEMS that senses the pollutant concentration and generates a proportional output.

2.1.3 Diluent Analyzer. That portion of the CEMS that senses the diluent gas (O2) and generates an output proportional to the gas concentration.

2.1.4 Data Recorder. That portion of the CEMS that provides a permanent record of the analyzer output. The data recorder may provide automatic data reduction and CEMS control capabilities.

2.2 Relative Accuracy (RA). The absolute mean difference between the pollutant concentration determined by the CEMS and the value determined by the reference method (RM) plus the 2.5 percent error confidence coefficient of a series of test divided by the mean of the RM tests or the applicable emission limit.

2.3 Calibration Drift (CD). The difference in the CEMS output readings from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.4 Zero Drift (ZD). The difference in CEMS output readings at the zero pollutant level after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

2.5 Calibration Standard. Calibration standards produce a known and unchanging response when presented to the pollutant analyzer portion of the CEMS, and are used to calibrate the drift or response of the analyzer.

2.6 Relative Accuracy Test Audit (RATA). Comparison of CEMS measurements to reference method measurements in order to evaluate relative accuracy following procedures and specification given in the appropriate performance specification.

2.7 Absolute Calibration Audit (ACA). Equivalent to calibration error (CE) test defined in the appropriate performance specification using NIST traceable calibration standards to challenge the CEMS and assess accuracy.

2.8 Rolling Average. The average emissions, based on some (specified) time period, calculated every minute from a one-minute average of four measurements taken at 15-second intervals.

3. QA/QC Requirements

3.1 QC Requirements.

a. Each owner or operator must develop and implement a QC program. At a minimum, each QC program must include written procedures describing in detail complete, step-by-step

procedures and operations for the following activities.

1. Checks for component failures, leaks, and other abnormal conditions.
2. Calibration of CEMS.
3. CD determination and adjustment of CEMS.
4. Integration of CEMS with the automatic waste feed cutoff (AWFCO) system.
5. Preventive Maintenance of CEMS (including spare parts inventory).
6. Data recording, calculations, and reporting.
7. Checks of record keeping.
8. Accuracy audit procedures, including sampling and analysis methods.
9. Program of corrective action for malfunctioning CEMS.
10. Operator training and certification.
11. Maintaining and ensuring current certification or naming of cylinder gasses, metal solutions, and particulate samples used for audit and accuracy tests, daily checks, and calibrations.

b. Whenever excessive inaccuracies occur for two consecutive quarters, the current written procedures must be revised or the CEMS modified or replaced to correct the deficiency causing the excessive
inaccuracies. These written procedures must be kept on record and available for inspection by the enforcement agency.

3.2 QA Requirements. Each source owner or operator must develop and implement a QA plan that includes, at a minimum, the following.

1. QA responsibilities (including maintaining records, preparing reports, reviewing reports).
2. Schedules for the daily checks, periodic audits, and preventive maintenance.
3. Check lists and data sheets.
4. Preventive maintenance procedures.
5. Description of the media, format, and location of all records and reports.
6. Provisions for a review of the CEMS data at least once a year. Based on the results of the review, the owner or operator must revise or update the QA plan, if necessary.

4. CD and ZD Assessment and Daily System Audit

4.1 CD and ZD Requirement. Owners and operators must check, record, and quantify the ZD and the CD at least once daily (approximately 24 hours) in accordance with the method prescribed by the manufacturer. The CEMS calibration must, at a minimum, be adjusted whenever the daily ZD or CD exceeds the limits in the Performance Specifications. If, on any given ZD and/or CD check the ZD and/or CD exceed(s) two times the limits in the Performance Specifications, or if the cumulative adjustment to the ZD and/or CD (see Section 4.2) exceed(s) three times the limits in the Performance Specifications, hazardous waste burning must immediately cease and the CEMS must be serviced and recalibrated. Hazardous waste burning cannot resume until the owner or operator documents that the CEMS is in compliance with the Performance Specifications by carrying out an ACA.

4.2 Recording Requirements for Automatic ZD and CD Adjusting Monitors. Monitors that automatically adjust the data to the corrected calibration values must record the unadjusted concentration measurement prior to resetting the calibration, if performed, or record the amount of the adjustment.

4.3 Daily System Audit. The audit must include a review of the calibration check data, an inspection of the recording system, an inspection of the control panel warning lights, and an inspection of the sample transport and interface system (e.g., flowmeters, filters, etc.) as appropriate.

4.4 Data Recording and Reporting. All measurements from the CEMS must be retained in the operating record for at least 5 years.

5. Performance Evaluation for CO, O_2, and HC CEMS

Carbon Monoxide (CO), Oxygen (O_2), and Hydrocarbon (HC) CEMS. An Absolute Calibration Audit (ACA) must be conducted quarterly, and a Relative Accuracy Test Audit (RATA) (if applicable, see sections 5.1 and 5.2) must be conducted yearly. An Interference Response Tests must be performed whenever an ACA or a RATA is conducted. When a performance test is also required under § 63.1207 to document compliance with emission standards, the RATA must coincide with the performance test. The audits must be conducted as follows.

5.1 Relative Accuracy Test Audit (RATA). This requirement applies to O_2 and CO CEMS. The RATA must be conducted at least yearly. Conduct the RATA as described in the RA test procedure (or alternate procedures section) described in the applicable Performance Specifications. In addition, analyze the appropriate performance audit samples received from the EPA as described in the applicable sampling methods.

5.2 Absolute Calibration Audit (ACA). The ACA must be conducted at least quarterly except in a quarter when a RATA (if applicable, see section 5.1) is conducted instead. Conduct an ACA as described in the calibration error (CE) test procedure described in the applicable Performance Specifications.

5.3 Interference Response Test. The interference response test must be conducted whenever an ACA or RATA is conducted. Conduct an interference response test as described in the applicable Performance Specifications.

5.4 Excessive Audit Inaccuracy. If the RA from the RATA or the CE from the ACA exceeds the criteria in the applicable Performance Specifications, hazardous waste burning must cease immediately. Hazardous waste burning cannot resume until the owner or operator takes corrective measures and audit the CEMS with a RATA to document that the CEMS is operating within the specifications.

6. Other Requirements

6.1 Performance Specifications. CEMS used by owners and operators of HWCs must comply with the following performance specifications in appendix B to part 60 of this chapter:

Table I: Performance Specifications for CEMS

CEMS	Performance specification

Carbon monoxide.....4B
Oxygen..... 4B
Total hydrocarbons..... 8A

6.2 Downtime due to Calibration. Facilities may continue to burn hazardous waste for a maximum of 20 minutes while calibrating the CEMS. If all CEMS are calibrated at once, the facility must have twenty minutes to calibrate all the CEMS. If CEMS are calibrated individually, the facility must have twenty minutes to calibrate each CEMS. If the CEMS are calibrated individually, other CEMS must be operational while the individual CEMS is being calibrated.

6.3 Span of the CEMS.

6.3.1 CO CEMS. The CO CEM must have two ranges, a low range with a span of 200 ppmv and a high range with a span of 3000 ppmv at an oxygen correction factor of 1. A one-range CEM may be used, but it must meet the performance specifications for the low range in the specified span of the low range.

6.3.2 O_2 CEMS. The O_2 CEM must have a span of 25 percent. The span may be higher than 25 percent if the O_2 concentration at the sampling point is greater than 25 percent.

6.3.3 HC CEMS. The HC CEM must have a span of 100 ppmv, expressed as propane, at an oxygen correction factor of 1.

6.3.4 CEMS Span Values. When the Oxygen Correction Factor is Greater than 2. When an owner or operator installs a CEMS at a location of high ambient air dilution, i.e., where the maximum oxygen correction factor as determined by the permitting agency is greater than 2, the owner or operator must install a CEM with a lower span(s), proportionate to the larger oxygen correction factor, than those specified above.

6.3.5 Use of Alternative Spans. Owner or operators may request approval to use alternative spans and ranges to those specified. Alternate spans must be approved in writing in advance by the Administrator. In considering approval of alternative spans and ranges, the Administrator will consider that measurements beyond the span will be recorded as values at the maximum span for purposes of calculating rolling averages.

6.3.6 Documentation of Span Values. The span value must be documented by the CEMS manufacturer with laboratory data.

6.4.1 Moisture Correction. Method 4 of appendix A, part 60 of this chapter, must be used to determine moisture content of the stack gasses.

6.4.2 Oxygen Correction Factor. Measured pollutant levels must be corrected for the amount of oxygen in the stack according to the following formula:

Where:

P_c = concentration of the pollutant or standard corrected to 7 percent oxygen, dry basis;

P_m = measured concentration of the pollutant, dry basis;
E = volume fraction of oxygen in the combustion air fed into the device, on a dry basis (normally 21 percent or 0.21 if only air is fed);
Y = measured fraction of oxygen on a dry basis at the sampling point.

The oxygen correction factor is:

6.4.3 Temperature Correction. Correction values for temperature are obtainable from standard reference materials.

6.5 Rolling Average. A rolling average is the arithmetic average of all one-minute averages over the averaging period.

6.5.1 One-Minute Average for CO and HHC CEMS and Operating Parameter Limits. One-minute averages are the arithmetic average of the four most recent 15-second observations and must be calculated using the following equation:

Where:

c = the one minute average
c_i = a fifteen-second observation from the CEM

Fifteen second observations must not be rounded or smoothed. Fifteen-second observations may be disregarded only as a result of a failure in the CEMS and allowed in the source's quality assurance plan at the time of the CEMS failure. One-minute averages must not be rounded, smoothed, or disregarded.

6.5.2 Ten Minute Rolling Average Equation. The ten minute rolling average must be calculated using the following equation:

Where:

C_{RA} = The concentration of the standard, expressed as a rolling average
c_i = a one minute average

6.5.3 Hourly Rolling Average Equation for CO and THC CEMS and Operating Parameter Limits. The rolling average, based on a specific number integer of hours, must be calculated using the following equation:

Where:

c_{RA} = The concentration of the standard, expressed as a rolling average
c_i = a one minute average

6.5.4 Averaging Periods for CEMS other than CO and THC. The averaging period for CEMS other than CO and THC CEMS must be calculated as a rolling average of all one-hour values over the averaging period. An hourly average is comprised of 4 measurements taken at equally spaced time intervals, or at most every 15 minutes. Fewer than 4 measurements might be available within an hour for reasons such as facility downtime or CEMS calibration. If at least two measurements (30 minutes of data) are available, an hourly average must be calculated. The n-hour rolling average is calculated by averaging the n most recent hourly averages.

6.6 Units of the Standards for the Purposes of Recording and Reporting Emissions. Emissions must be recorded and reported expressed after correcting for oxygen, temperature, and moisture. Emissions must be reported in metric, but may also be reported in the English system of units, at 7 percent oxygen, 20 ?C, and on a dry basis.

6.7 Rounding and Significant Figures. Emissions must be rounded to two significant figures using ASTM procedure E-29-90 or its successor. Rounding must be avoided prior to rounding for the reported value.

7. Bibliography

1. 40 CFR Part 60, Appendix F, ``Quality Assurance Procedures: Procedure 1. Quality Assurance Requirements for Gas Continuous Emission Monitoring Systems Used For Compliance Determination".

Appendix B to Subpart EEE- Applicability to General Provisions to Subpart EEE

§ 63.1 Applicability.

(a) *General.*

(1) Terms used throughout this part are defined in § 63.2 or in the Clean Air Act (Act)as amended in 1990, except that individual subparts of this part may include specific definitions in addition to or that supersede definitions in § 63.2.

(2) This part contains national emission standards for hazardous air pollutants (NESHAP) established pursuant to section 112 of the Act as amended November 15, 1990. These standards regulate specific categories of stationary sources that emit (or have the potential to emit) one or more hazardous air pollutants listed in this part pursuant to section 112(b) of the Act. This section explains the applicability of such standards to sources affected by them. The standards in this part are independent of NESHAP contained in 40 CFR part 61. The NESHAP in part 61 promulgated by signature of the Administrator before November 15, 1990 (i.e., the date of

enactment of the Clean Air Act Amendments of 1990) remain in effect until they are amended, if appropriate, and added to this part.

(3) No emission standard or other requirement established under this part shall be interpreted, construed, or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established by the Administrator pursuant to other authority of the Act (section 111, part C or D or any other authority of this Act), or a standard issued under State authority. The Administrator may specify in a specific standard under this part that facilities subject to other provisions under the Act need only comply with the provisions of that standard.

(4) (i) Each relevant standard in this part 63 must identify explicitly whether each provision in this subpart A is or is not included in such relevant standard.

(ii) If a relevant part 63 standard incorporates the requirements of 40 CFR part 60, part 61, or other part 63 standards, the relevant part 63 standard must identify explicitly the applicability of each corresponding part 60,part 61, or other part 63 subpart A (General) Provision.

(iii) The General Provisions in this Subpart A do not apply to regulations developed pursuant to section112(r) of the amended Act., unless otherwise specified in those regulations.

(5) [Reserved]

(6) To obtain the most current list of categories of sources to be regulated under section 112 of the Act, or to obtain the most recent regulation promulgation schedule established pursuant to section 112(e) of the Act, contact the Office of the Director, Emission Standards Division, Office of Air Quality Planning and Standards, U.S. EPA (MD–13), Research Triangle Park, North Carolina 27711.

(7) [Reserved]

(8) [Reserved]

(9) [Reserved]

(10) For the purposes of this part, time periods specified in days shall be measured in calendar days, even if the word ‘‘calendar’’ is absent, unless otherwise specified in an applicable requirement.

(11) For the purposes of this part, if an explicit postmark deadline is not specified in an applicable requirement for the submittal of a notification, application, test plan, report, or other written communication to the Administrator, the owner or operator shall postmark the submittal on or before the number of days specified in the applicable requirement. For example, if a notification must be submitted 15 days before a particular event is scheduled to take place, the notification shall be postmarked on or before 15 days preceding the event; likewise, if a notification must be submitted 15 days after a particular event takes place, the notification shall be postmarked on or before 15 days following the end of the event. The use of reliable non-Government mail carriers that provide indications of verifiable delivery of information required to be submitted to the Administrator, similar to the postmark provided by the U.S. Postal Service, or alternative means of delivery agreed to by the permitting authority, is acceptable.

(12) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. Procedures governing the implementation of this provision are specified in § 63.9(i).

(13) [Reserved]
(14) [Reserved]

(b) *Initial applicability determination for this part*.
(1) The provisions of this part apply to the owner or operator of any stationary source that -
(i) Emits or has the potential to emit any hazardous air pollutant listed in or pursuant to section 112(b) of the Act; and
(ii) Is subject to any standard, limitation, prohibition, or other federally enforceable requirement established pursuant to this part.
(2) Reserved
(3) An owner or operator of a stationary source who is in the relevant source category and who determines that the source is not subject to a relevant standard or other requirement established under this part, must keep a record as specified in § 63.10(b)(3).

(c) *Applicability of this part after a relevant standard has been set under this part.*
*(1)*If a relevant standard has been established under this part, the owner or operator of an affected source must comply with the provisions of that standard and of this subpart as provided in paragraph (a)(4) of this section.
*(2)*Except as provided in § 63.10(b)(3), if a relevant standard has been established under this part, the owner or operator of an affected source may be required to obtain a title V permit from a permitting authority in the State in which the source is located. Emission standards promulgated in this part for area sources pursuant to section 112(c)(3) of the Act will specify whether –
(i) States will have the option to exclude area sources affected by that standard from the requirement to obtain a title V permit (i.e., the standard will exempt the category of area sources altogether from the permitting requirement);
(ii) States will have the option to defer permitting of area sources in that category until the Administrator takes rulemaking action to determine applicability of the permitting requirements; or
(iii) If a standard fails to specify what the permitting requirements will be for area sources affected by such a standard, then area sources that are subject to the standard will be subject to the requirement to obtain a title V permit without any deferral.
(3) [Reserved]
(4) [Reserved]
(5) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source that is subject to the emission standard or other requirement, such source also shall be subject to the notification requirements of this subpart.

(d) [Reserved]

(e) If the Administrator promulgates an emission standard under section 112(d) or (h) of the Act that is applicable to a source subject to an emission limitation by permit established under section 112(j) of the Act, and the requirements under the section 112(j) emission limitation are

substantially as effective as the promulgated emission standard, the owner or operator may request the permitting authority to revise the source's title V permit to reflect that the emission limitation in the permit satisfies the requirements of the promulgated emission standard. The process by which the permitting authority determines whether the section 112(j) emission limitation is substantially as effective as the promulgated emission standard must include, consistent with part 70 or 71 of this chapter, the opportunity for full public, EPA, and affected State review (including the opportunity for EPA's objection) prior to the permit revision being finalized. A negative determination by the permitting authority constitutes final action for purposes of review and appeal under the applicable title V operating permit program.

§ 63.2 Definitions.

The terms used in this part are defined in the Act or in this section as follows:

Act means the Clean Air Act (42 U.S.C. 7401 et seq., as amended by Pub. L. 101–549, 104 Stat. 2399).

*Actual emissions*is defined in subpart D of this part for the purpose of granting a compliance extension for an early reduction of hazardous air pollutants.

*Administrator*means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).

Affected source, for the purposes of this part, means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory for which a section 112(d) standard or other relevant standard is established pursuant to section 112 of the Act. Each relevant standard will define the "affected source," as defined in this paragraph unless a different definition is warranted based on a published justification as to why this definition would result in significant administrative, practical, or implementation problems and why the different definition would resolve those problems. The term "affected source," as used in this part, is separate and distinct from any other use of that term in EPA regulations such as those implementing title IV of the Act. Affected source may be defined differently for part 63 than affected facility and stationary source in parts 60 and 61, respectively. This definition of "affected source," and the procedures for adopting an alternative definition of "affected source," shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002.

Alternative emission limitation means conditions established pursuant to sections 112(i)(5) or 112(i)(6) of the Act by the Administrator or by a State with an approved permit program.

Alternative emission standard means an alternative means of emission limitation that, after notice and opportunity for public comment, has been demonstrated by an owner or operator to the Administrator’s satisfaction to achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such pollutant achieved under a relevant design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act.

Alternative test method means any method of sampling and analyzing for an air pollutant that is not a test method in this chapter and that has been demonstrated to the Administrator’s satisfaction, using Method 301 in Appendix A of this part, to produce results adequate for the

Administrator's determination that it may be used in place of a test method specified in this part.

Approved permit program means a State permit program approved by the Administrator as meeting the requirements of part 70 of this chapter or a Federal permit program established in this chapter pursuant to title V of the Act (42 U.S.C. 7661).

Area source means any stationary source of hazardous air pollutants that is not a major source as defined in this part.

Commenced means, with respect to construction or reconstruction of an affected source, that an owner or operator has undertaken a continuous program of construction or reconstruction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or reconstruction.

Compliance date means the date by which an affected source is required to be in compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established by the Administrator (or a State with an approved permit program) pursuant to section 112 of the Act.

*Compliance schedule*means:

(1) In the case of an affected source that is in compliance with all applicable requirements established under this part, a statement that the source will continue to comply with such requirements; or

(2) In the case of an affected source that is required to comply with applicable requirements by a future date, a statement that the source will meet such requirements on a timely basis and, if required by an applicable requirement, a detailed schedule of the dates by which each step toward compliance will be reached; or

(3) In the case of an affected source not in compliance with all applicable requirements established under this part, a schedule of remedial measures, including an enforceable sequence of actions or operations with milestones and a schedule for the submission of certified progress reports, where applicable, leading to compliance with a relevant standard, limitation, prohibition, or any federally enforceable requirement established pursuant to section 112 of the Act for which the affected source is not in compliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction non-compliance with, the applicable requirements on which it is based.

Construction means the on-site fabrication, erection, or installation of an affected source. Construction does not include the removal of all equipment comprising an affected source from an existing location and reinstallation of such equipment at a new location. The owner or operator of an existing affected source that is relocated may elect not to reinstall minor ancillary equipment including, but not limited to, piping, ductwork, and valves. However, removal and reinstallation of an affected source will be construed as reconstruction if it satisfies the criteria for reconstruction as defined in this section. The costs of replacing minor ancillary equipment must be considered in determining whether the existing affected source is reconstructed.

*Continuous emission monitoring system (CEMS)*means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of emissions.

*Continuous monitoring system (CMS)*is a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other manual or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by

the regulation.

Continuous opacity monitoring system (COMS) means a continuous monitoring system that measures the opacity of emissions.

Continuous parameter monitoring system means the total equipment that may be required to meet the data acquisition and availability requirements of this part, used to sample, condition (if applicable), analyze, and provide a record of process or control system parameters.

Effective date means:

(1) With regard to an emission standard established under this part, the date of promulgation in the FEDERAL REGISTER of such standard; or

(2)With regard to an alternative emission limitation or equivalent emission limitation determined by the Administrator (or a State with an approved permit program), the date that the alternative emission limitation or equivalent emission limitation becomes effective according to the provisions of this part.

*Emission standard*means a national standard, limitation, prohibition, or other regulation promulgated in a subpart of this part pursuant to sections 112(d), 112(h), or 112(f) of the Act.

Emissions averaging is a way to comply with the emission limitations specified in a relevant standard, whereby an affected source, if allowed under a subpart of this part, may create emission credits by reducing emissions from specific points to a level below that required by the relevant standard, and those credits are used to offset emissions from points that are not controlled to the level required by the relevant standard.

EPA means the United States Environmental Protection Agency.

Equivalent emission limitation means any maximum achievable control technology emission limitation or requirements which are applicable to a major source of hazardous air pollutants and are adopted by the Administrator (or a State with an approved permit program) on a case-by-case basis, pursuant to section 112(g) or (j) of the Act.

Excess emissions and continuous monitoring system performance report is a report that must be submitted periodically by an affected source in order to provide data on its compliance with relevant emission limits, operating parameters, and the performance of its continuous parameter monitoring systems.

Existing source means any affected source that is not a new source.

Federally enforceable means all limitations and conditions that are enforceable by the Administrator and citizens under the Act or that are enforceable under other statutes administered by the Administrator. Examples of federally enforceable limitations and conditions include, but are not limited to:

(1) Emission standards, alternative emission standards, alternative emission limitations, and equivalent emission limitations established pursuant to section 112 of the Act as amended in 1990;

(2) New source performance standards established pursuant to section 111 of the Act, and emission standards established pursuant to section 112 of the Act before it was amended in 1990;

(3) All terms and conditions in a title V permit, including any provisions that limit a source's potential to emit, unless expressly designated as not federally enforceable;

(4) Limitations and conditions that are part of an approved State Implementation Plan (SIP) or a Federal Implementation Plan (FIP);

(5) Limitations and conditions that are part of a Federal construction permit issued under 40 CFR 52.21 or any construction permit issued under regulations approved by the EPA in accordance with 40 CFR part 51;

(6) Limitations and conditions that are part of an operating permit where the permit and the permitting program pursuant to which it was issued meet all of the following criteria:

(i) The operating permit program has been submitted to and approved by EPA into a State implementation plan (SIP) under section 110 of the CAA;

(ii) The SIP imposes a legal obligation that operating permit holders adhere to the terms and limitations of such permits and provides that permits which do not conform to the operating permit program requirements and the requirements of EPA's underlying regulations may be deemed not "federally enforceable" by EPA;

(iii) The operating permit program requires that all emission limitations, controls, and other requirements imposed by such permits will be at least as stringent as any other applicable limitations and requirements contained in the SIP or enforceable under the SIP, and that the program may not issue permits that waive, or make less stringent, any limitations or requirements contained in or issued pursuant to the SIP, or that are otherwise "federally enforceable";

(iv) The limitations, controls, and requirements in the permit in question are permanent, quantifiable, and otherwise enforceable as a practical matter; and

(v) The permit in question was issued only after adequate and timely notice and opportunity for comment for EPA and the public.

(7) Limitations and conditions in a State rule or program that has been approved by the EPA under subpart E of this part for the purposes of implementing and enforcing section 112; and

(8) Individual consent agreements that the EPA has legal authority to create.

Fixed capital cost means the capital needed to provide all the depreciable components of an existing source.

Fugitive emissions means those emissions from a stationary source that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Under section 112 of the Act, all fugitive emissions are to be considered in determining whether a stationary source is a major source.

Hazardous air pollutant means any air pollutant listed in or pursuant to section 112(b) of the Act.

Issuance of a part 70 permit will occur, if the State is the permitting authority, in accordance with the requirements of part 70 of this chapter and the applicable, approved State permit program. When the EPA is the permitting authority, issuance of a title V permit occurs immediately after the EPA takes final action on the final permit.

Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

*Monitoring*means the collection and use of measurement data or other information to control the operation of a process or pollution control device or to verify a work practice standard relative to assuring compliance with applicable requirements. Monitoring is composed of four elements:

(1) Indicator(s) of performance -- the parameter or parameters you measure or observe for

demonstrating proper operation of the pollution control measures or compliance with the applicable emissions limitation or standard. Indicators of performance may include direct or predicted emissions measurements (including opacity), operational parametric values that correspond to process or control device (and capture system) efficiencies or emissions rates, and recorded findings of inspection of work practice activities, materials tracking, or design characteristics. Indicators may be expressed as a single maximum or minimum value, a function of process variables (for example, within a range of pressure drops), a particular operational or work practice status (for example, a damper position, completion of a waste recovery task, materials tracking), or an interdependency between two or among more than two variables.

(2) Measurement techniques -- the means by which you gather and record information of or about the indicators of performance. The components of the measurement technique include the detector type, location and installation specifications, inspection procedures, and quality assurance and quality control measures. Examples of measurement techniques include continuous emission monitoring systems, continuous opacity monitoring systems, continuous parametric monitoring systems, and manual inspections that include making records of process conditions or work practices.

(3) Monitoring frequency -- the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for continuous emissions or parametric monitoring systems, at least every 10 seconds for continuous opacity monitoring systems, and at least once per operating day (or week, month, etc.) for work practice or design inspections.

(4) Averaging time -- the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limitation, a 30-day rolling average emissions value, a daily average of a control device operational parametric range, and an instantaneous alarm.

*New affected source*means the collection of equipment, activities, or both within a single contiguous area and under common control that is included in a section 112(c) source category or subcategory that is subject to a section 112(d) or other relevant standard for new sources. This definition of "new affected source," and the criteria to be utilized in implementing it, shall apply to each section 112(d) standard for which the initial proposed rule is signed by the Administrator after June 30, 2002. Each relevant standard will define the term "new affected source," which will be the same as the "affected source" unless a different collection is warranted based on consideration of factors including:

(1) Emission reduction impacts of controlling individual sources versus groups of sources;

(2) Cost effectiveness of controlling individual equipment;

(3) Flexibility to accommodate common control strategies;

(4) Cost/benefits of emissions averaging;

(5) Incentives for pollution prevention;

(6) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices);

(7) Feasibility and cost of monitoring; and

(8) Other relevant factors.

*New source*means any affected source the construction or reconstruction of which is commenced after the Administrator first proposes a relevant emission standard under this part establishing an emission standard applicable to such source.

Opacity means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background. For continuous opacity monitoring systems, opacity means the fraction of incident light that is attenuated by an optical medium.

Owner or operator means any person who owns, leases, operates, controls, or supervises

a stationary source..

Performance audit means a procedure to analyze blind samples, the content of which is known by the Administrator, simultaneously with the analysis of performance test samples in order to provide a measure of test data quality.

Performance evaluation means the conduct of relative accuracy testing, calibration error testing, and other measurements used in validating the continuous monitoring system data.

Performance test means the collection of data resulting from the execution of a test method (usually three emission test runs) used to demonstrate compliance with a relevant emission standard as specified in the performance test section of the relevant standard.

Permit modification means a change to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permit program means a comprehensive State operating permit system established pursuant to title V of the Act (42 U.S.C. 7661) and regulations codified in part 70 of this chapter and applicable State regulations, or a comprehensive Federal operating permit system established pursuant to title V of the Act and regulations codified in this chapter.

Permit revision means any permit modification or administrative permit amendment to a title V permit as defined in regulations codified in this chapter to implement title V of the Act (42 U.S.C. 7661).

Permitting authority means:

(1) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under part 70 of this chapter; or

(2) The Administrator, in the case of EPA-implemented permit programs under title V of the Act (42 U.S.C. 7661).

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

Reconstruction means the replacement of components of an affected or a previously unaffected stationary source to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and

(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

Regulation promulgation schedule means the schedule for the promulgation of emission standards under this part, established by the Administrator pursuant to section 112(e) of the Act and published in the FEDERAL REGISTER.

Relevant standard means:

(1) An emission standard;

(2) An alternative emission standard;

(3) An alternative emission limitation; or

(4) An equivalent emission limitation established pursuant to section 112 of the Act that applies to the collection of equipment, activities, or both regulated by such standard or limitation. A relevant standard may include or consist of a design, equipment, work practice, or operational requirement, or other measure, process, method, system, or technique (including prohibition of emissions) that the Administrator (or a State) establishes for new or existing sources to which such standard or limitation applies. Every relevant standard established pursuant to section 112 of the Act includes subpart A of this part, as provided by § 63.1(a)(4), and all applicable appendices of this part or of other parts of this chapter that are referenced in that standard.

Responsible official means one of the following:

(1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representative is approved in advance by the Administrator.

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively.

(3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).

(4) For affected sources (as defined in this part) applying for or subject to a title V permit: ''responsible official'' shall have the same meaning as defined in part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever is applicable.

Run means one of a series of emission or other measurements needed to determine emissions for a representative operating period or cycle as specified in this part.

Shutdown means the cessation of operation of an affected source or portion of an affected source for any purpose.

Six-minute period means, with respect to opacity determinations, any one of the 10 equal parts of a 1-hour period.

Standard conditions means a temperature of 293 ^{o}K (68° F) and a pressure of 101.3 kilopascals (29.92 in. Hg).

Startup means the setting in operation of an affected source for any purpose.

State means all non-Federal authorities, including local agencies, interstate associations, and State-wide programs, that have delegated authority to implement:

(1) The provisions of this part and/or

(2) the permit program established under part 70 of this chapter. The term State shall have its conventional meaning where clear from the context.

Stationary source means any building, structure, facility, or installation which emits or may emit any air pollutant.

Test method means the validated procedure for sampling, preparing, and analyzing for an

air pollutant specified in a relevant standard as the performance test procedure. The test method may include methods described in an appendix of this chapter, test methods incorporated by reference in this part, or methods validated for an application through procedures in Method 301 of appendix A of this part.

Title V permit means any permit issued, renewed, or revised pursuant to Federal or State regulations established to implement title V of the Act (42 U.S.C. 7661). A title V permit issued by a State permitting authority is called a part 70 permit in this part.

Visible emission means the observation of an emission of opacity or optical density above the threshold of vision.

*Working day*means any day on which Federal Government offices (or State government offices for a State that has obtained delegation under section 112(l)) are open for normal business. Saturdays, Sundays, and official Federal (or where delegated, State) holidays are not working days.

§ 63.3 Units and abbreviations.

Used in this part are abbreviations and symbols of units of measure. These are defined as follows:

(a) System International (SI) units of measure:

A = ampere
g = gram
Hz = hertz
J = joule
°K = degree Kelvin
kg = kilogram
l = liter
m = meter
m^3 = cubic meter
mg = milligram = 10^{-3} gram
ml = milliliter = 10^{-3} liter
mm = millimeter = 10^{-3} meter
Mg = megagram = 10^{6} gram = metric ton
MJ = megajoule
mol = mole
N = newton
ng = nanogram = 10^{-9} gram
nm = nanometer = 10^{-9} meter
Pa = pascal
s = second
V = volt
W = watt
? = ohm
?g = microgram = 10^{-6} gram
?l = microliter = 10^{-6} liter

(b) Other units of measure:

Btu = British thermal unit
°C = degree Celsius (centigrade)
cal = calorie
cfm = cubic feet per minute
cc = cubic centimeter
cu ft = cubic feet
d = day
dcf = dry cubic feet
dcm = dry cubic meter
dscf = dry cubic feet at standard conditions
dscm = dry cubic meter at standard conditions
eq = equivalent
°F = degree Fahrenheit
ft = feet
ft^2 = square feet
ft^3 = cubic feet
gal = gallon
gr = grain
g-eq = gram equivalent
g-mole = gram mole
hr = hour
in. = inch
in. H_2O = inches of water
K = 1,000
kcal = kilocalorie
lb = pound
lpm = liter per minute
meq = milliequivalent
min = minute
MW = molecular weight
oz = ounces
ppb = parts per billion
ppbw = parts per billion by weight
ppbv = parts per billion by volume
ppm = parts per million
ppmw = parts per million by weight
ppmv = parts per million by volume
psia = pounds per square inch absolute
psig = pounds per square inch gage
°R = degree Rankine
scf = cubic feet at standard conditions
scfh = cubic feet at standard conditions per hour
scm = cubic meter at standard conditions
scmm= cubic meter at standard conditions per minute
sec = second
sq ft = square feet

Attachment 5
Attachment 5

std = at standard conditions
v/v = volume per volume
yd^2 = square yards
yr = year

(c) Miscellaneous:
act = actual
avg = average
I.D. = inside diameter
M = molar
N = normal
O.D. = outside diameter
% = percent

§ 63.4 Prohibited activities and circumvention.

(a) *Prohibited activities*.

(1) No owner or operator subject to the provisions of this part must operate any affected source in violation of the requirements of this part. Affected sources subject to and in compliance with either an extension of compliance or an exemption from compliance are not in violation of the requirements of this part. An extension of compliance can be granted by the Administrator under this part; by a State with an approved permit program; or by the President under section 112(i)(4) of the Act.

(2) No owner or operator subject to the provisions of this part shall fail to keep records, notify, report, or revise reports as required under this part.

(3) [Reserved]

(4) [Reserved]

(5) [Reserved]

(b) *Circumvention.* No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to

(1) The use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere;

(2) The use of gaseous diluents to achieve compliance with a relevant standard for visible emissions; and

(3) [Reserved]

(c) *Severability.* Notwithstanding any requirement incorporated into a title V permit obtained by an owner or operator subject to the provisions of this part, the provisions of this part are federally enforceable

§ 63.5 Preconstruction review and notification requirements.

(a) *Applicability.*

(1) This section implements the preconstruction review requirements of section 112(i)(1) for sources subject to a relevant emission standard that has been promulgated in this part. In addition, this section includes other requirements for constructed and reconstructed stationary sources that are or become subject to a relevant promulgated emission standard.

(2) After the effective date of a relevant standard promulgated under this part, the requirements in this section apply to owners or operators who construct a new source or reconstruct a source after the proposal date of that standard. New or reconstructed sources that start up before the standard's effective date are not subject to the preconstruction review requirements specified in paragraphs (b)(3), (d), and (e) of this section.

(b) *Requirements for existing, newly constructed, and reconstructed sources*.

(1)A new affected source for which construction commences after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates. An affected source for which reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.

(2) [Reserved]

(3) After the effective date of any relevant standard promulgated by the Administrator under this part, no person may, without obtaining written approval in advance from the Administrator in accordance with the procedures specified in paragraphs (d) and (e) of this section, do any of the following:

(i) Construct a new affected source that is major-emitting and subject to such standard;

(ii) Reconstruct an affected source that is major-emitting and subject to such standard; or

(iii) Reconstruct a major source such that the source becomes an affected source that is major-emitting and subject to the standard.

(4) After the effective date of any relevant standard promulgated by the Administrator under this part, an owner or operator who constructs a new affected source that is not major-emitting or reconstructs an affected source that is not major-emitting that is subject to such standard, or reconstructs a source such that the source becomes an affected source subject to the standard, must notify the Administrator of the intended construction or reconstruction. The notification must be submitted in accordance with the procedures in § 63.9(b).

(5) [Reserved]

(6) After the effective date of any relevant standard promulgated by the Administrator under this part, equipment added (or a process change) to an affected source that is within the scope of the definition of affected source under the relevant standard must be considered part of the affected source and subject to all provisions of the relevant standard established for that affected source.

(c) [Reserved]

(d) *Application for approval of construction or reconstruction*. The provisions of this paragraph implement section 112(i)(1) of the Act.

(1) *General application requirements*.

(i) An owner or operator who is subject to the requirements of paragraph (b)(3) of this section must submit to the Administrator an application for approval of the construction or reconstruction. The application must be submitted as soon as practicable before actual construction or reconstruction begins. The application for approval of construction or

reconstruction may be used to fulfill the initial notification requirements of § 63.9(b)(5). The owner or operator may submit the application for approval well in advance of the date actual construction or reconstruction begins in order to ensure a timely review by the Administrator and that the planned date to begin will not be delayed.

(ii) A separate application shall be submitted for each construction or reconstruction. Each application for approval of construction or reconstruction shall include at a minimum:

(A) The applicant's name and address;

(B) A notification of intention to construct a new major affected source or make any physical or operational change to a major affected source that may meet or has been determined to meet the criteria for a reconstruction, as defined in § 63.2 or in the relevant standard;

(C) The address (i.e., physical location) or proposed address of the source;

(D) An identification of the relevant standard that is the basis of the application;

(E) The expected date of the beginning of actual construction or reconstruction;

(F) The expected completion date of the construction or reconstruction;

(G) [Reserved]

(H) The type and quantity of hazardous air pollutants emitted by the source, reported in units and averaging times and in accordance with the test methods specified in the relevant standard, or if actual emissions data are not yet available, an estimate of the type and quantity of hazardous air pollutants expected to be emitted by the source reported in units and averaging times specified in the relevant standard. The owner or operator may submit percent reduction information if a relevant standard is established in terms of percent reduction. However, operating parameters, such as flow rate, shall be included in the submission to the extent that they demonstrate performance and compliance; and

(I) [Reserved]

(J) Other information as specified in paragraphs (d)(2) and (d)(3) of this section.

(iii) An owner or operator who submits estimates or preliminary information in place of the actual emissions data and analysis required in paragraphs (d)(1)(ii)(H) and (d)(2) of this section shall submit the actual, measured emissions data and other correct information as soon as available but no later than with the notification of compliance status required in § 63.9(h) (see § 63.9(h)(5)).

(2) *Application for approval of construction.* Each application for approval of construction must include, in addition to the information required in paragraph (d)(1)(ii) of this section, technical information describing the proposed nature, size, design, operating design capacity, and method of operation of the source, including an identification of each type of emission point for each type of hazardous air pollutant that is emitted (or could reasonably be anticipated to be emitted) and a description of the planned air pollution control system (equipment or method) for each emission point. The description of the equipment to be used for the control of emissions must include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions must include an estimated control efficiency (percent) for that method. Such technical information must include calculations of emission estimates in

sufficient detail to permit assessment of the validity of the calculations.

(3) *Application for approval of reconstruction*. Each application for approval of reconstruction shall include, in addition to the information required in paragraph (d)(1)(ii) of this section -

(i) A brief description of the affected source and the components that are to be replaced;

(ii) A description of present and proposed emission control systems (i.e., equipment or methods). The description of the equipment to be used for the control of emissions shall include each control device for each hazardous air pollutant and the estimated control efficiency (percent) for each control device. The description of the method to be used for the control of emissions shall include an estimated control efficiency (percent) for that method. Such technical information shall include calculations of emission estimates in sufficient detail to permit assessment of the validity of the calculations;

(iii) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source;

(iv) The estimated life of the affected source after the replacements; and

(v) A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the Administrator's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.

(vi) If in the application for approval of reconstruction the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or other requirements, the owner or operator need not submit the information required in paragraphs (d)(3)(iii) through (d)(3)(v) of this section.

(4) *Additional information*. The Administrator may request additional relevant information after the submittal of an application for approval of construction or reconstruction.

(e) *Approval of construction or reconstruction.*

(1) (i) If the Administrator determines that, if properly constructed, or reconstructed, and operated, a new or existing source for which an application under paragraph (d) of this section was submitted will not cause emissions in violation of the relevant standard(s) and any other federally enforceable requirements, the Administrator will approve the construction or reconstruction.

(ii) In addition, in the case of reconstruction, the Administrator's determination under this paragraph will be based on:

(A) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new source;

(B) The estimated life of the source after the re-placements compared to the life of a comparable entirely new source;

(C) The extent to which the components being replaced cause or contribute to the emissions from the source; and

(D) Any economic or technical limitations on compliance with relevant standards that are inherent in the proposed replacements.

(2) (i) The Administrator will notify the owner or operator in writing of approval or

intention to deny approval of construction or reconstruction within 60 calendar days after receipt of sufficient information to evaluate an application submitted under paragraph (d) of this section. The 60-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(3) Before denying any application for approval of construction or reconstruction, the Administrator will notify the applicant of the Administrator's intention to issue the denial together with -

(i) Notice of the information and findings on which the intended denial is based; and

(ii) Notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator to enable further action on the application.

(4) A final determination to deny any application for approval will be in writing and will specify the grounds on which the denial is based. The final determination will be made within 60 calendar days of presentation of additional information or arguments (if the application is complete), or within 60 calendar days after the final date specified for presentation if no presentation is made.

(5) Neither the submission of an application for approval nor the Administrator's approval of construction or reconstruction shall -

(i) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(ii) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(f) *Approval of construction or reconstruction based on prior State preconstruction review.*

(1) Preconstruction review procedures that a State utilizes for other purposes may also be utilized for purposes of this section if the procedures are substantially equivalent to those specified in this section. The Administrator will approve an application for construction or reconstruction specified in paragraphs (b)(3) and (d) of this section if the owner or operator of a new affected source or reconstructed affected source, who is subject to such requirement meets the following conditions:

(i) The owner or operator of the new affected source or reconstructed affected source has undergone a preconstruction review and approval process in the State in which the source is (or would be) located and has received a federally enforceable construction permit that contains a finding that the source will meet the relevant promulgated emission standard, if the source is properly built and operated.

(ii) Provide a statement from the State or other evidence (such as State regulations) that it considered the factors specified in paragraph (e)(1) of this section.

(2) The owner or operator must submit to the Administrator the request for approval of construction or reconstruction under this paragraph (f)(2) no later than the application deadline specified in paragraph (d)(1) of this section (see also § 63.9(b)(2)). The owner or operator must include in the request information sufficient for the Administrator's determination. The Administrator will evaluate the owner or operator's request in accordance with the procedures specified in paragraph (e) of this section. The Administrator may request additional relevant information after the submittal of a request for approval of construction or reconstruction under this paragraph (f)(2).

§ 63.6 Compliance with standards and maintenance requirements.

(a) *Applicability.*

(1) The requirements in this section apply to the owner or operator of affected sources for which any relevant standard has been established pursuant to section 112 of the Act and the applicability of such requirements is set out in accordance with § 63.1(a)(4) unless --

(i) The Administrator (or a State with an approved permit program) has granted an extension of compliance consistent with paragraph (i) of this section; or

(ii) The President has granted an exemption from compliance with any relevant standard in accordance with section 112(i)(4) of the Act.

(2) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source, such source shall be subject to the relevant emission standard or other requirement.

(b) *Compliance dates for new and reconstructed sources*.

(1) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source for which construction or reconstruction commences after proposal of a relevant standard that has an initial startup before the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard not later than the standard's effective date.

(2) Except as specified in paragraphs (b)(3) and (4) of this section, the owner or operator of a new or reconstructed affected source that has an initial startup after the effective date of a relevant standard established under this part pursuant to section 112(d), (f), or (h) of the Act must comply with such standard upon startup of the source.

(3) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established under this part pursuant to section 112(d), 112(f), or 112(h) of the Act but before the effective date (that is, promulgation) of such standard shall comply with the relevant emission standard not later than the date 3 years after the effective date if:

(i) The promulgated standard (that is, the relevant standard) is more stringent than the proposed standard; for purposes of this paragraph, a finding that controls or compliance methods are "more stringent" must include control technologies or performance criteria and compliance or compliance assurance methods that are different but are substantially equivalent to those required by the promulgated rule, as determined by the Administrator (or his or her authorized representative); and

(ii) The owner or operator complies with the standard as proposed during the 3-year period immediately after the effective date.

(4) The owner or operator of an affected source for which construction or reconstruction is commenced after the proposal date of a relevant standard established pursuant to section 112(d) of the Act but before the proposal date of a relevant standard established pursuant to section 112(f) shall not be required to comply with the section 112(f) emission standard until the date 10 years after the date construction or reconstruction is commenced, except that, if the section 112(f) standard is promulgated more than 10 years after construction or reconstruction is commenced, the owner or operator must comply with the standard as provided in paragraphs (b)(1) and (2) of this section.

(5) The owner or operator of a new source that is subject to the compliance requirements of paragraph (b)(3) or (4) of this section must notify the Administrator in accordance with § 63.9(d).

(6) [Reserved]

(7) When an area source becomes a major source by the addition of equipment or operations that meet the definition of new affected source in the relevant standard, the portion of the existing facility that is a new affected source must comply with all requirements of that standard applicable to new sources. The source owner or operator must comply with the relevant standard upon startup.

(c) *Compliance dates for existing sources*.

(1) After the effective date of a relevant standard established under this part pursuant to section 112(d) or 112(h) of the Act, the owner or operator of an existing source shall comply with such standard by the compliance date established by the Administrator in the applicable subpart(s) of this part. Except as otherwise provided for in section 112 of the Act, in no case will the compliance date established for an existing source in an applicable subpart of this part exceed 3 years after the effective date of such standard.

(2) If an existing source is subject to a standard established under this part pursuant to section 112(f) of the Act, the owner or operator must comply with the standard by the date 90 days after the standard's effective date, or by the date specified in an extension granted to the source by the Administrator under paragraph (i)(4)(ii) of this section, whichever is later.

(3)–(4) [Reserved]

(5) Except as provided in paragraph (b)(7) of this section, the owner or operator of an area source that increases its emissions of (or its potential to emit) hazardous air pollutants such that the source becomes a major source shall be subject to relevant standards for existing sources. Such sources must comply by the date specified in the standards for existing area sources that become major sources. If no such compliance date is specified in the standards, the source shall have a period of time to comply with the relevant emission standard that is equivalent to the compliance period specified in the relevant standard for existing sources in existence at the time the standard becomes effective.

(d) [Reserved]

(e) *Operation and maintenance requirements.*

(1) (i) At all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control

practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that the owner or operator reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section), review of operation and maintenance records, and inspection of the source.

(ii) Malfunctions must be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in paragraph (e)(3) of this section. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

(iii) Operation and maintenance requirements established pursuant to section 112 of the Act are enforceable independent of emissions limitations or other requirements in relevant standards.

(2) [Reserved]

(3) Startup, shutdown, and malfunction plan.

(i)The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard.

(A) Ensure that, at all times, the owner or operator operates and maintains each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;

(B) Ensure that owners or operators are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and

(C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation).

(ii) During periods of startup, shutdown, and malfunction, the owner or operator of an affected source must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (e)(3)(i) of this section.

(iii) When actions taken by the owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a "checklist," or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for that event. In addition, the owner or operator must keep records of these events as specified in

§ 63.10(b), including records of the occurrence and duration of each startup, shutdown, or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the owner or operator shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in § 63.10(d)(5).

(iv) If an action taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then the owner or operator must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with Sec. 63.10(d)(5) (unless the owner or operator makes alternative reporting arrangements, in advance, with the Administrator).

(v) The owner or operator must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in paragraph (e)(3)(viii) of this section, the owner or operator must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of this part, the owner or operator must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Administrator. The Administrator may at any time request in writing that the owner or operator submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in the possession of the owner or operator. Upon receipt of such a request, the owner or operator must promptly submit a copy of the requested plan (or a portion thereof) to the Administrator. The Administrator must request that the owner or operator submit a particular startup, shutdown, or malfunction plan (or a portion thereof) whenever a member of the public submits a specific and reasonable request to examine or to receive a copy of that plan or portion of a plan. The owner or operator may elect to submit the required copy of any startup, shutdown, and malfunction plan to the Administrator in an electronic format. If the owner or operator claims that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission.

(vi) To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, the owner or operator may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Administrator.

(vii) Based on the results of a determination made under paragraph (e)(1)(i) of this section, the Administrator may require that an owner or operator of an affected source make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate

revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan:

(A) Does not address a startup, shutdown, or malfunction event that has occurred;

(B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by paragraph (e)(1)(i) of this section;

(C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or

(D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in § 63.2.

(viii) The owner or operator may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, the owner or operator may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by § 63.10(d)(5). If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time the owner or operator developed the plan, the owner or operator must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. In the event that the owner or operator makes any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the owner or operator has provided a written notice describing the revision to the permitting authority.

(ix) The title V permit for an affected source must require that the owner or operator adopt a startup, shutdown, and malfunction plan which conforms to the provisions of this part, and that the owner or operator operate and maintain the source in accordance with the procedures specified in the current startup, shutdown, and malfunction plan. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under part 70 or part 71 of this chapter. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act.

(f) *Compliance with nonopacity emission standards –*
Except that the performance test requirements of Sec. 63.1207 apply instead of Sec. 63.6(f)(2)(iii)(B).

(1) *Applicability.* The non-opacity emission standards set forth in this part shall apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the non-opacity emission standards set forth in this part, then that emission point must still be required to comply with the non-opacity emission standards and

other applicable requirements.

(2) *Methods for determining compliance*.

(i) The Administrator will determine compliance with nonopacity emission standards in this part based on the results of performance tests conducted according to the procedures in § 63.7, unless otherwise specified in an applicable subpart of this part.

(ii) The Administrator will determine compliance with nonopacity emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, including the evaluation of monitoring data, as specified in § 63.6(e) and applicable subparts of this part.

(iii) If an affected source conducts performance testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if -

(A) The performance test was conducted within a reasonable amount of time before an initial performance test is required to be conducted under the relevant standard;

(B) The performance test was conducted under representative operating conditions for the source;

(C) The performance test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in § 63.7(e) of this subpart; and

(D) The performance test was appropriately quality-assured, as specified in § 63.7(c).

(iv) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by review of records, inspection of the source, and other procedures specified in applicable subparts of this part.

(v) The Administrator will determine compliance with design, equipment, work practice, or operational emission standards in this part by evaluation of an owner or operator's conformance with operation and maintenance requirements, as specified in paragraph (e) of this section and applicable subparts of this part.

(3) *Finding of compliance*. The Administrator will make a finding concerning an affected source's compliance with a non-opacity emission standard, as specified in paragraphs (f)(1) and (2) of this section, upon obtaining all the compliance information required by the relevant standard (including the written reports of performance test results, monitoring results, and other information, if applicable), and information available to the Administrator pursuant to paragraph (e)(1)(i) of this section.

(g) *Use of an alternative nonopacity emission standard*.

(1) If, in the Administrator's judgment, an owner or operator of an affected source has established that an alternative means of emission limitation will achieve a reduction in emissions of a hazardous air pollutant from an affected source at least equivalent to the reduction in emissions of that pollutant from that source achieved under any design, equipment, work practice, or operational emission standard, or combination thereof, established under this part pursuant to section 112(h) of the Act, the Administrator will publish in the FEDERAL REGISTER a notice permitting the use of the alternative emission standard for purposes of compliance with the promulgated standard. Any FEDERAL REGISTER notice under this paragraph shall be published only after the public is notified and given the opportunity to comment. Such notice will restrict the permission to the stationary source(s) or category(ies) of

sources from which the alternative emission standard will achieve equivalent emission reductions. The Administrator will condition permission in such notice on requirements to assure the proper operation and maintenance of equipment and practices required for compliance with the alternative emission standard and other requirements, including appropriate quality assurance and quality control requirements, that are deemed necessary.

(2) An owner or operator requesting permission under this paragraph shall, unless otherwise specified in an applicable subpart, submit a proposed test plan or the results of testing and monitoring in accordance with § 63.7 and § 63.8, a description of the procedures followed in testing or monitoring, and a description of pertinent conditions during testing or monitoring. Any testing or monitoring conducted to request permission to use an alternative nonopacity emission standard shall be appropriately quality assured and quality controlled, as specified in § 63.7 and § 63.8.

(3) The Administrator may establish general procedures in an applicable subpart that accomplish the requirements of paragraphs (g)(1) and (g)(2) of this section.

(h) *Compliance with opacity and visible emission standards*

(1) *Applicability*. The opacity and visible emission standards set forth in this part must apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the opacity and visible emission standards set forth in this part, then that emission point shall still be required to comply with the opacity and visible emission standards and other applicable requirements.

(2) Methods for determining compliance.

(i) The Administrator will determine compliance with opacity and visible emission standards in this part based on the results of the test method specified in an applicable subpart. Whenever a continuous opacity monitoring system (COMS) is required to be installed to determine compliance with numerical opacity emission standards in this part, compliance with opacity emission standards in this part shall be determined by using the results from the COMS. Whenever an opacity emission test method is not specified, compliance with opacity emission standards in this part shall be determined by conducting observations in accordance with Test Method 9 in appendix A of part 60 of this chapter or the method specified in paragraph (h)(7)(ii) of this section. Whenever a visible emission test method is not specified, compliance with visible emission standards in this part shall be determined by conducting observations in accordance with Test Method 22 in appendix A of part 60 of this chapter.

(ii) [Reserved]

(iii) If an affected source undergoes opacity or visible emission testing at startup to obtain an operating permit in the State in which the source is located, the results of such testing may be used to demonstrate compliance with a relevant standard if -

(A) The opacity or visible emission test was conducted within a reasonable amount of time before a performance test is required to be conducted under the relevant standard;

(B) The opacity or visible emission test was conducted under representative operating conditions for the source;

(C) The opacity or visible emission test was conducted and the resulting data were reduced using EPA-approved test methods and procedures, as specified in § 63.7(e);

and

(D) The opacity or visible emission test was appropriately quality-assured, as specified in § 63.7(c) of this section.

(3) [Reserved]

(4) *Notification of opacity or visible emission observations*. The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting opacity or visible emission observations in accordance with § 63.9(f), if such observations are required for the source by a relevant standard.

(5) *Conduct of opacity or visible emission observations.* When a relevant standard under this part includes an opacity or visible emission standard, the owner or operator of an affected source shall comply with the following:

(i) For the purpose of demonstrating initial compliance, opacity or visible emission observations shall be conducted concurrently with the initial performance test required in § 63.7 unless one of the following conditions applies:

(A) If no performance test under § 63.7 is required, opacity or visible emission observations shall be conducted within 60 days after achieving the maximum production rate at which a new or reconstructed source will be operated, but not later than 120 days after initial startup of the source, or within 120 days after the effective date of the relevant standard in the case of new sources that start up before the standard's effective date. If no performance test under § 63.7 is required, opacity or visible emission observations shall be conducted within 120 days after the compliance date for an existing or modified source; or

(B) If visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test required under § 63.7, or within the time period specified in paragraph (h)(5)(i)(A) of this section, the source's owner or operator shall reschedule the opacity or visible emission observations as soon after the initial performance test, or time period, as possible, but not later than 30 days thereafter, and shall advise the Administrator of the rescheduled date. The rescheduled opacity or visible emission observations shall be conducted (to the extent possible) under the same operating conditions that existed during the initial performance test conducted under § 63.7. The visible emissions observer shall determine whether visibility or other conditions prevent the opacity or visible emission observations from being made concurrently with the initial performance test in accordance with procedures contained in Test Method 9 or Test Method 22 in appendix A of part 60 of this chapter.

(ii) For the purpose of demonstrating initial compliance, the minimum total time of opacity observations shall be 3 hours (30 6-minute averages) for the performance test or other required set of observations (e.g., for fugitive-type emission sources subject only to an opacity emission standard).

(iii) The owner or operator of an affected source to which an opacity or visible emission standard in this part applies shall conduct opacity or visible emission observations in accordance with the provisions of this section, record the results of the evaluation of emissions, and report to the Administrator the opacity or visible emission results in accordance with the provisions of § 63.10(d).

(iv) [Reserved]

(v) Opacity readings of portions of plumes that contain condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity emission standards.

(6) *Availability of records*. The owner or operator of an affected source shall make available, upon request by the Administrator, such records that the Administrator deems necessary to determine the conditions under which the visual observations were made and shall provide evidence indicating proof of current visible observer emission certification.

(7) *Use of a continuous opacity monitoring system*.

(i) The owner or operator of an affected source required to use a continuous opacity monitoring system (COMS) shall record the monitoring data produced during a performance test required under § 63.7 and shall furnish the Administrator a written report of the monitoring results in accordance with the provisions of § 63.10(e)(4).

(ii) Whenever an opacity emission test method has not been specified in an applicable subpart, or an owner or operator of an affected source is required to conduct Test Method 9 observations (see appendix A of part 60 of this chapter), the owner or operator may submit, for compliance purposes, COMS data results produced during any performance test required under § 63.7 in lieu of Method 9 data. If the owner or operator elects to submit COMS data for compliance with the opacity emission standard, he or she shall notify the Administrator of that decision, in writing, simultaneously with the notification under § 63.7(b) of the date the performance test is scheduled to begin. Once the owner or operator of an affected source has notified the Administrator to that effect, the COMS data results will be used to determine opacity compliance during subsequent performance tests required under § 63.7, unless the owner or operator notifies the Administrator in writing to the contrary not later than with the notification under § 63.7(b) of the date the subsequent performance test is scheduled to begin.

(iii) For the purposes of determining compliance with the opacity emission standard during a performance test required under § 63.7 using COMS data, the COMS data shall be reduced to 6-minute averages over the duration of the mass emission performance test.

(iv) The owner or operator of an affected source using a COMS for compliance purposes is responsible for demonstrating that he/she has complied with the performance evaluation requirements of § 63.8(e), that the COMS has been properly maintained, operated, and data quality-assured, as specified in § 63.8(c) and § 63.8(d), and that the resulting data have not been altered in any way.

(v) Except as provided in paragraph (h)(7)(ii) of this section, the results of continuous monitoring by a COMS that indicate that the opacity at the time visual observations were made was not in excess of the emission standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the affected source proves that, at the time of the alleged violation, the instrument used was properly maintained, as specified in § 63.8(c), and met Performance Specification 1 in appendix B of part 60 of this chapter, and that the resulting data have not been altered in any way.

(8) *Finding of compliance*. The Administrator will make a finding concerning an affected source's compliance with an opacity or visible emission standard upon obtaining all the compliance information required by the relevant standard (including the written reports of the results of the performance tests required by § 63.7, the results of Test Method 9 or another required opacity or visible emission test method, the observer certification required by paragraph (h)(6) of this section, and the continuous opacity monitoring system results, whichever is/are applicable) and any information available to the Administrator needed to determine whether proper operation and maintenance practices are being used.

(9) *Adjustment to an opacity emission standard.*

(i) If the Administrator finds under paragraph (h)(8) of this section that an

affected source is in compliance with all relevant standards for which initial performance tests were conducted under § 63.7, but during the time such performance tests were conducted fails to meet any relevant opacity emission standard, the owner or operator of such source may petition the Administrator to make appropriate adjustment to the opacity emission standard for the affected source. Until the Administrator notifies the owner or operator of the appropriate adjustment, the relevant opacity emission standard remains applicable.

(ii) The Administrator may grant such a petition upon a demonstration by the owner or operator that -

(A) The affected source and its associated air pollution control equipment were operated and maintained in a manner to minimize the opacity of emissions during the performance tests;

(B) The performance tests were performed under the conditions established by the Administrator; and

(C) The affected source and its associated air pollution control equipment were incapable of being adjusted or operated to meet the relevant opacity emission standard.

(iii) The Administrator will establish an adjusted opacity emission standard for the affected source meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity emission standard at all times during which the source is meeting the mass or concentration emission standard. The Administrator will promulgate the new opacity emission standard in the FEDERAL REGISTER.

(iv) After the Administrator promulgates an adjusted opacity emission standard for an affected source, the owner or operator of such source shall be subject to the new opacity emission standard, and the new opacity emission standard shall apply to such source during any subsequent performance tests.

(i)Extension of compliance with emission standards.

Sec. 63.1213 specifies that the compliance date may also be extended for inability to install necessary emission control equipment by the compliance date because of implementation of pollution prevention or waste minimization controls.

(1) Until an extension of compliance has been granted by the Administrator (or a State with an approved permit program) under this paragraph, the owner or operator of an affected source subject to the requirements of this section shall comply with all applicable requirements of this part.

(2) *Extension of compliance for early reductions and other reductions*

(i) *Early reductions*. Pursuant to section 112(i)(5) of the Act, if the owner or operator of an existing source demonstrates that the source has achieved a reduction in emissions of hazardous air pollutants in accordance with the provisions of subpart D of this part, the Administrator (or the State with an approved permit program) will grant the owner or operator an extension of compliance with specific requirements of this part, as specified in subpart D.

(ii) *Other reductions*. Pursuant to section 112(i)(6) of the Act, if the owner or operator of an existing source has installed best available control technology (BACT) (as defined in section 169(3) of the Act) or technology required to meet a lowest achievable emission rate (LAER) (as defined in section 171 of the Act) prior to the promulgation of an emission standard in this part applicable to such source and the same pollutant (or stream of pollutants) controlled pursuant to the BACT or LAER installation, the Administrator will grant the owner or operator an extension of compliance with such emission standard that will apply until the date 5 years

after the date on which such installation was achieved, as determined by the Administrator.

(3) *Request for extension of compliance*. Paragraphs (i)(4) through (i)(7) of this section concern requests for an extension of compliance with a relevant standard under this part (except requests for an extension of compliance under paragraph (i)(2)(i) of this section will be handled through procedures specified in subpart D of this part).

(4) (i) (A) The owner or operator of an existing source who is unable to comply with a relevant standard established under this part pursuant to section 112(d) of the Act may request that the Administrator (or a State, when the State has an approved part 70 permit program and the source is required to obtain a part 70 permit under that program, or a State, when the State has been delegated the authority to implement and enforce the emission standard for that source) grant an extension allowing the source up to 1 additional year to comply with the standard, if such additional period is necessary for the installation of controls. An additional extension of up to 3 years may be added for mining waste operations, if the 1-year extension of compliance is insufficient to dry and cover mining waste in order to reduce emissions of any hazardous air pollutant. The owner or operator of an affected source who has requested an extension of compliance under this paragraph and who is otherwise required to obtain a title V permit shall apply for such permit or apply to have the source's title V permit revised to incorporate the conditions of the extension of compliance. The conditions of an extension of compliance granted under this paragraph will be incorporated into the affected source's title V permit according to the provisions of part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever are applicable.

(B) Any request under this paragraph for an extension of compliance with a relevant standard must be submitted in writing to the appropriate authority no later than 120 days prior to the affected source's compliance date (as specified in paragraphs (b) and (c) of this section), except as provided for in paragraph (i)(4)(i)(C) of this section. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the date of denial. Emission standards established under this part may specify alternative dates for the submittal of requests for an extension of compliance if alternatives are appropriate for the source categories affected by those standards.

(C) An owner or operator may submit a compliance extension request after the date specified in paragraph (i)(4)(i)(B) of this section provided the need for the compliance extension arose after that date, and before the otherwise applicable compliance date and the need arose due to circumstances beyond reasonable control of the owner or operator. This request must include, in addition to the information required in paragraph (i)(6)(i) of this section, a statement of the reasons additional time is needed and the date when the owner or operator first learned of the problems. Nonfrivolous requests submitted under this paragraph will stay the applicability of the rule as to the emission points in question until such time as the request is granted or denied. A denial will be effective as of the original compliance date.

(ii) The owner or operator of an existing source unable to comply with a relevant standard established under this part pursuant to section 112(f) of the Act may request that the Administrator grant an extension allowing the source up to 2 years after the standard's effective date to comply with the standard. The Administrator may grant such an extension if he/she finds that such additional period is necessary for the installation of controls and that steps will be taken during the period of the extension to assure that the health of persons will be protected from imminent endangerment. Any request for an extension of compliance with a relevant

standard under this paragraph must be submitted in writing to the Administrator not later than 90 calendar days after the effective date of the relevant standard.

(5) The owner or operator of an existing source that has installed BACT or technology required to meet LAER [as specified in paragraph (i)(2)(ii) of this section] prior to the promulgation of a relevant emission standard in this part may request that the Administrator grant an extension allowing the source 5 years from the date on which such installation was achieved, as determined by the Administrator, to comply with the standard. Any request for an extension of compliance with a relevant standard under this paragraph shall be submitted in writing to the Administrator not later than 120 days after the promulgation date of the standard. The Administrator may grant such an extension if he or she finds that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(6) (i) The request for a compliance extension under paragraph (i)(4) of this section shall include the following information:

(A) A description of the controls to be installed to comply with the standard;

(B) A compliance schedule, including the date by which each step toward compliance will be reached. At a minimum, the list of dates shall include:

(*1*) The date by which on-site construction, installation of emission control equipment, or a process change is planned to be initiated; and

(*2*) The date by which final compliance is to be achieved;

(C) [Reserved]

(D) [Reserved]

(ii) The request for a compliance extension under paragraph (i)(5) of this section shall include all information needed to demonstrate to the Administrator's satisfaction that the installation of BACT or technology to meet LAER controls the same pollutant (or stream of pollutants) that would be controlled at that source by the relevant emission standard.

(7) Advice on requesting an extension of compliance may be obtained from the Administrator (or the State with an approved permit program).

(8) *Approval of request for extension of compliance*. Paragraphs (i)(9) through (i)(14) of this section concern approval of an extension of compliance requested under paragraphs (i)(4) through (i)(6) of this section.

(9) Based on the information provided in any request made under paragraphs (i)(4) through (i)(6) of this section, or other information, the Administrator (or the State with an approved permit program) may grant an extension of compliance with an emission standard, as specified in paragraphs (i)(4) and (i)(5) of this section.

(10) The extension will be in writing and will -

(i) Identify each affected source covered by the extension;

(ii) Specify the termination date of the extension;

(iii) Specify the dates by which steps toward compliance are to be taken, if appropriate;

(iv) Specify other applicable requirements to which the compliance extension applies (e.g., performance tests); and

(v) (A) Under paragraph (i)(4), specify any additional conditions that the Administrator (or the State) deems necessary to assure installation of the necessary controls and protection of the health of persons during the extension period; or

(B) Under paragraph (i)(5), specify any additional conditions that the Administrator deems necessary to assure the proper operation and maintenance of the installed controls during the extension period.

(11) The owner or operator of an existing source that has been granted an extension of compliance under paragraph (i)(10) of this section may be required to submit to the Administrator (or the State with an approved permit program) progress reports indicating whether the steps toward compliance outlined in the compliance schedule have been reached. The contents of the progress reports and the dates by which they shall be submitted will be specified in the written extension of compliance granted under paragraph (i)(10) of this section.

(12) (i) The Administrator (or the State with an approved permit program) will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(i) or (i)(5) of this section. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that is submitted. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete.

(ii) When notifying the owner or operator that his/her application is not complete, the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 30 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator (or the State with an approved permit program) will notify the owner or operator in writing of the Administrator's (or the State's) intention to issue the denial, together with -

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator (or the State) before further action on the request.

(iv) The Administrator's final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(13) (i) The Administrator will notify the owner or operator in writing of approval or intention to deny approval of a request for an extension of compliance within 30 calendar days after receipt of sufficient information to evaluate a request submitted under paragraph (i)(4)(ii) of this section. The 30-day approval or denial period will begin after the owner or operator has been notified in writing that his/her application is complete. The Administrator (or the State) will notify the owner or operator in writing of the status of his/her application, that is, whether the application contains sufficient information to make a determination, within 15 calendar days after receipt of the original application and within 15 calendar days after receipt of any supplementary information that is submitted.

(ii) When notifying the owner or operator that his/her application is not complete,

the Administrator will specify the information needed to complete the application and provide notice of opportunity for the applicant to present, in writing, within 15 calendar days after he/she is notified of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(iii) Before denying any request for an extension of compliance, the Administrator will notify the owner or operator in writing of the Administrator's intention to issue the denial, together with -

(A) Notice of the information and findings on which the intended denial is based; and

(B) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the intended denial, additional information or arguments to the Administrator before further action on the request.

(iv) A final determination to deny any request for an extension will be in writing and will set forth the specific grounds on which the denial is based. The final determination will be made within 30 calendar days after presentation of additional information or argument (if the application is complete), or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(14) The Administrator (or the State with an approved permit program) may terminate an extension of compliance at an earlier date than specified if any specification under paragraph (i)(10)(iii) or (iv) of this section is not met. Upon a determination to terminate, the Administrator will notify, in writing, the owner or operator of the Administrator's determination to terminate, together with:

(i) Notice of the reason for termination; and

(ii) Notice of opportunity for the owner or operator to present in writing, within 15 calendar days after he/she is notified of the determination to terminate, additional information or arguments to the Administrator before further action on the termination.

(iii) A final determination to terminate an extension of compliance will be in writing and will set forth the specific grounds on which the termination is based. The final determination will be made within 30 calendar days after presentation of additional information or arguments, or within 30 calendar days after the final date specified for the presentation if no presentation is made.

(15) [Reserved]

(16) The granting of an extension under this section shall not abrogate the Administrator's authority under section 114 of the Act.

(j) *Exemption from compliance with emission standards*. The President may exempt any stationary source from compliance with any relevant standard established pursuant to section 112 of the Act for a period of not more than 2 years if the President determines that the technology to implement such standard is not available and that it is in the national security interests of the United States to do so. An exemption under this paragraph may be extended for 1 or more additional periods, each period not to exceed 2 years.

§ 63.7 Performance testing requirements.

(a) *Applicability and performance test dates.*

Except Sec. 63.1207(e)(3) allows you to petition the Administrator under Sec. 63.7(h) to provide an extension of time to conduct a performance test.

(1)The applicability of this section is set out in § 63.1(a)(4).

*(2)*If required to do performance testing by a relevant standard, and unless a waiver of performance testing is obtained under this section or the conditions of paragraph (c)(3)(ii)(B) of this section apply, the owner or operator of the affected source must perform such tests within 180 days of the compliance date for such source.

(i)- (viii) [Reserved]

(ix) When an emission standard promulgated under this part is more stringent than the standard proposed (see § 63.6(b)(3)), the owner or operator of a new or reconstructed source subject to that standard for which construction or reconstruction is commenced between the proposal and promulgation dates of the standard shall comply with performance testing requirements within 180 days after the standard's effective date, or within 180 days after startup of the source, whichever is later. If the promulgated standard is more stringent than the proposed standard, the owner or operator may choose to demonstrate compliance with either the proposed or the promulgated standard. If the owner or operator chooses to comply with the proposed standard initially, the owner or operator shall conduct a second performance test within 3 years and 180 days after the effective date of the standard, or after startup of the source, whichever is later, to demonstrate compliance with the promulgated standard.

(3) The Administrator may require an owner or operator to conduct performance tests at the affected source at any other time when the action is authorized by section 114 of the Act.

(b) *Notification of performance test.*

Except Sec. 63.1207(e) requires you to submit the site-specific test plan for approval at least one year before the comprehensive performance test is schedules to begin.

(1) The owner or operator of an affected source must notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is initially scheduled to begin to allow the Administrator, upon request, to review an approve the site-specific test plan required under paragraph (c) of this section and to have an observer present during the test.

(2) In the event the owner or operator is unable to conduct the performance test on the date specified in the notification requirement specified in paragraph (b)(1) of this section due to unforeseeable circumstances beyond his or her control, the owner or operator must notify the Administrator as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. This notification of delay in conducting the performance test shall not relieve the owner or operator of legal responsibility for compliance with any other applicable provisions of this part or with any other applicable Federal, State, or local requirement, nor will it prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(c) *Quality assurance program*.

Except Sec. 63.1207(e) requires you to submit the site-specific test plan (including the quality assurance provisions under Sec. 63.7(c)) for approval at least one year before the comprehensive performance test is scheduled to begin.

(1) The results of the quality assurance program required in this paragraph will be considered by the Administrator when he/she determines the validity of a performance test.

(2) (i) *Submission of site-specific test plan*. Before conducting a required performance test, the owner or operator of an affected source shall develop and, if requested by the

Administrator, shall submit a site-specific test plan to the Administrator for approval. The test plan shall include a test program summary, the test schedule, data quality objectives, and both an internal and external quality assurance (QA) program. Data quality objectives are the pretest expectations of precision, accuracy, and completeness of data.

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of test data precision; an example of internal QA is the sampling and analysis of replicate samples.

(iii) The external QA program shall include, at a minimum, application of plans for a test method performance audit (PA) during the performance test. The PA's consist of blind audit samples provided by the Administrator and analyzed during the performance test in order to provide a measure of test data bias. The external QA program may also include systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

(iv) The owner or operator of an affected source shall submit the site-specific test plan to the Administrator upon the Administrator's request at least 60 calendar days before the performance test is scheduled to take place, that is, simultaneously with the notification of intention to conduct a performance test required under paragraph (b) of this section, or on a mutually agreed upon date.

(v) The Administrator may request additional relevant information after the submittal of a site-specific test plan.

(3) *Approval of site-specific test plan*.

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the site-specific test plan (if review of the site-specific test plan is requested) within 30 calendar days after receipt of the original plan and within 30 calendar days after receipt of any supplementary information that is submitted under paragraph (c)(3)(i)(B) of this section. Before disapproving any site-specific test plan, the Administrator will notify the applicant of the Administrator's intention to disapprove the plan together with -

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present, within 30 calendar days after he/she is notified of the intended disapproval, additional information to the Administrator before final action on the plan.

(ii) In the event that the Administrator fails to approve or disapprove the site-specific test plan within the time period specified in paragraph (c)(3)(i) of this section, the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the test method(s) specified in the relevant standard or with only minor changes to those tests methods (see paragraph (e)(2)(i) of this section), the owner or operator must conduct the performance test within the time specified in this section using the specified method(s);

(B) If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method when the Administrator approves the site-specific test plan (if review of the site-specific test plan is requested) or after the alternative method is approved (see paragraph (f) of this section). However, the owner or operator is

authorized to conduct the performance test using an alternative method in the absence of notification of approval 45 days after submission of the site-specific test plan or request to use an alternative method. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.

(iii) Neither the submission of a site-specific test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator's failure to approve or disapprove a plan in a timely manner shall -

(A) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(B) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(4) (i) *Performance test method audit program.* The owner or operator must analyze performance audit (PA) samples during each performance test. The owner or operator must request performance audit materials 30 days prior to the test date. Audit materials including cylinder audit gases may be obtained by contacting the appropriate EPA Regional Office or the responsible enforcement authority.

(ii) The Administrator will have sole discretion to require any subsequent remedial actions of the owner or operator based on the PA results.

(iii) If the Administrator fails to provide required PA materials to an owner or operator of an affected source in time to analyze the PA samples during a performance test, the requirement to conduct a PA under this paragraph shall be waived for such source for that performance test. Waiver under this paragraph of the requirement to conduct a PA for a particular performance test does not constitute a waiver of the requirement to conduct a PA for future required performance tests.

(d) *Performance testing facilities*. If required to do performance testing, the owner or operator of each new source and, at the request of the Administrator, the owner or operator of each existing source, shall provide performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such source. This includes:

(i) Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and

(ii) Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures;

(2) Safe sampling platform(s);

(3) Safe access to sampling platform(s);

(4) Utilities for sampling and testing equipment; and

(5) Any other facilities that the Administrator deems necessary for safe and adequate testing of a source.

(e) *Conduct of performance tests*.

Except for 63.1207 prescribes operations during performance testing and Sec. 63.1209 specifies operating limits that will be established during performance testing (such that testing is likely to be representative of the extreme range of normal performance.

(1) Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance (i.e., performance based on normal operating conditions) of the affected source. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test, nor shall emissions in excess of the level of the relevant standard during periods of startup, shutdown, and malfunction be considered a violation of the relevant standard unless otherwise specified in the relevant standard or a determination of noncompliance is made under § 63.6(e). Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests.

(2) Performance tests shall be conducted and data shall be reduced in accordance with the test methods and procedures set forth in this section, in each relevant standard, and, if required, in applicable appendices of parts 51, 60, 61, and 63 of this chapter unless the Administrator -

(i) Specifies or approves, in specific cases, the use of a test method with minor changes in methodology (see definition in § 63.90(a)). Such changes may be approved in conjunction with approval of the site-specific test plan (see paragraph (c) of this section); or

(ii) Approves the use of an intermediate or major change or alternative to a test method (see definitions in § 63.90(a)), the results of which the Administrator has determined to be adequate for indicating whether a specific affected source is in compliance; or

(iii) Approves shorter sampling times or smaller sample volumes when necessitated by process variables or other factors; or

(iv) Waives the requirement for performance tests because the owner or operator of an affected source has demonstrated by other means to the Administrator's satisfaction that the affected source is in compliance with the relevant standard.

(3) Unless otherwise specified in a relevant standard or test method, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the relevant standard. For the purpose of determining compliance with a relevant standard, the arithmetic mean of the results of the three runs shall apply. Upon receiving approval from the Administrator, results of a test run may be replaced with results of an additional test run in the event that

(i) A sample is accidentally lost after the testing team leaves the site; or

(ii) Conditions occur in which one of the three runs must be discontinued because of forced shutdown; or

(iii) Extreme meteorological conditions occur; or

(iv) Other circumstances occur that are beyond the owner or operator's control.

(4) Nothing in paragraphs (e)(1) through (e)(3) of this section shall be construed to abrogate the Administrator's authority to require testing under section 114 of the Act.

(f) *Use of an alternative test method* -

(1) (1) *General*. Until authorized to use an intermediate or major change or alternative to a test method, the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) The owner or operator of an affected source required to do performance testing by a relevant standard may use an alternative test method from that specified in the standard provided

that the owner or operator -

(i) Notifies the Administrator of his or her intention to use an alternative test method at least 60 days before the performance test is scheduled to begin;

(ii) Uses Method 301 in appendix A of this part to validate the alternative test method. This may include the use of specific procedures of Method 301 if use of such procedures are sufficient to validate the alternative test method; and

(iii) Submits the results of the Method 301 validation process along with the notification of intention and the justification for not using the specified test method. The owner or operator may submit the information required in this paragraph well in advance of the deadline specified in paragraph (f)(2)(i) of this section to ensure a timely review by the Administrator in order to meet the performance test date specified in this section or the relevant standard.

(3) The Administrator will determine whether the owner or operator's validation of the proposed alternative test method is adequate and issue an approval or disapproval of the alternative test method. If the owner or operator intends to demonstrate compliance by using an alternative to any test method specified in the relevant standard, the owner or operator is authorized to conduct the performance test using an alternative test method after the Administrator approves the use of the alternative method. However, the owner or operator is authorized to conduct the performance test using an alternative method in the absence of notification of approval/disapproval 45 days after submission of the request to use an alternative method and the request satisfies the requirements in paragraph (f)(2) of this section. The owner or operator is authorized to conduct the performance test within 60 calendar days after he/she is authorized to demonstrate compliance using an alternative test method. Notwithstanding the requirements in the preceding three sentences, the owner or operator may proceed to conduct the performance test as required in this section (without the Administrator's prior approval of the site-specific test plan) if he/she subsequently chooses to use the specified testing and monitoring methods instead of an alternative.

(4) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative test method for the purposes of demonstrating compliance with a relevant standard, the Administrator may require the use of a test method specified in a relevant standard.

(5) If the owner or operator uses an alternative test method for an affected source during a required performance test, the owner or operator of such source shall continue to use the alternative test method for subsequent performance tests at that affected source until he or she receives approval from the Administrator to use another test method as allowed under § 63.7(f).

(6) Neither the validation and approval process nor the failure to validate an alternative test method shall abrogate the owner or operator’s responsibility to comply with the requirements of this part.

(g) *Data analysis, recordkeeping, and reporting.*

Except Sec. 63.1207(j) requiring you submit the results of the performance test (and the notification of compliance) within 90 days of completing the test, unless the Administrator grants a time extension, applies instead of Sec. 63.7(g)(1).

(1) Unless otherwise specified in a relevant standard or test method, or as otherwise approved by the Administrator in writing, results of a performance test shall include the analysis of samples, determination of emissions, and raw data. A performance test is ‘‘completed’’ when field sample collection is terminated. The owner or operator of an affected source shall report the

results of the performance test to the Administrator before the, close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator (see § 63.9(i)). The results of the performance test shall be submitted as part of the notification of compliance status required under § 63.9(h). Before a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the results of the performance test to the Administrator. After a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall send the
results of the performance test to the appropriate permitting authority.

(2) [Reserved]

(3) For a minimum of 5 years after a performance test is conducted, the owner or operator shall retain and make available, upon request, for inspection by the Administrator the records or results of such performance test and other data needed to determine emissions from an affected source.

(h) *Waiver of performance tests*.

Except Sec. 63.1207(c)(2) allows data in lieu of the initial comprehensive performance test, and Sec. 63.1207(m) provides a waiver for of certain performance tests. You must submit requests for these waivers with the site-specific test plan.

(1) Until a waiver of a performance testing requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Individual performance tests may be waived upon written application to the Administrator if, in the Administrator's judgment, the source is meeting the relevant standard(s) on a continuous basis, or the source is being operated under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) Request to waive a performance test.

(i) If a request is made for an extension of compliance under § 63.6(i), the application for a waiver of an initial performance test shall accompany the information required for the request for an extension of compliance. If no extension of compliance is requested or if the owner or operator has requested an extension of compliance and the Administrator is still considering that request, the application for a waiver of an initial performance test shall be submitted at least 60 days before the performance test if the site-specific test plan under paragraph (c) of this section is not submitted.

(ii) If an application for a waiver of a subsequent performance test is made, the application may accompany any required compliance progress report, compliance status report, or excess emissions and continuous monitoring system performance report [such as those required under § 63.6(I), § 63.9(h), and § 63.10(e) or specified in a relevant standard or in the source's title V permit], but it shall be submitted at least 60 days before the performance test if the site-specific test plan required under paragraph (c) of this section is not submitted.

(iii) Any application for a waiver of a performance test shall include information justifying the owner or operator's request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test.

(4) Approval of request to waive performance test. The Administrator will approve or deny a request for a waiver of a performance test made under paragraph (h)(3) of this section

when he/she -

(i) Approves or denies an extension of compliance under § 63.6(i)(8); or

(ii) Approves or disapproves a site-specific test plan under § 63.7(c)(3); or

(iii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iv) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.8 Monitoring requirements.

(a) *Applicability.*

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) For the purposes of this part, all CMS required under relevant standards shall be subject to the provisions of this section upon promulgation of performance specifications for CMS as specified in the relevant standard or otherwise by the Administrator.

(3) [Reserved]

(4) Additional monitoring requirements for control devices used to comply with provisions in relevant standards of this part are specified in § 63.11.

(b) *Conduct of monitoring.*

(1) Monitoring shall be conducted as set forth in this section and the relevant standard(s) unless the Administrator -

(i) Specifies or approves the use of minor changes in methodology for the specified monitoring requirements and procedures (see § 63.90(a) for definition); or

(ii) Approves the use of an intermediate or major change or alternative to any monitoring requirements or procedures (see § 63.90(a) for definition).

(iii) Owners or operators with flares subject to § 63.11(b) are not subject to the requirements of this section unless otherwise specified in the relevant standard.

(2) (i) When the emissions from two or more affected sources are combined before being released to the atmosphere, the owner or operator may install an applicable CMS for each emission stream or for the combined emissions streams, provided the monitoring is sufficient to demonstrate compliance with the relevant standard.

(ii) If the relevant standard is a mass emission standard and the emissions from one affected source are released to the atmosphere through more than one point, the owner or operator must install an applicable CMS at each emission point unless the installation of fewer systems is –

(A) Approved by the Administrator; or

(B) Provided for in a relevant standard (e.g., instead of requiring that a CMS be installed at each emission point before the effluents from those points are channeled to a common control device, the standard specifies that only one CMS is required to be installed at

the vent of the control device).

(3) When more than one CMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report the results as required for each CMS. However, when one CMS is used as a backup to another CMS, the owner or operator shall report the results from the CMS used to meet the monitoring requirements of this part. If both such CMS are used during a particular reporting period to meet the monitoring requirements of this part, then the owner or operator shall report the results from each CMS for the relevant compliance period.

(c) Operation and maintenance of continuous monitoring systems.

Except: (1) Sec. 63.1211(c) that requires you to install, calibrate, and operate CMS by the compliance date applies instead of Sec. 63.8(c)(3); and (2) the performance specifications for CO, HC, and O2 CEMS in subpart B, of this chapter requiring that the detectors measure the sample concentration at least once every 15 seconds for calculating an average emission level once every 60 seconds apply instead of Sec. 63.8(c)(4)(ii).

(1) The owner or operator of an affected source shall maintain and operate each CMS as specified in this section, or in a relevant standard, and in a manner consistent with good air pollution control practices.

(i) The owner or operator of an affected source must maintain and operate each CMS as specified in § 63.6(e)(1).

(ii) The owner or operator must keep the necessary parts for routine repairs of the affected CMS equipment readily available.

(iii) The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan for CMS as specified in § 63.6(e)(3).

(2) (i) All CMS must be installed such that representative measures of emissions or process parameters from the affected source are obtained. In addition, CEMS must be located according to procedures contained in the applicable performance specification(s).

(ii) Unless the individual subpart states otherwise, the owner or operator must ensure the read out (that portion of the CMS that provides a visual display or record), or other indication of operation, from any CMS required for compliance with the emission standard is readily accessible on site for operational control or inspection by the operator of the equipment.

(3) All CMS shall be installed, operational, and the data verified as specified in the relevant standard either prior to or in conjunction with conducting performance tests under § 63.7. Verification of operational status shall, at a minimum, include completion of the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system.

(4) Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level calibration drift adjustments, all CMS, including COMS and CEMS, shall be in continuous operation and shall meet minimum frequency of operation requirements as follows:

(i) All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(ii) All CEMS for measuring emissions other than opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(5) Unless otherwise approved by the Administrator, minimum procedures for COMS shall include a method for producing a simulated zero opacity condition and an upscale (high-level) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of all the analyzer's internal optical surfaces and all electronic circuitry, including the lamp and photodetector assembly normally used in the measurement of opacity.

(6) The owner or operator of a CMS that is not a CPMS, which is installed in accordance with the provisions of this part and the applicable CMS performance specification(s), must check the zero (low-level) and high-level calibration drifts at least once daily in accordance with the written procedure specified in the performance evaluation plan developed under paragraphs (e)(3)(i) and (ii) of this section. The zero (low-level) and high-level calibration drifts must be adjusted, at a minimum, whenever the 24-hour zero (low-level) drift exceeds two times the limits of the applicable performance specification(s) specified in the relevant standard. The system shall allow the amount of excess zero (low-level) and high-level drift measured at the 24-hour interval checks to be recorded and quantified whenever specified. For COMS, all optical and instrumental surfaces exposed to the effluent gases must be cleaned prior to performing the zero (low-level) and high-level drift adjustments; the optical surfaces and instrumental surfaces must be cleaned when the cumulative automatic zero compensation, if applicable, exceeds 4 percent opacity. The CPMS must be calibrated prior to use for the purposes of complying with this section. The CPMS must be checked daily for indication that the system is responding. If the CPMS system includes an internal system check, results must be recorded and checked daily for proper operation.

(7) (i) A CMS is out of control if -

(A) The zero (low-level), mid-level (if applicable), or high-level calibration drift (CD) exceeds two times the applicable CD specification in the applicable performance specification or in the relevant standard; or

(B) The CMS fails a performance test audit (e.g., cylinder gas audit), relative accuracy audit, relative accuracy test audit, or linearity test audit; or

(C) The COMS CD exceeds two times the limit in the applicable performance specification in the relevant standard.

(ii) When the CMS is out of control, the owner or operator of the affected source shall take the necessary corrective action and shall repeat all necessary tests which indicate that the system is out of control. The owner or operator shall take corrective action and conduct retesting until the performance requirements are below the applicable limits. The beginning of the out-of-control period is the hour the owner or operator conducts a performance check (e.g., calibration drift) that indicates an exceedance of the performance requirements established under this part. The end of the out-of-control period is the hour following the completion of corrective action and successful demonstration that the system is within the allowable limits. During the period the CMS is out of control, recorded data shall not be used in data averages and calculations, or to meet any data availability requirement established under this part.

(8) The owner or operator of a CMS that is out of control as defined in paragraph (c)(7) of this section shall submit all information concerning out-of-control periods, including start and end dates and hours and descriptions of corrective actions taken, in the excess emissions and continuous monitoring system performance report required in § 63.10(e)(3).

(d) *Quality control program*.

(1) The results of the quality control program required in this paragraph will be considered by the Administrator when he/she determines the validity of monitoring data.

(2) The owner or operator of an affected source that is required to use a CMS and is subject to the monitoring requirements of this section and a relevant standard shall develop and implement a CMS quality control program. As part of the quality control program, the owner or operator shall develop and submit to the Administrator for approval upon request a site-specific performance evaluation test plan for the CMS performance evaluation required in paragraph (e)(3)(i) of this section, according to the procedures specified in paragraph (e). In addition, each quality control program shall include, at a minimum, a written protocol that describes procedures for each of the following operations:

(i) Initial and any subsequent calibration of the CMS;

(ii) Determination and adjustment of the calibration drift of the CMS;

(iii) Preventive maintenance of the CMS, including spare parts inventory;

(iv) Data recording, calculations, and reporting;

(v) Accuracy audit procedures, including sampling and analysis methods; and

(vi) Program of corrective action for a malfunctioning CMS.

(3) The owner or operator shall keep these written procedures on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. Where relevant, e.g., program of corrective action for a malfunctioning CMS, these written procedures may be incorporated as part of the affected source's startup, shutdown, and malfunction plan to avoid duplication of planning and recordkeeping efforts.

(e) *Performance evaluation of continuous monitoring systems* -
{Except § 63.1207(e) requiring you to submit the site-specific comprehensive performance test plan and the CMS performance evaluation plan for approval at least one year prior to the planned test date applies instead of §§ 63.8(e)(2) and (3)(iii).}

(1) *General*. When required by a relevant standard, and at any other time the Administrator may require under section 114 of the Act, the owner or operator of an affected source being monitored shall conduct a performance evaluation of the CMS. Such performance evaluation shall be conducted according to the applicable specifications and procedures described in this section or in the relevant standard.

(2) *Notification of performance evaluation*. The owner or operator shall notify the Administrator in writing of the date of the performance evaluation simultaneously with the notification of the performance test date required under § 63.7(b) or at least 60 days prior to the date the performance evaluation is scheduled to begin if no performance test is required.

(3) (i) *Submission of site-specific performance evaluation test plan*. Before conducting a required CMS performance evaluation, the owner or operator of an affected source shall develop and submit a site-specific performance evaluation test plan to the Administrator for approval upon request. The performance evaluation test plan shall include the evaluation program objectives, an evaluation program summary, the performance evaluation schedule, data quality objectives, and both an internal and external QA program. Data quality objectives are the pre-evaluation expectations of precision, accuracy, and completeness of data.

(ii) The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of CMS performance. The external QA program shall include, at a minimum, systems audits that include the opportunity for on-site evaluation by the Administrator of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

(iii) The owner or operator of an affected source shall submit the site-specific performance evaluation test plan to the Administrator (if requested) at least 60 days before the performance test or performance evaluation is scheduled to begin, or on a mutually agreed upon date, and review and approval of the performance evaluation test plan by the Administrator will occur with the review and approval of the site-specific test plan (if review of the site-specific test plan is requested).

(iv) The Administrator may request additional relevant information after the submittal of a site-specific performance evaluation test plan.

(v) In the event that the Administrator fails to approve or disapprove the site-specific performance evaluation test plan within the time period specified in § 63.7(c)(3), the following conditions shall apply:

(A) If the owner or operator intends to demonstrate compliance using the monitoring method(s) specified in the relevant standard, the owner or operator shall conduct the performance evaluation within the time specified in this subpart using the specified method(s);

(B) If the owner or operator intends to demonstrate compliance by using an alternative to a monitoring method specified in the relevant standard, the owner or operator shall refrain from conducting the performance evaluation until the Administrator approves the use of the alternative method. If the Administrator does not approve the use of the alternative method within 30 days before the performance evaluation is scheduled to begin, the performance evaluation deadlines specified in paragraph (e)(4) of this section may be extended such that the owner or operator shall conduct the performance evaluation within 60 calendar days after the Administrator approves the use of the alternative method. Notwithstanding the requirements in the preceding two sentences, the owner or operator may proceed to conduct the performance evaluation as required in this section (without the Administrator's prior approval of the site-specific performance evaluation test plan) if he/she subsequently chooses to use the specified monitoring method(s) instead of an alternative.

(vi) Neither the submission of a site-specific performance evaluation test plan for approval, nor the Administrator's approval or disapproval of a plan, nor the Administrator' failure to approve or disapprove a plan in a timely manner shall -

(A) Relieve an owner or operator of legal responsibility for compliance with any applicable provisions of this part or with any other applicable Federal, State, or local requirement; or

(B) Prevent the Administrator from implementing or enforcing this part or taking any other action under the Act.

(4) *Conduct of performance evaluation and performance evaluation dates*. The owner or operator of an affected source shall conduct a performance evaluation of a required CMS during any performance test required under § 63.7 in accordance with the applicable performance specification as specified in the relevant standard. Notwithstanding the requirement in the previous sentence, if the owner or operator of an affected source elects to submit COMS data for compliance with a relevant opacity emission standard as provided under § 63.6(h)(7), he/she shall conduct a performance evaluation of the COMS as specified in the relevant standard,

before the performance test required under § 63.7 is conducted in time to submit the results of the performance evaluation as specified in paragraph (e)(5)(ii) of this section. If a performance test is not required, or the requirement for a performance test has been waived under § 63.7(h), the owner or operator of an affected source shall conduct the performance evaluation not later than 180 days after the appropriate compliance date for the affected source, as specified in § 63.7(a), or as otherwise specified in the relevant standard.

(5) *Reporting performance evaluation results*.

(i) The owner or operator shall furnish the Administrator a copy of a written report of the results of the performance evaluation simultaneously with the results of the performance test required under § 63.7 or within 60 days of completion of the performance evaluation if no test is required, unless otherwise specified in a relevant standard. The Administrator may request that the owner or operator submit the raw data from a performance evaluation in the report of the performance evaluation results.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under § 63.7 and described in § 63.6(d)(6) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation under this paragraph. The copies shall be provided at least 15 calendar days before the performance test required under § 63.7 is conducted.

(f) *Use of an alternative monitoring method* -

(1) *General*. Until permission to use an alternative monitoring procedure (minor, intermediate, or major changes; see definition in § 63.90(a)) has been granted by the Administrator under this paragraph (f)(1), the owner or operator of an affected source remains subject to the requirements of this section and the relevant standard.

(2) After receipt and consideration of written application, the Administrator may approve alternatives to any monitoring methods or procedures of this part including, but not limited to, the following:

(i) Alternative monitoring requirements when installation of a CMS specified by a relevant standard would not provide accurate measurements due to liquid water or other interferences caused by substances within the effluent gases;

(ii) Alternative monitoring requirements when the affected source is infrequently operated;

(iii) Alternative monitoring requirements to accommodate CEMS that require additional measurements to correct for stack moisture conditions;

(iv) Alternative locations for installing CMS when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements;

(v) Alternate methods for converting pollutant concentration measurements to units of the relevant standard;

(vi) Alternate procedures for performing daily checks of zero (low-level) and high-level drift that do not involve use of high-level gases or test cells;

(vii) Alternatives to the American Society for Testing and Materials (ASTM) test methods or sampling procedures specified by any relevant standard;

(viii) Alternative CMS that do not meet the design or performance requirements in this part, but adequately demonstrate a definite and consistent relationship between their

measurements and the measurements of opacity by a system complying with the requirements as specified in the relevant standard. The Administrator may require that such demonstration be performed for each affected source; or

(ix) Alternative monitoring requirements when the effluent from a single affected source or the combined effluent from two or more affected sources is released to the atmosphere through more than one point.

(3) If the Administrator finds reasonable grounds to dispute the results obtained by an alternative monitoring method, requirement, or procedure, the Administrator may require the use of a method, requirement, or procedure specified in this section or in the relevant standard. If the results of the specified and alternative method, requirement, or procedure do not agree, the results obtained by the specified method, requirement, or procedure shall prevail.

(4) (i) *Request to use alternative monitoring procedure.* An owner or operator who wishes to use an alternative monitoring procedure must submit an application to the Administrator as described in paragraph (f)(4)(ii) of this section. The application may be submitted at any time provided that the monitoring procedure is not the performance test method used to demonstrate compliance with a relevant standard or other requirement. If the alternative monitoring procedure will serve as the performance test method that is to be used to demonstrate compliance with a relevant standard, the application must be submitted at least 60 days before the performance evaluation is scheduled to begin and must meet the requirements for an alternative test method under § 63.7(f).

(ii) The application must contain a description of the proposed alternative monitoring system which addresses the four elements contained in the definition of monitoring in § 63.2 and a performance evaluation test plan, if required, as specified in paragraph (e)(3) of this section. In addition, the application must include information justifying the owner or operator's request for an alternative monitoring method, such as the technical or economic infeasibility, or the impracticality, of the affected source using the required method.

(iii) The owner or operator may submit the information required in this paragraph well in advance of the submittal dates specified in paragraph (f)(4)(i) above to ensure a timely review by the Administrator in order to meet the compliance demonstration date specified in this section or the relevant standard.

(iv) Application for minor changes to monitoring procedures, as specified in paragraph (b)(1) of this section, may be made in the site-specific performance evaluation plan.

(5) *Approval of request to use alternative monitoring procedure.*

(i) The Administrator will notify the owner or operator of approval or intention to deny approval of the request to use an alternative monitoring method within 30 calendar days after receipt of the original request and within 30 calendar days after receipt of any supplementary information that is submitted. If a request for a minor change is made in conjunction with site-specific performance evaluation plan, then approval of the plan will constitute approval of the minor change. Before disapproving any request to use an alternative monitoring method, the Administrator will notify the applicant of the Administrator's intention to disapprove the request together with --

(A) Notice of the information and findings on which the intended disapproval is based; and

(B) Notice of opportunity for the owner or operator to present additional information to the Administrator before final action on the request. At the time the Administrator

notifies the applicant of his or her intention to disapprove the request, the Administrator will specify how much time the owner or operator will have after being notified of the intended disapproval to submit the additional information.

(ii) The Administrator may establish general procedures and criteria in a relevant standard to accomplish the requirements of paragraph (f)(5)(i) of this section.

(iii) If the Administrator approves the use of an alternative monitoring method for an affected source under paragraph (f)(5)(i) of this section, the owner or operator of such source shall continue to use the alternative monitoring method until he or she receives approval from the Administrator to use another monitoring method as allowed by § 63.8(f).

(6) Alternative to the relative accuracy test. An alternative to the relative accuracy test for CEMS specified in a relevant standard may be requested as follows:

(i) *Criteria for approval of alternative procedures*. An alternative to the test method for determining relative accuracy is available for affected sources with emission rates demonstrated to be less than 50 percent of the relevant standard. The owner or operator of an affected source may petition the Administrator under paragraph (f)(6)(ii) of this section to substitute the relative accuracy test in section 7 of Performance Specification 2 with the procedures in section 10 if the results of a performance test conducted according to the requirements in § 63.7, or other tests performed following the criteria in § 63.7, demonstrate that the emission rate of the pollutant of interest in the units of the relevant standard is less than 50 percent of the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the owner or operator may petition the Administrator to substitute the relative accuracy test with the procedures in section 10 of Performance Specification 2 if the control device exhaust emission rate is less than 50 percent of the level needed to meet the control efficiency requirement. The alternative procedures do not apply if the CEMS is used continuously to determine compliance with the relevant standard.

(ii) *Petition to use alternative to relative accuracy test*. The petition to use an alternative to the relative accuracy test shall include a detailed description of the procedures to be applied, the location and the procedure for conducting the alternative, the concentration or response levels of the alternative relative accuracy materials, and the other equipment checks included in the alternative procedure(s). The Administrator will review the petition for completeness and applicability. The Administrator's determination to approve an alternative will depend on the intended use of the CEMS data and may require specifications more stringent than in Performance Specification 2.

(iii) *Rescission of approval to use alternative to relative accuracy test*. The Administrator will review the permission to use an alternative to the CEMS relative accuracy test and may rescind such permission if the CEMS data from a successful completion of the alternative relative accuracy procedure indicate that the affected source's emissions are approaching the level of the relevant standard. The criterion for reviewing the permission is that the collection of CEMS data shows that emissions have exceeded 70 percent of the relevant standard for any averaging period, as specified in the relevant standard. For affected sources subject to emission limitations expressed as control efficiency levels, the criterion for reviewing the permission is that the collection of CEMS data shows that exhaust emissions have exceeded 70 percent of the level needed to meet the control efficiency requirement for any averaging period, as specified in the relevant standard. The owner or operator of the affected source shall maintain records and determine the level of emissions relative to the criterion for permission to use an alternative for relative accuracy testing. If this criterion is exceeded, the owner or operator

shall notify the Administrator within 10 days of such occurrence and include a description of the nature and cause of the increased emissions. The Administrator will review the notification and may rescind permission to use an alternative and require the owner or operator to conduct a relative accuracy test of the CEMS as specified in section 7 of Performance Specification 2.

(g) *Reduction of monitoring data.*

(1) (1) The owner or operator of each CMS must reduce the monitoring data as specified in paragraphs (g)(1) through (5) of this section.

(2) The owner or operator of each COMS shall reduce all data to 6-minute averages calculated from 36 or more data points equally spaced over each 6-minute period. Data from CEMS for measurement other than opacity, unless otherwise specified in the relevant standard, shall be reduced to 1-hour averages computed from four or more data points equally spaced over each 1-hour period, except during periods when calibration, quality assurance, or maintenance activities pursuant to provisions of this part are being performed. During these periods, a valid hourly average shall consist of at least two data points with each representing a 15-minute period. Alternatively, an arithmetic or integrated 1-hour average of CEMS data may be used. Time periods for averaging are defined in § 63.2.

(3) The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O_2 or ng/J of pollutant).

(4) All emission data shall be converted into units of the relevant standard for reporting purposes using the conversion procedures specified in that standard. After conversion into units of the relevant standard, the data may be rounded to the same number of significant digits as used in that standard to specify the emission limit (e.g., rounded to the nearest 1 percent opacity).

(5) Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments must not be included in any data average computed under this part. For the owner or operator complying with the requirements of § 63.10(b)(2)(vii)(A) or (B), data averages must include any data recorded during periods of monitor breakdown or malfunction.

§ 63.9 Notification requirements.

(a) *Applicability and general information*.

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a notice that contains all the information required in a notification listed in this section, the owner or operator may send the Administrator a copy of the notice sent to the State to satisfy the requirements of this section for that notification.

(4) (i) Before a State has been delegated the authority to implement and enforce notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce

notification requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit notifications to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each notification submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any notifications at its discretion.

(b) *Initial notifications*.

(1) (i) The requirements of this paragraph apply to the owner or operator of an affected source when such source becomes subject to a relevant standard.

(ii) If an area source that otherwise would be subject to an emission standard or other requirement established under this part if it were a major source subsequently increases its emissions of hazardous air pollutants (or its potential to emit hazardous air pollutants) such that the source is a major source that is subject to the emission standard or other requirement, such source shall be subject to the notification requirements of this section. **Section (63.9(b)(1)(ii) pertains to notification requirements for area sources that become a major source, and § 63.9(b)(2)(v) requires a major source determination. Although area sources are subject to all provisions of this subpart (Subpart EEE), these sections nonetheless apply because the major source determination may affect the applicability of part 63 standards or Title V permit requirements to other sources (i.e., other than a hazardous waste combustor) of hazardous air pollutants at the facility.**

(iii) Affected sources that are required under this paragraph to submit an initial notification may use the application for approval of construction or reconstruction under § 63.5(d) of this subpart, if relevant, to fulfill the initial notification requirements of this paragraph.

(2) The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard), shall provide the following information:

(i) The name and address of the owner or operator;

(ii) The address (i.e., physical location) of the affected source;

(iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;

(iv) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and

(v) A statement of whether the affected source is a major source or an area source.

(3) Reserved

(4) The owner or operator of a new or reconstructed major affected source for which an application for approval of construction or reconstruction is required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new major-emitting affected source, reconstruct a major-emitting affected source, or reconstruct a major source such

that the source becomes a major-emitting affected source with the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i); and

(ii) [Reserved]

(iii) [Reserved]

(iv) [Reserved]; and

(v) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(5) The owner or operator of a new or reconstructed affected source for which an application for approval of construction or reconstruction is not required under § 63.5(d) must provide the following information in writing to the Administrator:

(i) A notification of intention to construct a new affected source, reconstruct an affected source, or reconstruct a source such that the source becomes an affected source, and

(ii) A notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date.

(iii) Unless the owner or operator has requested and received prior permission from the Administrator to submit less than the information in § 63.5(d), the notification must include the information required on the application for approval of construction or reconstruction as specified in § 63.5(d)(1)(i).

(c) *Request for extension of compliance*. If the owner or operator of an affected source cannot comply with a relevant standard by the applicable compliance date for that source, or if the owner or operator has installed BACT or technology to meet LAER consistent with § 63.6(i)(5) of this subpart, he/she may submit to the Administrator (or the State with an approved permit program) a request for an extension of compliance as specified in § 63.6(i)(4) through § 63.6(i)(6).

(d) *Notification that source is subject to special compliance requirements*. An owner or operator of a new source that is subject to special compliance requirements as specified in § 63.6(b)(3) and § 63.6(b)(4) shall notify the Administrator of his/her compliance obligations not later than the notification dates established in paragraph (b) of this section for new sources that are not subject to the special provisions.

(e) *Notification of performance test*. The owner or operator of an affected source shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin to allow the Administrator to review and approve the site-specific test plan required under § 63.7(c), if requested by the Administrator, and to have an observer present during the test. **Except § 63.1207(e) which requires you to submit the comprehensive performance test plan for approval one year prior to the planned performance test date applies instead of § 63.9(e).**

(f) *Notification of opacity and visible emission observations*. The owner or operator of an affected source shall notify the Administrator in writing of the anticipated date for conducting the opacity or visible emission observations specified in § 63.6(h)(5), if such observations are required for the source by a relevant standard. The notification shall be submitted with the notification of the performance test date, as specified in paragraph (e) of this section, or if no performance test is required or visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the initial performance test

required under § 63.7, the owner or operator shall deliver or postmark the notification not less than 30 days before the opacity or visible emission observations are scheduled to take place. **Sec. 63.9(f) applies if you are allowed under Sec. 63.1209(a)(1)(v) to use visible determination of opacity for compliance in lieu of a COMS.**

(g) *Additional notification requirements for sources with continuous monitoring systems*. The owner or operator of an affected source required to use a CMS by a relevant standard shall furnish the Administrator written notification as follows:

(1) A notification of the date the CMS performance evaluation under § 63.8(e) is scheduled to begin, submitted simultaneously with the notification of the performance test date required under § 63.7(b). If no performance test is required, or if the requirement to conduct a performance test has been waived for an affected source under § 63.7(h), the owner or operator shall notify the Administrator in writing of the date of the performance evaluation at least 60 calendar days before the evaluation is scheduled to begin;

(2) **This provision does not apply**; and

(3) A notification that the criterion necessary to continue use of an alternative to relative accuracy testing, as provided by § 63.8(f)(6), has been exceeded. The notification shall be delivered or postmarked not later than 10 days after the occurrence of such exceedance, and it shall include a description of the nature and cause of the increased emissions.

(h) *Notification of compliance status.*
{Except § 63.1207(j) requiring you to submit the notification of compliance within 90 days of completing a performance test unless the Administrator grants a time extension applies instead of § 63.9(h)(2)(ii). Note: Even though area sources are subject to this subpart, the major source determination required by § 63..9(h)(2)(i)(E) is applicable to hazardous waste combustors for the reasons discussed above.}

(1) The requirements of paragraphs (h)(2) through (h)(4)of this section apply when an affected source becomes subject to a relevant standard.

(2) (i) Before a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit to the Administrator a notification of compliance status, signed by the responsible official who shall certify its accuracy, attesting to whether the source has complied with the relevant standard. The notification shall list -

(A) The methods that were used to determine compliance;

(B) The results of any performance tests, opacity or visible emission observations, continuous monitoring system (CMS) performance evaluations, and/or other monitoring procedures or methods that were conducted;

(C) The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods;

(D) The type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard;

(E) If the relevant standard applies to both major and area sources, an analysis demonstrating whether the affected source is a major source (using the emissions data generated for this notification);

(F) A description of the air pollution control equipment (or method) for

each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method); and

(G) A statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the source has complied with the relevant standard or other requirements.

(ii) The notification must be sent before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard (unless a different reporting period is specified in the standard, in which case the letter must be sent before the close of business on the day the report of the relevant testing or monitoring results is required to be delivered or postmarked). For example, the notification shall be sent before close of business on the 60th (or other required) day following completion of the initial performance test and again before the close of business on the 60th (or other required) day following the completion of any subsequent required performance test. If no performance test is required but opacity or visible emission observations are required to demonstrate compliance with an opacity or visible emission standard under this part, the notification of compliance status shall be sent before close of business on the 30th day following the completion of opacity or visible emission observations. Notifications may be combined as long as the due date requirement for each notification is met.

(3) After a title V permit has been issued to the owner or operator of an affected source, the owner or operator of such source shall comply with all requirements for compliance status reports contained in the source's title V permit, including reports required under this part. After a title V permit has been issued to the owner or operator of an affected source, and each time a notification of compliance status is required under this part, the owner or operator of such source shall submit the notification of compliance status to the appropriate permitting authority following completion of the relevant compliance demonstration activity specified in the relevant standard.

(4) [Reserved]

(5) If an owner or operator of an affected source submits estimates or preliminary information in the application for approval of construction or reconstruction required in § 63.5(d) in place of the actual emissions data or control efficiencies required in paragraphs (d)(1)(ii)(H) and (d)(2) of § 63.5, the owner or operator shall submit the actual emissions data and other correct information as soon as available but no later than with the initial notification of compliance status required in this section.

(6) Advice on a notification of compliance status may be obtained from the Administrator.

(i) *Adjustment to time periods or postmark deadlines for submittal and review of required communications.*

(1) (i) Until an adjustment of a time period or postmark deadline has been approved by the Administrator under paragraphs (i)(2) and (i)(3) of this section, the owner or operator of an affected source remains strictly subject to the requirements of this part.

(ii) An owner or operator shall request the adjustment provided for in paragraphs (i)(2) and (i)(3) of this section each time he or she wishes to change an applicable time period or postmark deadline specified in this part.

(2) Notwithstanding time periods or postmark deadlines specified in this part for the submittal of information to the Administrator by an owner or operator, or the review of such

information by the Administrator, such time periods or deadlines may be changed by mutual agreement between the owner or operator and the Administrator. An owner or operator who wishes to request a change in a time period or postmark deadline for a particular requirement shall request the adjustment in writing as soon as practicable before the subject activity is required to take place. The owner or operator shall include in the request whatever information he or she considers useful to convince the Administrator that an adjustment is warranted.

(3) If, in the Administrator's judgment, an owner or operator's request for an adjustment to a particular time period or postmark deadline is warranted, the Administrator will approve the adjustment. The Administrator will notify the owner or operator in writing of approval or disapproval of the request for an adjustment within 15 calendar days of receiving sufficient information to evaluate the request.

(4) If the Administrator is unable to meet a specified deadline, he or she will notify the owner or operator of any significant delay and inform the owner or operator of the amended schedule.

(j) *Change in information already provided*. Any change in the information already provided under this section shall be provided to the Administrator in writing within 15 calendar days after the change.

§ 63.10 Recordkeeping and reporting requirements.

{Except reports of performance test results required under § 63.10(d)(2) may be submitted up to 90 days after completion of the test.}

(a) *Applicability and general information*.

(1) The applicability of this section is set out in § 63.1(a)(4).

(2) For affected sources that have been granted an extension of compliance under subpart D of this part, the requirements of this section do not apply to those sources while they are operating under such compliance extensions.

(3) If any State requires a report that contains all the information required in a report listed in this section, an owner or operator may send the Administrator a copy of the report sent to the
State to satisfy the requirements of this section for that report.

(4) (i) Before a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the appropriate Regional Office of the EPA (to the attention of the Director of the Division indicated in the list of the EPA Regional Offices in § 63.13).

(ii) After a State has been delegated the authority to implement and enforce recordkeeping and reporting requirements established under this part, the owner or operator of an affected source in such State subject to such requirements shall submit reports to the delegated State authority (which may be the same as the permitting authority). In addition, if the delegated (permitting) authority is the State, the owner or operator shall send a copy of each report submitted to the State to the appropriate Regional Office of the EPA, as specified in paragraph (a)(4)(i) of this section. The Regional Office may waive this requirement for any reports at its discretion.

(5) If an owner or operator of an affected source in a State with delegated authority is

required to submit periodic reports under this part to the State, and if the State has an established timeline for the submission of periodic reports that is consistent with the reporting frequency(ies) specified for such source under this part, the owner or operator may change the dates by which periodic reports under this part shall be submitted (without changing the frequency of reporting) to be consistent with the State's schedule by mutual agreement between the owner or operator and the State. For each relevant standard established pursuant to section 112 of the Act, the allowance in the previous sentence applies in each State beginning 1 year after the affected source's compliance date for that standard. Procedures governing the implementation of this provision are specified in § 63.9(i).

(6) If an owner or operator supervises one or more stationary sources affected by more than one standard established pursuant to section 112 of the Act, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required for each source shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the latest compliance date for any relevant standard established pursuant to section 112 of the Act for any such affected source(s). Procedures governing the implementation of this provision are specified in § 63.9(i).

(7) If an owner or operator supervises one or more stationary sources affected by standards established pursuant to section 112 of the Act (as amended November 15, 1990) and standards set under part 60, part 61, or both such parts of this chapter, he/she may arrange by mutual agreement between the owner or operator and the Administrator (or the State permitting authority) a common schedule on which periodic reports required by each relevant (i.e., applicable) standard shall be submitted throughout the year. The allowance in the previous sentence applies in each State beginning 1 year after the stationary source is required to be in compliance with the relevant section 112 standard, or 1 year after the stationary source is required to be in compliance with the applicable part 60 or part 61 standard, whichever is latest. Procedures governing the implementation of this provision are specified in § 63.9(i).

(b) *General recordkeeping requirements*.

(1) The owner or operator of an affected source subject to the provisions of this part shall maintain files of all information (including all reports and notifications) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(2) The owner or operator of an affected source subject to the provisions of this part shall maintain relevant records for such source of -

(i) The occurrence and duration of each startup, shutdown, or malfunction of operation (i.e., process equipment);

(ii) The occurrence and duration of each malfunction of the required air pollution control and monitoring equipment;

(iii) All required maintenance performed on the air pollution control and monitoring equipment;

(iv) Actions taken during periods of startup, shutdown, and malfunction

(including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan (see § 63.6(e)(3));

(v) All information necessary to demonstrate conformance with the affected source's startup, shutdown, and malfunction plan (see § 63.6(e)(3)) when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events);

(vi) Each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);

(vii) All required measurements needed to demonstrate compliance with a relevant standard (including, but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);

(A)This paragraph applies to owners or operators required to install a continuous emissions monitoring system (CEMS) where the CEMS installed is automated, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. An automated CEMS records and reduces the measured data to the form of the pollutant emission standard through the use of a computerized data acquisition system. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii) of this section, the owner or operator shall retain the most recent consecutive three averaging periods of subhourly measurements and a file that contains a hard copy of the data acquisition system algorithm used to reduce the measured data into the reportable form of the standard.

(B)This paragraph applies to owners or operators required to install a CEMS where the measured data is manually reduced to obtain the reportable form of the standard, and where the calculated data averages do not exclude periods of CEMS breakdown or malfunction. In lieu of maintaining a file of all CEMS subhourly measurements as required under paragraph (b)(2)(vii) of this sections, the owner or operator shall retain all subhourly measurements for the most recent reporting period. The subhourly measurements shall be retained for 120 days from the date of the most recent summary or excess emission report submitted to the Administrator.

(C)The Administrator or delegated authority, upon notification to the source, may require the owner or operator to maintain all measurements as required by paragraph (b)(2)(vii), if the administrator or the delegated authority determines these records are required to more accurately assess the compliance status of the affected source.

(viii) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations;

(ix) All measurements as may be necessary to determine the conditions of performance tests and performance evaluations;

(x) All CMS calibration checks;

` (xi) All adjustments and maintenance performed on CMS;

(xii) Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements under this part, if the source has been granted a waiver under paragraph (f) of this section;

(xiii) All emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test, if the source has been granted such permission under § 63.8(f)(6); and

(xiv) All documentation supporting initial notifications and notifications of compliance status under § 63.9.

(3) *Recordkeeping requirement for applicability determinations.* If an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f), and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under this part) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the Administrator to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of this part for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with EPA guidance materials published to assist sources in making applicability determinations under section 112, if any. The requirements to determine applicability of a standard under § 63.1(b)(3) and to record the results of that determination under paragraph (b)(3) of this section shall not by themselves create an obligation for the owner or operator to obtain a title V permit.

(c) *Additional recordkeeping requirements for sources with continuous monitoring systems*. In addition to complying with the requirements specified in paragraphs (b)(1) and (b)(2) of this section, the owner or operator of an affected source required to install a CMS by a relevant standard shall maintain records for such source of -

(1) All required CMS measurements (including monitoring data recorded during unavoidable CMS breakdowns and out-of-control periods);

(2)–(4) [Reserved]

(5) The date and time identifying each period during which the CMS was inoperative except for zero (low-level) and high-level checks;

(6) The date and time identifying each period during which the CMS was out of control, as defined in § 63.8(c)(7);

(7) The specific identification (i.e., the date and time of commencement and completion) of each period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during startups, shutdowns, and malfunctions of the affected source;

(8) The specific identification (i.e., the date and time of commencement and completion)

of each time period of excess emissions and parameter monitoring exceedances, as defined in the relevant standard(s), that occurs during periods other than startups, shutdowns, and malfunctions of the affected source;

(9) [Reserved]

(10) The nature and cause of any malfunction (if known);

(11) The corrective action taken or preventive measures adopted;

(12) The nature of the repairs or adjustments to the CMS that was inoperative or out of control;

(13) The total process operating time during the reporting period; and

(14) All procedures that are part of a quality control program developed and implemented for CMS under § 63.8(d).

(15) In order to satisfy the requirements of paragraphs (c)(10) through (c)(12) of this section and to avoid duplicative recordkeeping efforts, the owner or operator may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan specified in § 63.6(e), provided that such plan and records adequately address the requirements of paragraphs (c)(10) through (c)(12).

(d) *General reporting requirements*.

(1) Not-withstanding the requirements in this paragraph or paragraph (e) of this section, the owner or operator of an affected source subject to reporting requirements under this part shall submit reports to the Administrator in accordance with the reporting requirements in the relevant standard(s).

(2) *Reporting results of performance tests*. Before a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of any performance test under § 63.7 to the Administrator. After a title V permit has been issued to the owner or operator of an affected source, the owner or operator shall report the results of a required performance test to the appropriate permitting authority. The owner or operator of an affected source shall report the results of the performance test to the Administrator (or the State with an approved permit program) before the close of business on the 60th day following the completion of the performance test, unless specified otherwise in a relevant standard or as approved otherwise in writing by the Administrator. The results of the performance test shall be submitted as part of the notification of compliance status required under § 63.9(h).

(3) *Reporting results of opacity or visible emission observations*. The owner or operator of an affected source required to conduct opacity or visible emission observations by a relevant standard shall report the opacity or visible emission results (produced using Test Method 9 or Test Method 22, or an alternative to these test methods) along with the results of the performance test required under § 63.7. If no performance test is required, or if visibility or other conditions prevent the opacity or visible emission observations from being conducted concurrently with the performance test required under § 63.7, the owner or operator shall report the opacity or visible emission results before the close of business on the 30th day following the completion of the opacity or visible emission observations.

(4) *Progress reports*. The owner or operator of an affected source who is required to submit progress reports as a condition of receiving an extension of compliance under § 63.6(i) shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

(5) (i) Periodic startup, shutdown, and malfunction reports. If actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (see Sec. 63.6(e)(3)), the owner or operator shall state such information in a startup, shutdown, and malfunction report. Such a report shall identify any instance where any action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the affected source's startup, shutdown, and malfunction plan, but the source does not exceed any applicable emission limitation in the relevant emission standard. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, that shall be submitted to the Administrator semiannually (or on a more frequent basis if specified otherwise in a relevant standard or as established otherwise by the permitting authority in the source's title V permit). The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate). If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports under this part, the startup, shutdown, and malfunction reports required under this paragraph may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under paragraph (e) of this section, the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Administrator does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in paragraph (e)(3) of this section.

(ii) Immediate startup, shutdown, and malfunction reports. Notwithstanding the allowance to reduce the frequency of reporting for periodic startup, shutdown, and malfunction reports under paragraph (d)(5)(i) of this section, any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report required under this paragraph (d)(5)(ii) shall consist of a telephone call (or facsimile (FAX) transmission) to the Administrator within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred. Notwithstanding the requirements of the previous sentence, after the effective date of an approved permit program in the State in which an affected source is located, the owner or operator may make alternative reporting arrangements, in advance, with the permitting authority in that State. Procedures governing the arrangement of alternative reporting requirements under this paragraph (d)(5)(ii) are specified in Sec. 63.9(i).

(e) *Additional reporting requirements for sources with continuous monitoring systems* -

(1) *General.* When more than one CEMS is used to measure the emissions from one affected source (e.g., multiple breechings, multiple outlets), the owner or operator shall report

the results as required for each CEMS.

(2) Reporting results of continuous monitoring system performance evaluations.

(i) The owner or operator of an affected source required to install a CMS by a relevant standard shall furnish the Administrator a copy of a written report of the results of the CMS performance evaluation, as required under § 63.8(e), simultaneously with the results of the performance test required under § 63.7, unless otherwise specified in the relevant standard.

(ii) The owner or operator of an affected source using a COMS to determine opacity compliance during any performance test required under § 63.7 and described in § 63.6(d)(6) shall furnish the Administrator two or, upon request, three copies of a written report of the results of the COMS performance evaluation conducted under § 63.8(e). The copies shall be furnished at least 15 calendar days before the performance test required under § 63.7 is conducted.

(3) *Excess emissions and continuous monitoring system performance report and summary report.*

(i) Excess emissions and parameter monitoring exceedances are defined in relevant standards. The owner or operator of an affected source required to install a CMS by a relevant standard shall submit an excess emissions and continuous monitoring system performance report and/or a summary report to the Administrator semiannually, except when -

(A) More frequent reporting is specifically required by a relevant standard;

(B) The Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source; or

(C) [Reserved].

(ii) Request to reduce frequency of excess emissions and continuous monitoring system performance reports. Notwithstanding the frequency of reporting requirements specified in paragraph (e)(3)(i) of this section, an owner or operator who is required by a relevant standard to submit excess emissions and continuous monitoring system performance (and summary) reports on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual if the following conditions are met:

(A) For 1 full year (e.g., 4 quarterly or 12 monthly reporting periods) the affected source's excess emissions and continuous monitoring system performance reports continually demonstrate that the source is in compliance with the relevant standard;

(B) The owner or operator continues to comply with all recordkeeping and monitoring requirements specified in this subpart and the relevant standard; and

(C) The Administrator does not object to a reduced frequency of reporting for the affected source, as provided in paragraph (e)(3)(iii) of this section.

(iii) The frequency of reporting of excess emissions and continuous monitoring system performance (and summary) reports required to comply with a relevant standard may be reduced only after the owner or operator notifies the Administrator in writing of his or her intention to make such a change and the Administrator does not object to the intended change. In deciding whether to approve a reduced frequency of reporting, the Administrator may review information concerning the source's entire previous performance history during the 5-year recordkeeping period prior to the intended change, including performance test results, monitoring data, and evaluations of an owner or operator's conformance with operation and maintenance requirements. Such information may be used by the Administrator to make a judgment about the source's potential for noncompliance in the future. If the Administrator disapproves the owner or operator's request to reduce the frequency of reporting, the

Administrator will notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the Administrator to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

(iv) As soon as CMS data indicate that the source is not in compliance with any emission limitation or operating parameter specified in the relevant standard, the frequency of reporting shall revert to the frequency specified in the relevant standard, and the owner or operator shall submit an excess emissions and continuous monitoring system performance (and summary) report for the noncomplying emission points at the next appropriate reporting period following the noncomplying event. After demonstrating ongoing compliance with the relevant standard for another full year, the owner or operator may again request approval from the Administrator to reduce the frequency of reporting for that standard, as provided for in paragraphs (e)(3)(ii) and (e)(3)(iii) of this section.

(v) *Content and submittal dates for excess emissions and monitoring system performance reports*. All excess emissions and monitoring system performance reports and all summary reports, if required, shall be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate. Written reports of excess emissions or exceedances of process or control system parameters shall include all the information required in paragraphs (c)(5) through (c)(13) of this section, in § 63.8(c)(7) and § 63.8(c)(8), and in the relevant standard, and they shall contain the name, title, and signature of the responsible official who is certifying the accuracy of the report. When no excess emissions or exceedances of a parameter have occurred, or a CMS has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

(vi) *Summary report*. As required under paragraphs (e)(3)(vii) and (e)(3)(viii) of this section, one summary report shall be submitted for the hazardous air pollutants monitored at each affected source (unless the relevant standard specifies that more than one summary report is required, e.g., one summary report for each hazardous air pollutant monitored). The summary report shall be entitled ''Summary Report - Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance'' and shall contain the following information:

(A) The company name and address of the affected source;

(B) An identification of each hazardous air pollutant monitored at the affected source;

(C) The beginning and ending dates of the reporting period;

(D) A brief description of the process units;

(E) The emission and operating parameter limitations specified in the relevant standard(s);

(F) The monitoring equipment manufacturer(s) and model number(s);

(G) The date of the latest CMS certification or audit;

(H) The total operating time of the affected source during the reporting period;

(I) An emission data summary (or similar summary if the owner or operator monitors control system parameters), including the total duration of excess emissions during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting

period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes;

(J) A CMS performance summary (or similar summary if the owner or operator monitors control system parameters), including the total CMS downtime during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of CMS downtime expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total CMS downtime during the reporting period into periods that are due to monitoring equipment malfunctions, nonmonitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes;

(K) A description of any changes in CMS, processes, or controls since the last reporting period;

(L) The name, title, and signature of the responsible official who is certifying the accuracy of the report; and

(M) The date of the report.

(vii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period, and CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, only the summary report shall be submitted, and the full excess emissions and continuous monitoring system performance report need not be submitted unless required by the Administrator.

(viii) If the total duration of excess emissions or process or control system parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, both the summary report and the excess emissions and continuous monitoring system performance report shall be submitted.

(4) Reporting continuous opacity monitoring system data produced during a performance test. The owner or operator of an affected source required to use a COMS shall record the monitoring data produced during a performance test required under § 63.7 and shall furnish the Administrator a written report of the monitoring results. The report of COMS data shall be submitted simultaneously with the report of the performance test results required in paragraph (d)(2) of this section.

(f) *Waiver of recordkeeping or reporting requirements*.

(1) Until a waiver of a recordkeeping or reporting requirement has been granted by the Administrator under this paragraph, the owner or operator of an affected source remains subject to the requirements of this section.

(2) Recordkeeping or reporting requirements may be waived upon written application to the Administrator if, in the Administrator's judgment, the affected source is achieving the relevant standard(s), or the source is operating under an extension of compliance, or the owner or operator has requested an extension of compliance and the Administrator is still considering that request.

(3) If an application for a waiver of record-keeping or reporting is made, the application shall accompany the request for an extension of compliance under § 63.6(i), any required compliance progress report or compliance status report required under this part (such as under § 63.6(i) and § 63.9(h)) or in the source's title V permit, or an excess emissions and continuous monitoring system performance report required under paragraph (e) of this section, whichever is

applicable. The application shall include whatever information the owner or operator considers useful to convince the Administrator that a waiver of recordkeeping or reporting is warranted.

(4) The Administrator will approve or deny a request for a waiver of recordkeeping or reporting requirements under this paragraph when he/she -

(i) Approves or denies an extension of compliance; or

(ii) Makes a determination of compliance following the submission of a required compliance status report or excess emissions and continuous monitoring systems performance report; or

(iii) Makes a determination of suitable progress towards compliance following the submission of a compliance progress report, whichever is applicable.

(5) A waiver of any recordkeeping or reporting requirement granted under this paragraph may be conditioned on other recordkeeping or reporting requirements deemed necessary by the Administrator.

(6) Approval of any waiver granted under this section shall not abrogate the Administrator's authority under the Act or in any way prohibit the Administrator from later canceling the waiver. The cancellation will be made only after notice is given to the owner or operator of the affected source.

§ 63.11 Control device requirements.

This section is not applicable.

§ 63.12 State authority and delegations.

(a) The provisions of this part shall not be construed in any manner to preclude any State or political subdivision thereof from -

(1) Adopting and enforcing any standard, limitation, prohibition, or other regulation applicable to an affected source subject to the requirements of this part, provided that such standard, limitation, prohibition, or regulation is not less stringent than any requirement applicable to such source established under this part;

(2) Requiring the owner or operator of an affected source to obtain permits, licenses, or approvals prior to initiating construction, reconstruction, modification, or operation of such source; or

(3) Requiring emission reductions in excess of those specified in subpart D of this part as a condition for granting the extension of compliance authorized by section 112(i)(5) of the Act.

(b) (1) Section 112(l) of the Act directs the Administrator to delegate to each State, when appropriate, the authority to implement and enforce standards and other requirements pursuant to section 112 for stationary sources located in that State. Because of the unique nature of radioactive material, delegation of authority to implement and enforce standards that control radionuclides may require separate approval.

(2) Subpart E of this part establishes procedures consistent with section 112(l) for the approval of State rules or programs to implement and enforce applicable Federal rules promulgated under the authority of section 112. Subpart E also establishes procedures for the review and withdrawal of section 112 implementation and enforcement authorities granted through a section 112(l) approval.

(c) All information required to be submitted to the EPA under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act, provided that each specific delegation may exempt sources from a certain Federal or State reporting requirement. The Administrator may permit all or some of the information to be submitted to the appropriate State agency only, instead of to the EPA and the State agency.

§ 63.13 Addresses of State air pollution control agencies and EPA Regional Offices.

(a) All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this part shall be submitted to the appropriate Regional Office of the U.S. Environmental Protection Agency indicated as follows:

EPA Region IV; Director; Air, Pesticides and Toxics, Management Division; Atlanta Federal Center, 61 Forsyth Street; Atlanta, GA 30303.

(b) All information required to be submitted to the Administrator under this part also shall be submitted to the appropriate State agency of any State to which authority has been delegated under section 112(l) of the Act. The owner or operator of an affected source may contact the appropriate EPA Regional Office for the mailing addresses for those States whose delegation requests have been approved.

(c) If any State requires a submittal that contains all the information required in an application, notification, request, report, statement, or other communication required in this part, an owner or operator may send the appropriate Regional Office of the EPA a copy of that submittal to satisfy the requirements of this part for that communication.

§ 63.14 Incorporations by reference.

(a) The materials listed in this section are incorporated by reference in the corresponding sections noted. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the Federal Register. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC, at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC, and at the EPA Library (MD-35), U.S. EPA, Research Triangle Park, North Carolina.

(b) The following materials are available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428-2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

(1) ASTM D523-89, Standard Test Method for Specular Gloss, IBR approved for § 63.782.

(2) ASTM D1193-77, 91, Standard Specification for Reagent Water, IBR approved for Appendix A: Method 306, Sections 7.1.1 and 7.4.2.

(3) ASTM D1331-89, Standard Test Methods for Surface and Interfacial Tension of Solutions of

Surface Active Agents, IBR approved for Appendix A: Method 306B, Sections 6.2, 11.1, and 12.2.2.

(4) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish Lacquer, and Related Products, IBR approved for § 63.788, Appendix A.

(5) ASTM D1946-77, 90, 94, Standard Method for Analysis of Reformed Gas by Gas Chromatography, IBR approved for § 63.11(b)(6).

(6) ASTM D2369-93, 95, Standard Test Method for Volatile Content of Coatings, IBR approved for § 63.788, Appendix A.

(7) ASTM D2382-76, 88, Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method), IBR approved for § 63.11(b)(6).

(8) ASTM D2879-83, 96, Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope, IBR approved for § 63.111 of Subpart G.

(9) ASTM D3257-93, Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography, IBR approved for § 63.786(b).

(10) ASTM 3695-88, Standard Test Method for Volatile Alcohols in Water by Direct Aqueous-Injection Gas Chromatography, IBR approved for § 63.365(e)(1) of Subpart O.

(11) ASTM D3792-91, Standard Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph, IBR approved for § 63.788, Appendix A.

(12) ASTM D3912-80, Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(13) ASTM D4017-90, 96a, Standard Test Method for Water in Paints and Paint Materials by the Karl Fischer Titration Method, IBR approved for § 63.788, Appendix A.

(14) ASTM D4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(15) ASTM D4256-89, 94, Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for § 63.782.

(16) ASTM D4809-95, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (Precision Method), IBR approved for § 63.11(b)(6).

(17) ASTM E180-93, Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals, IBR approved for § 63.786(b).

(18) ASTM E260-91, 96, General Practice for Packed Column Gas Chromatography, IBR approved for §§ 63.750(b)(2) and 63.786(b)(5).

(19) Reserved

(20) Reserved

(21) ASTM D2099-00, Standard Test Method for Dynamic Water Resistance of Shoe Upper Leather by the Maeser Water Penetration Tester, IBR approved for § 63.5350.

(24) ASTM D2697-86(1998) (Reapproved 1998), Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings, IBR approved for §§63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(25) ASTM D6093-97, Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer, IBR approved for §§63.4141(b)(1), 63.4741(b)(1), 63.4941(b)(1), and 63.5160(c).

(26) ASTM D1475-98, Standard Test Method for Density of Liquid Coatings, Inks, and Related Products, IBR approved for §§ 63.4141(b)(3) and 63.4141(c).

(27) ASTM D 6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide and Oxygen concentrations in Emissions from Natural Gas Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process heaters Using Portable Analyzers, IBR approved for Sec. 63.9307(c)(2).

(28) [Reserved]

(29) ASTM D6420-99, Standard Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography-Mass Spectrometry, IBR approved for §§ 63.5799 and 63.5850.

(c) The materials listed below are available for purchase from the American Petroleum Institute (API), 1220 L Street, NW., Washington, DC 20005.

(1) API Publication 2517, Evaporative Loss from External Floating-Roof Tanks, Third Edition, February 1989, IBR approved for § 63.111 of subpart G of this part.

(2) API Publication 2518, Evaporative Loss from Fixed-roof Tanks, Second Edition, October 1991, IBR approved for § 63.150(g)(3)(i)(C) of subpart G of this part.

(3) API Manual of Petroleum Measurement Specifications (MPMS) Chapter 19.2, Evaporative Loss From Floating-Roof Tanks (formerly API Publications 2517 and 2519), First Edition, April 1997, IBR approved for § 63.1251 of subpart GGG of this part.

(d) *State and Local Requirements.* The materials listed below are available at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M St., SW., Washington, DC.

(1) *California Regulatory Requirements Applicable to the Air Toxics Program,* January 5, 1999, IBR approved for § 63.99(a)(5)(ii) of subpart E of this part.

(2) New Jersey's *Toxic Catastrophe Prevention Act Program*, (July 20, 1998), Incorporation By Reference approved for § 63.99 (a)(30)(i) of subpart E of this part.

(3) (i) Letter of June 7, 1999 to the U.S. Environmental Protection Agency Region 3 from the Delaware Department of Natural Resources and Environmental Control requesting formal full delegation to take over primary responsibility for implementation and enforcement of the Chemical Accident Prevention Program under Section 112(r) of the Clean Air Act Amendments of 1990.

(ii) Delaware Department of Natural Resources and Environmental Control, Division of Air and Waste Management, Accidental Release Prevention Regulation, sections 1 through 5 and sections 7 through 14, effective January 11, 1999, IBR approved for § 63.99(a)(8)(i) of subpart E of this part.

(iii) State of Delaware Regulations Governing the Control of Air Pollution (October 2000), IBR approved for § 63.99(a)(8)(ii)-(v) of subpart E of this part.

(e) The materials listed below are available for purchase from the National Institute of Standards and Technology, Springfield, VA 22161, (800) 553-6847.

(1) Handbook 44, Specificiations, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices 1998, IBR approved for § 63.1303(e)(3).

(2) [Reserved]

(f) The following material is available from the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), P. O. Box 133318, Research Triangle Park, NC 27709-3318 or at http://www.ncasi.org: NCASI Method DI/MEOH-94.02, Methanol in Process Liquids GC/FID (Gas Chromatography/Flame Ionization Detection), August 1998, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for § 63.457(c)(3)(ii) of subpart S of this part.

(g) The materials listed below are available for purchase from AOAC International, Customer Services, Suite 400, 2200 Wilson Boulevard, Arlington, Virginia, 22201-3301, Telephone (703) 522-3032, Fax (703) 522-5468.

(1) AOAC Official Method 978.01 Phosphorus (Total) in Fertilizers, Automated Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(2) AOAC Official Method 969.02 Phosphorus (Total) in Fertilizers, Alkalimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(3) AOAC Official Method 962.02 Phosphorus (Total) in Fertilizers, Gravimetric Quinolinium Molybdophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(4) AOAC Official Method 957.02 Phosphorus (Total) in Fertilizers, Preparation of Sample

Solution, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(5) AOAC Official Method 929.01 Sampling of Solid Fertilizers, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(6) AOAC Official Method 929.02 Preparation of Fertilizer Sample, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(7) AOAC Official Method 958.01 Phosphorus (Total) in Fertilizers, Spectrophotometric Molybdovanadophosphate Method, Sixteenth edition, 1995, IBR approved for § 63.626(d)(3)(vi).

(h) The materials listed below are available for purchase from The Association of Florida Phosphate Chemists, P.O. Box 1645, Bartow, Florida, 33830, Book of Methods Used and Adopted By The Association of Florida Phosphate Chemists, Seventh Edition 1991, IBR.

(1) Section IX, Methods of Analysis for Phosphate Rock, No. 1 Preparation of Sample, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(2) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus -- P2O5 or Ca3(PO4)2, Method A-Volumetric Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(3) Section IX, Methods of Analysis for Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method B -- Gravimetric Quimociac Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(4) Section IX, Methods of Analysis For Phosphate Rock, No. 3 Phosphorus-P2O5 or Ca3(PO4)2, Method C -- Spectrophotometric Method, IBR approved for § 63.606(c)(3)(ii) and § 63.626(c)(3)(ii).

(5) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method A -- Volumetric Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(6) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method B -- Gravimetric Quimociac Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(7) Section XI, Methods of Analysis for Phosphoric Acid, Superphosphate, Triple Superphosphate, and Ammonium Phosphates, No. 3 Total Phosphorus-P2O5, Method C -- Spectrophotometric Method, IBR approved for § 63.606(c)(3)(ii), § 63.626(c)(3)(ii), and § 63.626(d)(3)(v).

(i) The following materials are available for purchase from at least one of the following addresses: ASME International, Orders/Inquiries, P.O. Box 2900, Fairfield, NJ 07007-2900; or Global Engineering Documents, Sales Department, 15 Inverness Way East,
Englewood, CO 80112.

(1) ASME standard number QHO-1-1994, ``Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators," IBR approved for Sec. 63.1206(c)(6)(iii).

(2) ASME standard number QHO-1a-1996 Addenda to QHO-1-1994, ``Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators," IBR approved for Sec. 63.1206(c)(6)(iii).

(3) ANSI/ASME PTC 19.10-1981, ``Flue and Exhaust Gas Analyses [Part 10, Instruments and Apparatus]," IBR approved for Sec. Sec. 63.865(b), 63.3360(e)(1)(iii), 63.4166(a)(3), 63.4362(a)(3), 63.4766(a)(3), 63.4965(a)(3), 63.5160(d)(1)(iii), 63.9307(c)(2), and 63.9323(a)(3).

(j) [Reserved]

(k) The following material may be obtained from U.S. EPA, Office of Solid Waste (5305W), 1200 Pennsylvania Avenue, NW., Washington, DC 20460:

(1) Method 9071B, ``n-Hexane Extractable Material(HEM) for Sludge, Sediment, and Solid Samples," (Revision 2, April 1998) as published in EPA Publication SW-846: ``Test Methods for

Evaluating Solid Waste, Physical/Chemical Methods." The incorporation by reference of Method 9071B is approved for Section 63.7824(e) of Subpart FFFFF of this part.

§ 63.15 Availability of information and confidentiality.

(a) *Availability of information*.

(1) With the exception of information protected through part 2 of this chapter, all reports, records, and other information collected by the Administrator under this part are available to the public. In addition, a copy of each permit application, compliance plan (including the schedule of compliance), notification of compliance status, excess emissions and continuous monitoring systems performance report, and title V permit is available to the public, consistent with protections recognized in section 503(e) of the Act.

(2) The availability to the public of information provided to or otherwise obtained by the Administrator under this part shall be governed by part 2 of this chapter.

(b) *Confidentiality.*

(1) If an owner or operator is required to submit information entitled to protection from disclosure under section 114(c) of the Act, the owner or operator may submit such information separately. The requirements of section 114(c) shall apply to such information.

(2) The contents of a title V permit shall not be entitled to protection under section 114(c) of the Act; however, information submitted as part of an application for a title V permit may be entitled to protection from disclosure.

Federal Register

Wednesday,
October 12, 2005

Part II

Environmental Protection Agency

40 CFR Parts 9, 63, 260 et al.

National Emission Standards for Hazardous Air Pollutants: Final Standards for Hazardous Air Pollutants for Hazardous Waste Combustors (Phase I Final Replacement Standards and Phase II); Final Rule

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 9, 63, 260, 264, 265, 266, 270 and 271

[FRL–7971–8]

RIN 2050–AE01

National Emission Standards for Hazardous Air Pollutants: Final Standards for Hazardous Air Pollutants for Hazardous Waste Combustors (Phase I Final Replacement Standards and Phase II)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes national emission standards (NESHAP) for hazardous air pollutants for hazardous waste combustors (HWCs): hazardous waste burning incinerators, cement kilns, lightweight aggregate kilns, industrial/commercial/institutional boilers and process heaters, and hydrochloric acid production furnaces. EPA has identified HWCs as major sources of hazardous air pollutant (HAP) emissions. These standards implement section 112(d) of the Clean Air Act (CAA) by requiring hazardous waste combustors to meet HAP emission standards reflecting the performance of the maximum achievable control technology (MACT).

The HAP emitted by HWCs include arsenic, beryllium, cadmium, chromium, dioxins and furans, hydrogen chloride and chlorine gas, lead, manganese, and mercury. Exposure to these substances has been demonstrated to cause adverse health effects such as irritation to the lung, skin, and mucus membranes, effects on the central nervous system, kidney damage, and cancer. The adverse health effects associated with exposure to these specific HAP are further described in the preamble. For many HAP, these findings have only been shown with concentrations higher than those typically in the ambient air.

This action also presents our decision regarding the February 28, 2002 petition for rulemaking submitted by the Cement Kiln Recycling Coalition, relating to EPA's implementation of the so-called omnibus permitting authority under section 3005(c) of the Resource Conservation and Recovery Act (RCRA). That section requires that each permit issued under RCRA contain such terms and conditions as permit writers determine to be necessary to protect human health and the environment. In that petition, the Cement Kiln Recycling Coalition requested that we repeal the existing site-specific risk assessment policy and technical guidance for hazardous waste combustors and that we promulgate the policy and guidance as rules in accordance with the Administrative Procedure Act if we continue to believe that site-specific risk assessments may be necessary.

DATES: The final rule is effective December 12, 2005. The incorporation by reference of Method 0023A into § 63.14 is approved by the Director of the Federal Register as of December 12, 2005.

ADDRESSES: The official public docket is the collection of materials that is available for public viewing at the Office of Air and Radiation Docket and Information Center (Air Docket) in the EPA Docket Center, Room B–102, 1301 Constitution Ave., NW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: For more information concerning applicability and rule determinations, contact your State or local representative or appropriate EPA Regional Office representative. For information concerning rule development, contact Michael Galbraith, Waste Treatment Branch, Hazardous Waste Minimization and Management Division, (5302W), U.S. EPA, 1200 Pennsylvania Avenue, NW., Washington DC 20460, telephone number (703) 605–0567, fax number (703) 308–8433, electronic mail address *galbraith.michael@epa.gov.*

SUPPLEMENTARY INFORMATION:

Regulated Entities

The promulgation of the final rule would affect the following North American Industrial Classification System (NAICS) and Standard Industrial Classification (SIC) codes:

Category	NAICS code	SIC code	Examples of potentially regulated entities
Any industry that combusts hazardous waste as defined in the final rule.			
	562211	4953	Incinerator, hazardous waste
	327310	3241	Cement manufacturing, clinker production
	327992	3295	Ground or treated mineral and earth manufacturing
	325	28	Chemical Manufacturers
	324	29	Petroleum Refiners
	331	33	Primary Aluminum
	333	38	Photographic equipment and supplies
	488, 561, 562	49	Sanitary Services, N.E.C.
	421	50	Scrap and waste materials
	422	51	Chemical and Allied Products, N.E.C
	512, 541, 561, 812	73	Business Services, N.E.C.
	512, 514, 541, 711	89	Services, N.E.C.
	924	95	Air, Water and Solid Waste Management

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists examples of the types of entities EPA is now aware could potentially be regulated by this action. Other types of entities not listed could also be affected. To determine whether your facility, company, business, organization, etc., is regulated by this action, you should examine the applicability criteria in Part II of this preamble. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Abbreviations and Acronyms Used in This Document

acfm actual cubic feet per minute
Btu British thermal units
CAA Clean Air Act
CFR Code of Federal Regulations
DRE destruction and removal efficiency
dscf dry standard cubic foot
dscm dry standard cubic meter

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EPA Environmental Protection Agency
FR Federal Register
gr/dscf grains per dry standard cubic foot
HAP hazardous air pollutant(s)
ICR Information Collection Request
kg/hr kilograms per hour
kW-hour kilo Watt hour
MACT Maximum Achievable Control Technology
mg/dscm milligrams per dry standard cubic meter
MMBtu million British thermal unit
ng/dscm nanograms per dry standard cubic meter
NESHAP national emission standards for HAP
ng nanograms
POHC principal organic hazardous constituent
ppmv parts per million by volume
ppmw parts per million by weight
Pub. L. Public Law
RCRA Resource Conservation and Recovery Act
SRE system removal efficiency
TEQ toxicity equivalence
µg/dscm micrograms per dry standard cubic meter
U.S.C. United States Code

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Part One: Background and Summary

I. What Is the Statutory Authority for This Standard?

Section 112 of the Clean Air Act requires that the EPA promulgate regulations requiring the control of HAP emissions from major and certain area sources. The control of HAP is achieved through promulgation of emission standards under sections 112(d) and (in a second round of standard setting) (f).

EPA's initial list of categories of major and area sources of HAP selected for regulation in accordance with section 112(c) of the Act was published in the **Federal Register** on July 16, 1992 (57 FR 31576). Hazardous waste incinerators, Portland cement plants, clay products manufacturing (including lightweight aggregate kilns), industrial/commercial/institutional boilers and process heaters, and hydrochloric acid production furnaces are among the listed 174 categories of sources. The listing was based on the Administrator's determination that these sources may reasonably be anticipated to emit one or more of the 186 listed HAP in quantities sufficient to designate them as major sources.

II. What Is the Regulatory Development Background of the Source Categories in the Final Rule?

Today's notice finalizes standards for controlling emissions of HAP from hazardous waste combustors: incinerators, cement kilns, lightweight aggregate kilns, boilers, process heaters [1], and hydrochloric acid production furnaces that burn hazardous waste. We call incinerators, cement kilns, and lightweight aggregate kilns Phase I sources because we have already promulgated standards for those source categories. We call boilers and hydrochloric acid production furnaces Phase II sources because we intended to promulgate MACT standards for those source categories after promulgating MACT standards for Phase I sources. The regulatory background of Phase I and Phase II source categories is discussed below.

A. Phase I Source Categories

Phase I combustor sources are regulated under the Resource Conservation and Recovery Act (RCRA), which establishes a ''cradle-to-grave'' regulatory structure overseeing the safe treatment, storage, and disposal of hazardous waste. We issued RCRA rules to control air emissions from hazardous waste burning incinerators in 1981, 40 CFR Parts 264 and 265, Subpart O, and from cement kilns and lightweight aggregate kilns that burn hazardous waste in 1991, 40 CFR Part 266, Subpart H. These rules rely generally on risk-based standards to assure control necessary to protect human health and the environment, the applicable RCRA standard. See RCRA section 3004 (a) and (q).

The Phase I source categories also are subject to standards under the Clean Air Act. We promulgated standards for Phase I sources on September 30, 1999 (64 FR 52828). This final rule is referred to in this preamble as the Phase I rule or 1999 final rule. These emission standards created a technology-based national cap for hazardous air pollutant emissions from the combustion of hazardous waste in these devices. The rule regulates emissions of numerous hazardous air pollutants: dioxin/furans, other toxic organics (through surrogates), mercury, other toxic metals (both directly and through a surrogate), and hydrogen chloride and chlorine gas. Where necessary, Section 3005(c)(3) of RCRA provides the authority to impose additional conditions on a source-by-source basis in a RCRA permit if necessary to protect human health and the environment.

A number of parties, representing interests of both industrial sources and of the environmental community, sought judicial review of the Phase I rule. On July 24, 2001, the United States Court of Appeals for the District of Columbia Circuit granted portions of the Sierra Club's petition for review and vacated the challenged portions of the standards. *Cement Kiln Recycling Coalition* v. *EPA*, 255 F. 3d 855 (D.C. Cir. 2001). The court held that EPA had not demonstrated that its calculation of MACT floors met the statutory requirement of being no less stringent than (1) the average emission limitation achieved by the best performing 12 percent of existing sources and, for new sources, (2) the emission control achieved in practice by the best controlled similar source for new sources. 255 F.3d at 861, 865–66. As a remedy, the court, after declining to rule on most of the issues presented in the industry petitions for review, vacated the ''challenged regulations,'' stating that: ''[W]e have chosen not to reach the bulk of industry petitioners' claims, and leaving the regulations in place during remand would ignore petitioners' potentially meritorious challenges.'' Id.

[1] A process heater meets the RCRA definition of a boiler. Therefore, process heaters that burn hazardous wastes are covered under subpart EEE as boilers, and are discussed as such in subsequent parts of the preamble.

at 872. Examples of the specific challenges the Court indicated might have merit were provisions relating to compliance during start up/shut down and malfunction events, including emergency safety vent openings, the dioxin/furan standard for lightweight aggregate kilns, and the semivolatile metal standard for cement kilns. *Id.* However, the Court stated, ''[b]ecause this decision leaves EPA without standards regulating [hazardous waste combustor] emissions, EPA (or any of the parties to this proceeding) may file a motion to delay issuance of the mandate to request either that the current standards remain in place or that EPA be allowed reasonable time to develop interim standards.'' Id.

Acting on this invitation, all parties moved the Court jointly to stay the issuance of its mandate for four months to allow EPA time to develop interim standards, which would replace the vacated standards temporarily, until final standards consistent with the Court's mandate are promulgated. The interim standards were published on February 13, 2002 (67 FR 6792). EPA did not justify or characterize these standards as conforming to MACT, but rather as an interim measure to prevent adverse consequences that would result from the regulatory gap resulting from no standards being in place. Id. at 6793, 6795–96; see also 69 FR at 21217 (April 20, 2004). EPA also entered into a settlement agreement, enforceable by the Court of Appeals, to issue final standard conforming to the Court's mandate by June 14, 2005. That date has since been extended to September 14, 2005.

B. Phase II Source Categories

Phase II combustors—boilers and hydrochloric acid production furnaces—are also regulated under the Resource Conservation and Recovery Act (RCRA) pursuant to 40 CFR Part 266, Subpart H, and (for reasons discussed below) are also subject to the MACT standard setting process in section 112(d) of the CAA. We delayed promulgating MACT standards for these source categories pending reevaluation of the MACT standard-setting methodology following the Court's decision to vacate the standards for the Phase I source categories. We also have entered into a judicially enforceable consent decree with Sierra Club that requires EPA to promulgate MACT standards for the Phase II sources by June 14, 2005, since extended to September 14, 2005—the same date that (for independent reasons) is required for the replacement standards for Phase I sources.

III. How Was the Final Rule Developed?

We proposed standards for HWCs on April 20, 2004 (69 FR 21197). The public comment period closed on July 6, 2004. In addition, on February 4, 2005, we requested certain key commenters to comment by email on a limited number of issues arising from public comments on the proposed rule. The comment period for those issues closed on March 7, 2005.

We received approximately 100 public comment letters on the proposed rule and the subsequent direct request for comments. Comments were submitted by owner/operators of HWCs, trade associations, state regulatory agencies and their representatives, and environmental groups. Today's final rule reflects our consideration of all of the comments and additional information we received. Major public comments on the proposed rule along with our responses, are summarized in this preamble.

IV. What Is the Relationship Between the Final Rule and Other MACT Combustion Rules?

The amendments to the Subpart EEE, Part 63, standards for hazardous waste combustors apply to the source categories that are currently subject to that subpart—incinerators, cement kilns, and lightweight aggregate kilns that burn hazardous waste. Today's final rule, however, also amends Subpart EEE to establish MACT standards for the Phase II source categories—those boilers and hydrochloric acid production furnaces that burn hazardous waste.

Generally speaking, you are an affected source pursuant to Subpart EEE if you combust, or have previously combusted, hazardous waste in an incinerator, cement kiln, lightweight aggregate kiln, boiler, or hydrochloric acid production furnace. You continue to be an affected source until you cease burning hazardous waste and initiate closure requirements pursuant to RCRA. Affected sources do not include: (1) Sources exempt from regulation under 40 CFR part 266, subpart H, because the only hazardous waste they burn is listed under 40 CFR 266.100(c); (2) research, development, and demonstration sources exempt under § 63.1200(b); and (3) boilers exempt from regulation under 40 CFR part 266, subpart H, because they meet the definition of small quantity burner under 40 CFR 266.108. See § 63.1200(b).

If you never previously combusted hazardous waste, or have ceased burning hazardous waste and initiated RCRA closure requirements, you are not subject to Subpart EEE. Rather, EPA has promulgated separate MACT standards for sources that do not burn hazardous waste within the following source categories: commercial and industrial solid waste incinerators (40 CFR Part 60, Subparts CCCC and DDDD); Portland cement manufacturing facilities (40 CFR Part 63, Subpart LLL); industrial/commercial/institutional boilers and process heaters (40 CFR Part 63, Subpart DDDDD); and hydrochloric acid production facilities (40 CFR Part 63, Subpart NNNNN). In addition, EPA considered whether to establish MACT standards for lightweight aggregate manufacturing facilities that do not burn hazardous waste, and determined that they are not major sources of HAP emissions. Thus, EPA has not established MACT standards for lightweight aggregate manufacturing facilities that do not burn hazardous waste.

Note that non-stack emissions points are not regulated under Subpart EEE.[2] Emissions attributable to storage and handling of hazardous waste prior to combustion (i.e., emissions from tanks, containers, equipment, and process vents) would continue to be regulated pursuant to either RCRA Subpart AA, BB, and CC and/or an applicable MACT that applies to the before-mentioned material handling devices. Emissions unrelated to the hazardous waste operations may be regulated pursuant to other MACT rulemakings. For example, Portland cement manufacturing facilities that combust hazardous waste are subject to both Subpart EEE and Subpart LLL, and hydrochloric acid production facilities that combust hazardous waste may be subject to both Subpart EEE and Subpart NNNNN.[3] In these instances Subpart EEE controls HAP emissions from the cement kiln and hydrochloric acid production furnace stack, while Subparts LLL and NNNNN would control HAP emissions from other operations that are not directly related to the combustion of hazardous waste (e.g., clinker cooler emissions for cement production facilities, and hydrochloric acid product transportation and storage for hydrochloric acid production facilities).

Note that if you temporarily cease burning hazardous waste for any reason, you remain an affected source and are still subject to the applicable Subpart

[2] Note, however, that fugitive emissions attributable to the combustion of hazardous waste from the combustion device are regulated pursuant to Subpart EEE.

[3] Hydrochloric acid production furnaces that combust hazardous waste are also affected sources subject to Subpart NNNNN if they produce a liquid acid product that contains greater than 30% hydrochloric acid.

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EEE requirements. However, even as an affected source, the emission standards or operating limits do not apply if: (1) Hazardous waste is not in the combustion chamber and you elect to comply with other MACT (or CAA section 129) standards that otherwise would be applicable if you were not burning hazardous waste, e.g., the nonhazardous waste burning Portland Cement Kiln MACT (Subpart LLL); or (2) you are in a startup, shutdown, or malfunction mode of operation.

V. What Are the Health Effects Associated With Pollutants Emitted by Hazardous Waste Combustors?

Today's final rule protects air quality and promotes the public health by reducing the emissions of some of the HAP listed in Section 112(b)(1) of the CAA. Emissions data collected in the development of this final rule show that metals, hydrogen chloride and chlorine gas, dioxins and furans, and other organic compounds are emitted from hazardous waste combustors. The HAP that would be controlled with this rule are associated with a variety of adverse health affects. These adverse health effects include chronic health disorders (e.g., irritation of the lung, skin, and mucus membranes and effects on the blood, digestive tract, kidneys, and central nervous system), and acute health disorders (e.g., lung irritation and congestion, alimentary effects such as nausea and vomiting, and effects on the central nervous system). Provided below are brief descriptions of risks associated with HAP that are emitted from hazardous waste combustors.

Antimony

Antimony occurs at very low levels in the environment, both in the soils and foods. Higher concentrations, however, are found at antimony processing sites, and in their hazardous wastes. The most common industrial use of antimony is as a fire retardant in the form of antimony trioxide. Chronic occupational exposure to antimony (generally antimony trioxide) is most commonly associated with ''antimony pneumoconiosis,'' a condition involving fibrosis and scarring of the lung tissues. Studies have shown that antimony accumulates in the lung and is retained for long periods of time. Effects are not limited to the lungs, however, and myocardial effects (effects on the heart muscle) and related effects (e.g., increased blood pressure, altered EKG readings) are among the best-characterized human health effects associated with antimony exposure. Reproductive effects (increased incidence of spontaneous abortions and higher rates of premature deliveries) have been observed in female workers exposed in an antimony processing facilities. Similar effects on the heart, lungs, and reproductive system have been observed in laboratory animals.

EPA assessed the carcinogenicity of antimony and found the evidence for carcinogenicity to be weak, with conflicting evidence from inhalation studies with laboratory animals, equivocal data from the occupational studies, negative results from studies of oral exposures in laboratory animals, and little evidence of mutagenicity or genotoxicity.[4] As a consequence, EPA concluded that insufficient data are available to adequately characterize the carcinogenicity of antimony and, accordingly, the carcinogenicity of antimony cannot be determined based on available information. However, the International Agency for Research on Cancer in an earlier evaluation, concluded that antimony trioxide is ''possibly carcinogenic to humans'' (Group 2B).

Arsenic

Chronic (long-term) inhalation exposure to inorganic arsenic in humans is associated with irritation of the skin and mucous membranes. Human data suggest a relationship between inhalation exposure of women working at or living near metal smelters and an increased risk of reproductive effects, such as spontaneous abortions. Inorganic arsenic exposure in humans by the inhalation route has been shown to be strongly associated with lung cancer, while ingestion or inorganic arsenic in humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer. EPA has classified inorganic arsenic as a Group A, human carcinogen.

Beryllium

Chronic inhalation exposure of humans to high levels of beryllium has been reported to cause chronic beryllium disease (berylliosis), in which granulomatous (noncancerous) lesions develop in the lung. Inhalation exposure to high levels of beryllium has been demonstrated to cause lung cancer in rats and monkeys. Human studies are limited, but suggest a causal relationship between beryllium exposure and an increased risk of lung cancer. We have classified beryllium as a Group B1, probable human carcinogen, when inhaled; data are inadequate to determine whether beryllium is carcinogenic when ingested.

Cadmium

Chronic inhalation or oral exposure to cadmium leads to a build-up of cadmium in the kidneys that can cause kidney disease. Cadmium has been shown to be a developmental toxicant in animals, resulting in fetal malformations and other effects, but no conclusive evidence exists in humans. An association between cadmium exposure and an increased risk of lung cancer has been reported from human studies, but these studies are inconclusive due to confounding factors. Animal studies have demonstrated an increase in lung cancer from long-term inhalation exposure to cadmium. EPA has classified cadmium as a Group B1, probable carcinogen.

Chlorine gas

Chlorine is an irritant to the eyes, the upper respiratory tract, and lungs. Chronic exposure to chlorine gas in workers has resulted in respiratory effects including eye and throat irritation and airflow obstruction. No information is available on the carcinogenic effects of chlorine in humans from inhalation exposure. A National Toxicology Program (NTP) study showed no evidence of carcinogenic activity in male rats or male and female mice, and equivocal evidence in female rats, from ingestion of chlorinated water. The EPA has not classified chlorine for potential carcinogenicity. In the absence of specific scientific evidence to the contrary, it is the Agency's policy to classify noncarcinogenic effects as threshold effects. RfC development is the default approach for threshold (or nonlinear) effects.

Chromium

Chromium may be emitted in two forms, trivalent chromium (chromium III) or hexavalent chromium (chromium VI). The respiratory tract is the major target organ for chromium VI toxicity for inhalation exposures. Bronchitis, decreases pulmonary function, pneumonia, and other respiratory effects have been noted from chronic high does exposure in occupational settings due to chromium VI. Limited human studies suggest that chromium VI inhalation exposure may be associated with complications during pregnancy and childbirth, while animal studies have not reported reproductive effects from inhalation exposure to chromium VI. Human and animal studies have clearly established that inhaled chromium VI is

[4] See ''Evaluating THe Carcinogenicity of Antimony,'' Rish Assessment Issue Paper (98–030/07–26–99), Superfund Technical Support Center, National Center for Environmental Assessment, July 26, 1999.

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a carcinogen, resulting in an increased risk of lung cancer. EPA has classified chromium VI as a Group A, human carcinogen.

Chromium III is less toxic than chromium VI. The respiratory tract is also the major target organ for chromium III toxicity, similar to chromium VI. Chromium III is an essential element in humans, with a daily intake of 50 to 200 micrograms per day recommended for an adult. The body can detoxify some amount of chromium VI to chromium III. EPA has not classified chromium III with respect to carcinogenicity.

Cobalt

Cobalt is a relatively rare metal that is produced primarily as a by-product during refining of other metals, especially copper. Cobalt has been widely reported to cause respiratory effects in humans exposed by inhalation, including respiratory irritation, wheezing, asthma, and pneumonia. Cardiomyopathy (damage to the heart muscle) has also been reported, although this effect is better known from oral exposure. Other effects of oral exposure in humans are polycythemia (an abnormally high number of red blood cells) and the blocking of uptake of iodine by the thyroid. In addition, cobalt is a sensitizer in humans by any route of exposure. Sensitized individuals may react to inhalation of cobalt by developing asthma or to ingestion or dermal contact with cobalt by developing dermatitis. Cobalt is as a vital component of vitamin B_{12}, though there is no evidence that intake of cobalt is ever limiting in the human diet.

A number of epidemiological studies have found that exposures to cobalt are associated with an increased incidence of lung cancer in occupational settings. The International Agency for Research on Cancer (part of the World Health Organization) classifies cobalt and cobalt compounds as ''possibly carcinogenic to humans'' (Group 2B). The American Conference of Governmental Industrial Hygienists has classified cobalt as a confirmed animal carcinogen with unknown relevance to humans (category A3). An EPA assessment concludes that under EPA's cancer guidelines, cobalt would be considered likely to be carcinogenic to humans.[5]

Dioxins and Furans

Exposures to 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8–TCDD) and related compounds at levels 10 times or less above those modeled to approximate average background exposure have resulted in adverse non-cancer health effects in animals. This statement is based on assumptions about the toxic equivalent for these compounds, for which there is acknowledged uncertainty. These effects include changes in hormone systems, alterations in fetal development, reduced reproductive capacity, and immunosuppression. Effects that may be linked to dioxin and furan exposures at low dose in humans include changes in markers of early development and hormone levels. Dioxin and furan exposures are associated with altered liver function and lipid metabolism changes in activity of various liver enzymes, depression of the immune system, and endocrine and nervous system effects. EPA in its 1985 dioxin assessment classified 2,3,7,8–TCDD as a probable human carcinogen. The International Agency for Research on Cancer (IARC) concluded in 1997 that the overall weight of the evidence was sufficient to characterize 2,3,7,8–TCDD as a known human carcinogen.[6] In 2001 the U.S. Department of Health and Human Services National Toxicology Program in their 9th Report on Carcinogens classified 2,3,7,8–TCDD as a known human carcinogen.[7]

The chemical and environmental stability of dioxins and their tendency to accumulate in fat have resulted in their detection within many ecosystems. In the United States and elsewhere, accidental contamination of the environment by 2,3,7,8–TCDD has resulted in deaths in many species of wildlife and domestic animals.[8] High residues of this compound in fish have resulted in closing rivers to fishing. Laboratory studies with birds, mammals, aquatic organisms, and other species have demonstrated that exposure to 2,3,7,8–TCDD can result in acute and delayed mortality as well as carcinogenic, teratogenic, mutagenic, histopathologic, immunotoxic, and reproductive effects, depending on dose received, which varied widely in the experiments.[9]

Hydrogen chloride/hydrochloric acid

Hydrogen chloride, also called hydrochloric acid, is corrosive to the eyes, skin, and mucous membranes. Chronic (long-term) occupational exposure to hydrochloric acid has been reported to cause gastritis, bronchitis, and dermatitis in workers. Prolonged exposure to low concentrations may also cause dental discoloration and erosion. No information is available on the reproductive or developmental effects of hydrochloric acid in humans. In rats exposed to hydrochloric acid by inhalation, altered estrus cycles have been reported in females and increased fetal mortality and decreased fetal weight have been reported in offspring. EPA has not classified hydrochloric acid for carcinogenicity. In the absence of specific scientific evidence to the contrary, it is the Agency's policy to classify noncarcinogenic effects as threshold effects. RfC development is the default approach for threshold (or nonlinear) effects.

Lead

Lead can cause a variety of effects at low dose levels. Chronic exposure to high levels of lead in humans results in effects on the blood, central nervous system, blood pressure, and kidneys. Children are particularly sensitive to the chronic effects of lead, with slowed cognitive development, reduced growth and other effects reported. Reproductive effects, such as decreased sperm count in men and spontaneous abortions in women, have been associated with lead exposure. The developing fetus is at particular risk from maternal lead exposure, with low birth weight and slowed postnatal neurobehavioral development noted. Human studies are inconclusive regarding lead exposure and cancer, while animal studies have reported an increase in kidney cancer from lead exposure by the oral route. EPA has classified lead as a Group B2, probable human carcinogen.

Manganese

Health effects in humans have been associated with both deficiencies and excess intakes of manganese. Chronic exposure to low levels of manganese in the diet is considered to be nutritionally essential in humans, with a recommended daily allowance of 2 to 5 milligrams per day (mg/d). Chronic

[5] See ''Derivation of a Provisional Carcinogenicity Assessment for Cobalt and Compounds,'' Risk Assessment Issue Paper (00–122/1–15–02), Superfund Technical Support Center, National Center for Environmental Assessment, January 15, 2002. This is a provisional EPA assessment that has been externally peer reviewed but has not yet been incorporated in IRIS.

[6] IARC (International Agency for Research on Cancer). (1997) IARC monographs on the evaluation of carcinogenic risks to humans. Vol. 69. Polychlorinated dibenzo-para-dioxins and polychlorinated dibenzofurans. Lyon, France.

[7] The U.S. Department of Health and Human Services, National Toxicology Program 9th Report on Carcinogens, Revised January 2001.

[8] This does not necessarily apply in regard to laboratory testing, which tend to use 2,3,7,8 TCDD as the test compound.

[9] Eisler, R. 1986. Dioxin hazards to fish, wildlife, and invertebrates: a synoptic review. U.S. Fish and Wildlife Service Biological Report. 85(1.8).

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exposure to high levels of manganese by inhalation in humans results primarily in central nervous system effects. Visual reaction time, hand steadiness, and eye-hand coordination were affected in chronically-exposed workers. Impotence and loss of libido have been noted in male workers afflicted with manganism attributed to inhalation exposures. EPA has classified manganese in Group D, not classifiable as to carcinogenicity in humans.

Mercury

Mercury exists in three forms: elemental mercury, inorganic mercury compounds (primarily mercuric chloride), and organic mercury compounds (primarily methyl mercury). Each form exhibits different health effects. Various sources may release elemental or inorganic mercury; environmental methyl mercury is typically formed by biological processes after mercury has precipitated from the air.

Chronic exposure to elemental mercury in humans also affects the central nervous system, with effects such as increased excitability, irritability, excessive shyness, and tremors. The EPA has not classified elemental mercury with respect to cancer.

The major effect from chronic exposure to inorganic mercury is kidney damage. Reproductive and developmental animal studies have reported effects such as alterations in testicular tissue, increased embryo resorption rates, and abnormalities of development. Mercuric chloride (an inorganic mercury compound) exposure has been shown to result in forestomach, thyroid, and renal tumors in experimental animals. EPA has classified mercuric chloride as a Group C, possible human carcinogen.

Nickel

Nickel is an essential element in some animal species, and it has been suggested it may be essential for human nutrition. Nickel dermatitis, consisting of itching of the fingers, hand and forearms, is the most common effect in humans from chronic exposure to nickel. Respiratory effects have also been reported in humans from inhalation exposure to nickel. No information is available regarding the reproductive of developmental effects of nickel in humans, but animal studies have reported such effects, although a consistent dose-response relationship has not been seen. Nickel forms released from industrial boilers include soluble nickel compounds, nickel subsulfide, and nickel carbonyl. Human and animal studies have reported an increased risk of lung and nasal cancers from exposure to nickel refinery dusts and nickel subsulfide. Animal studies of soluble nickel compounds i.e., nickel carbonyl) have reported lung tumors. The EPA has classified nickel refinery subsulfide as a Group A, human carcinogen and nickel carbonyl as a Group B2, probable human carcinogen.

Organic HAP

Organic HAPs include halogenated and nonhalogenated organic classes of compounds such as polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). Both PAHs and PCBs are classified as potential human carcinogens, and are considered toxic, persistent and bioaccumulative. Organic HAP also include compounds such as benzene, methane, propane, chlorinated alkanes and alkenes, phenols and chlorinated aromatics. Adverse health effects of HAPs include damage to the immune system, as well as neurological, reproductive, developmental, respiratory and other health problems.

Particulate Matter

Atmospheric particulate matter (PM) is composed of sulfate, nitrate, ammonium, and other ions, elemental carbon, particle-bound water, a wide variety of organic compounds, and a large number of elements contained in various compounds, some of which originate from crustal materials and others from combustion sources. Combustion sources are the primary origin of trace metals found in fine particles in the atmosphere. Ambient PM can be of primary or secondary origin.

Exposure to particles can lead to a variety of serious health effects. The largest particles do not get very far into the lungs, so they tend to cause fewer harmful health effects. Fine particles pose the greatest problems because they can get deep into the lungs. Scientific studies show links between these small particles and numerous adverse health effects. Epidemiological studies have shown a significant correlation between elevated PM levels and premature mortality. Other important effects associated with PM exposure include aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days), lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems. Individuals particularly sensitive to PM exposure include older adults and people with heart and lung disease.

This is only a partial summary of adverse health and environmental effects associated with exposure to PM. Further information is found in the 2004 Criteria Document for PM (''Air Quality Criteria for Particulate Matter,'' EPA/600/P–99/002bF) and the 2005 Staff Paper for PM (EPA, ''Review of the National Ambient Air Quality Standards for Particulate Matter, Policy Assessment of Scientific and Technical Information: OAQPS Staff Paper,'' (June 2005)).

Selenium

Selenium is a naturally occurring substance that is toxic at high concentrations but is also a nutritionally essential element. Studies of humans chronically exposed to high levels of selenium in food and water have reported discoloration of the skin, pathological deformation and loss of nails, loss of hair, excessive tooth decay and discoloration, lack of mental alertness, and listlessness. The consumption of high levels of selenium by pigs, sheep, and cattle has been shown to interfere with normal fetal development and to produce birth defects. Results of human and animal studies suggest that supplementation with some forms of selenium may result in a reduced incidence of several tumor types. One selenium compound, selenium sulfide, is carcinogenic in animals exposed orally. We have classified elemental selenium as a Group D, not classifiable as to human carcinogenicity, and selenium sulfide as a Group B2, probable human carcinogen.

Part Two: Summary of the Final Rule

I. What Source Categories and Subcategories Are Affected by the Final Rule?

Today's rule promulgates standards for controlling emissions of HAP from hazardous waste combustors: incinerators, cement kilns, lightweight aggregate kilns, boilers, and hydrochloric acid production furnaces that burn hazardous waste. A description of each source category can be found in the proposed rule (see 69 FR at 21207–08).

Hazardous waste burning incinerators, cement kilns, and lightweight aggregate kilns are currently subject to 40 CFR part 63, subpart EEE, National Emission Standards for Hazardous Air Pollutants (NESHAP). Today's rule revises the emissions limits and certain compliance and monitoring provisions of subpart EEE for these

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source categories. The definitions of hazardous waste incinerator, hazardous waste cement kiln, and hazardous waste lightweight aggregate kiln appear at 40 CFR 63.1201(a).

Boilers that burn hazardous waste are also affected sources under today's rule. The rule uses the RCRA definition of a boiler under 40 CFR 260.10 and includes industrial, commercial, and institutional boilers as well as thermal units known as process heaters. Hazardous waste burning boilers will continue to comply with the emission standards found under 40 CFR part 266, subpart H (i.e., the existing RCRA rules) until they demonstrate compliance with the requirements of 40 CFR part 63, subpart EEE, and, for permitted sources, subsequently remove these requirements from their RCRA permit.

Finally, hydrochloric acid production furnaces that burn hazardous waste are affected sources under today's rule. These furnaces are a type of halogen acid furnace included in the definition of ''industrial furnace'' defined at § 260.10. Hydrochloric acid production furnaces that burn hazardous waste will continue to comply with the emission standards found under 40 CFR part 266, subpart H, until they demonstrate compliance with 40 CFR part 63, subpart EEE, and, for permitted sources, subsequently remove these requirements from their RCRA permit.

II. What Are the Affected Sources and Emission Points?

Today's rule apply to each major and area source incinerator, cement kiln, lightweight aggregate kiln, boiler, and hydrochloric acid production furnace that burns hazardous waste.[10] We note that only major source boilers and hydrochloric acid production furnaces are subject to the full suite of subpart EEE emission standards.[11] The emissions limits apply to each emission point (e.g., stack) where gases from the combustion of hazardous waste are discharged or otherwise emitted into the atmosphere. For facilities that have multiple combustion gas discharge points, the emission limits generally apply to each emission point. A cement kiln, for example, could be configured to have dual stacks where the majority of combustion gases are discharged though the main stack and other combustion gases emitted through a separate stack, such as an alkali bypass stack. In that case, the emission standards would apply separately to each of these stacks.[12]

III. What Pollutants Are Emitted and Controlled?

Hazardous waste combustors emit dioxin/furans, sometimes at high levels depending on the design and operation of the emission control equipment, and, for incinerators, depending on whether a waste heat recovery boiler is used. All hazardous waste combustors can also emit high levels of other organic HAP if they are not designed, operated, and maintained to operate under good combustion conditions.

Hazardous waste combustors can also emit high levels of metal HAP, depending on the level of metals in the waste feed and the design and operation of air emissions control equipment. Hazardous waste burning hydrochloric acid production furnaces, however, generally feed and emit low levels of metal HAP.

All of these HAP metals (except for the volatile metal mercury) are emitted as a portion of the particulate matter emitted by these sources. Hazardous waste combustors can also emit high levels of particulate matter, except that hydrochloric acid production furnaces generally feed hazardous wastes with low ash content and consequently emit low levels of particulate matter. A majority of particulate matter emissions from hazardous waste combustors are in the form of fine particulate. Particulate emissions from incinerators and liquid fuel-fired boilers depend on the ash content of the hazardous waste feed and the design and operation of air emission control equipment. Particulate emissions from cement kilns and lightweight aggregate kilns are not significantly affected by the ash content of the hazardous waste fuel because uncontrolled particulate emissions are attributable primarily to fine raw material entrained in the combustion gas. Thus, particulate emissions from kilns depends on operating conditions that effect entrainment of raw material, and the design and operation of the emission control equipment.

IV. Does the Final Rule Apply to Me?

The final rule applies to you if you own or operate a hazardous waste combustor—an incinerator, cement kiln, lightweight aggregate kiln, boiler, or hydrochloric acid production facility that burns hazardous waste. The final rule does not apply to a source that meets the applicability requirements of § 63.1200(b) for reasons explained at 69 FR at 21212–13.

V. What Are the Emission Limitations?

You must meet the emission limits in Tables 1 and 2 of this preamble for your applicable source category and subcategory. Standards are corrected to 7 percent oxygen. As noted at proposal, we previously promulgated requirements for carbon monoxide, total hydrocarbon, and destruction and removal efficiency standards under subpart EEE for incinerators, cement kilns, and lightweight aggregate kilns. We view these standards as unaffected by the Court's vacature of the challenged regulations in its decision of July 24, 2001. We are therefore not re-promulgating and reopening consideration of these standards in today's final rule, but are summarizing these standards in Tables 1 and 2 for reader's convenience.[13] See 69 FR at 21221, 21248, 21261 and 21274.

Liquid fuel boilers equipped with dry air pollution control devices are subject to different dioxin/furan emission standards than liquid fuel boilers that are not equipped with dry air pollution control devices.[14] Liquid fuel boilers processing hazardous waste with a heating value less than 10,000 BTU/lb must comply with the emission concentration-based standards (expressed as mass of total HAP emissions per volume of stack gas emitted) for mercury, semivolatile metals, low volatile metals, and total chlorine. Liquid fuel boilers processing hazardous waste with heating values greater than 10,000 BTU/lb must comply with thermal emissions-based standards (expressed as mass of HAP emissions attributable to the hazardous waste per million BTU input from the hazardous waste) for those same pollutants. Low volatile metal standards for liquid fuel boilers apply only to emissions of chromium, whereas the low volatile metal standard for the other source categories applies to the combined emissions of chromium, arsenic, and beryllium. Semivolatile metal standards apply to the combined emissions of lead and cadmium.

For any of the source categories except hydrochloric acid production

[10] A major source emits or has the potential to emit 10 tons per year of any single hazardous air pollutant or 25 tons per year or greater of hazardous air pollutants in the aggregate. An area source is a source that is not a major source.

[11] See Part Four, Section II.A for a discussion of the standards that are applicable to area source boilers and hydrochloric acid production furnaces.

[12] We note that there is a provision that allows cement kilns with dual stacks to average emissions on a flow-weighted basis to demonstrate compliance with the metal and chlorine emission standards. See §§ 63.1204(e) and 63.1220(3).

[13] We are also republishing these standards, for reader's convenience only, in the new replacement standard section for these source categories. See § 63.1219, § 63.1220 and § 673.1219.

[14] Liquid fuel boilers equipped with a wet air pollution control device followed by a dry air pollution control device do not meet the definition of a dry air pollution device.

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furnaces, you may elect to comply with an alternative to the total chlorine standard under which you would establish site-specific, health-based emission limits for hydrogen chloride and chlorine based on national exposure standards. This alternative chlorine standard is discussed in part two, section IX and part four, section VII.

Incinerators and liquid and solid fuel boilers may elect to comply with an alternative to the particulate matter standard that would limit emissions of all the semivolatile metal HAPs and low volatile metal HAPs. Under this alternative, the numerical emission limits for semivolatile metal and low volatile metal emission HAP are identical to the limitations included in Tables 1 and 2. However, for semivolatile metals, the alternative standard applies to the combined emissions of lead, cadmium, and selenium; for low volatile metals, the standard applies to the combined emissions of chromium, arsenic, beryllium, antimony, cobalt, manganese, and nickel. See § 63.1219(e).

TABLE 1.—SUMMARY OF EMISSION LIMITS FOR EXISTING SOURCES

	Incinerators	Cement kilns	Lightweight aggregate kilns	Solid fuel-fired boilers [1]	Liquid fuel-fired boilers [1]	Hydrochloric acid production furnaces [1]
Dioxin/Furans (ng TEQ/dscm).	0.20 or 0.40 and temperature control < 400°F at APCD inlet [6].	0.20 or 0.40 and temperature control < 400°F at APCD inlet.	0.20 or rapid quench below 400°F at kiln exit.	CO or HC and DRE standard as a surrogate.	0.40 for dry APCD sources; CO or HC and DRE standard as surrogate for others.	CO or HC and DRE standard as surrogate.
Mercury	130 μg/dscm	Hazardous waste feed restriction of 3.0 ppmw and 120 μg/dscm MTEC [11]; or 120 μg/dscm total emissions.	120 hazardous waste MTEC [11] feed restriction or 120 μg/dscm total emissions.	11 μg/dscm	4.2E-5lb/MMBtu [2, 5] or 19 μg/dscm [2]; depending on BTU content of hazardous waste [13].	Total chlorine standard as surrogate.
Particulate Matter	0.013 gr/dscf [8]	0.028 gr/dscf and 20% opacity [12].	0.025 gr/dscf	0.030 gr/dscf [8]	0.035 gr/dscf [8]	Total chlorine standard as surrogate.
Semivolatile Metals (lead + cadmium).	230 μg/dscm	7.6 E-4 lbs/MMBtu [5] and 330 μg/dscm [3].	3.0E-4 lb/MMBtu [5] and 250 μg/dscm [3].	180 μg/dscm	8.2 E–5 lb/MMBtu [2, 5] or 150 μg/dscm [2]; depending on BTU content of hazardous waste [13].	Total chlorine standard as surrogate.
Low Volatile Metals (arsenic + beryllium + chromium).	92 μg/dscm	2.1 E-5 lbs/MMBtu [5] and 56 μg/dscm [3].	9.5E-5 lb/MMBtu [5] and 110 μg/dscm [3].	380 μg/dscm	1.26E–4 lbMMBtu [4, 5] or 370 μg/dscm [4]; depending on BTU content of hazardous waste [13].	Total chlorine standard as surrogate.
Total Chlorine (hydrogen chloride + chlorine gas).	32 ppmv [7]	120 ppmv [7]	600 ppmv [7]	440 ppmv [7]	5.08E–2 lb/MMBtu [5, 7] or 31 ppmv [7]; depending on BTU content of hazardous waste [13].	150 ppmv or 99.923% system removal efficiency.
Carbon Monoxide (CO) or Hydrocarbons (HC).	100 ppmv CO [9] or 10 ppmv HC.	See Note # 10 below.	100 ppmv CO [9] or 20 ppmv HC.	(2) 100 ppmv CO [9] or 10 ppmv HC		
Destruction and Removal Efficiency.	99.99% for each principal organic hazardous pollutant. For sources burning hazardous wastes F020, F021, F022, F023, F026, or F027, however, 99.9999% for each principal organic hazardous pollutant.					

Notes:

[1] Particulate matter, semivolatile metal, low volatile metal, and total chlorine standards for solid and liquid fuel boilers apply only to major sources. Particulate matter, semivolatile and low volatile metal standards for hydrochloric acid production furnaces apply only to major sources, although area sources must still comply with the surrogate total chlorine standard to control mercury emissions.

[2] Standard is based on normal emissions data, and is therefore expressed as an annual average emission limitation.

[3] Sources must comply with both the thermal emissions and emission concentration standards.

[4] Low volatile metal standard for liquid fuel-fired boilers is for chromium only.

[5] Standards expressed as mass of pollutant contributed by hazardous waste per million BTU contributed by the hazardous waste.

[6] APCD means ''air pollution control device''.

[7] Sources may elect to comply with site-specific risk-based emission limits for hydrogen chloride and chlorine gas

[8] Sources may elect to comply with an alternative to the particulate matter standard.

[9] Sources that elect to comply with the CO standard must demonstrate compliance with the HC standard during the comprehensive performance test that demonstrates compliance with the destruction and removal efficiency requirement.

[10] Kilns without a bypass: 20 ppmv HC or 100 ppmv CO [9]. Kilns with a bypass/mid-kiln sampling system: 10 ppmv HC or 100 ppmv CO9 in the bypass duct, mid-kiln sampling system or bypass stack.

[11] MTEC means ''maximum theoretical emission concentration'', and is equivalent to the feed rate divided by gas flow rate

[12] The opacity standard does not apply to a source equipped with a bag leak detection system under 63.1206(c)(8) or a particulate matter detection system under 63.1206(c)(9).

[13] Emission concentration-based standards apply to sources processing hazardous waste with energy content less than 10,000 BTU/lb; thermal emission standards apply to sources processing hazardous waste with energy content greater than 10,000 btu/lb.

TABLE 2.—SUMMARY OF EMISSION LIMITS FOR NEW OR RECONSTRUCTED SOURCES

	Incinerators	Cement kilns	Lightweight aggregate kilns	Solid fuel boilers [1]	Liquid fuel boilers [1]	Hydrochloric acid production furnaces [1]
Dioxin/Furans (ng TEQ/dscm).	0.11 for dry APCD and/or WHB [5] sources; 0.20 for other sources.	0.20 or 0.40 and temperature control <400 °F at APCD inlet.	0.20 or rapid quench <400 °F at kiln exit.	CO or HC and DRE standard as a surrogate.	0.40 for sources with dry APCD; CO or HC and DRE standard as a surrogate for other sources.	CO or THC and DRE standard as a surrogate.
Mercury	8.1 μg/dscm	Hazardous waste feed restriction of 1.9 ppmw and 120 μg/dscm MTEC [10]; or 120 μg/dscm total emissions.	120 hazardous waste MTEC [10] feed restriction or 120 μg/dscm total emissions.	11 μg/dscm	1.2E–6 lb/MMBtu [2 4] or 6.8 μg/dscm [2]; depending on BTU content of hazardous waste [12].	TCl as surrogate.
Particulate matter (gr/dscf).	0.0015 [7]	0.0023 and 20% opacity [11].	0.0098	0.015 [7]	0.0087 [7]	TCl as surrogate.
Semivolatile Metals (lead + cadmium).	10 μg/dscm	6.2E–5 lb/MMBtu [4] and 180 μg/dscm.	3.7 E–5 lb/MMBtu [4] and 43 μg/dscm.	180 μg/dscm	6.2 E–6 lb/MMBtu [2 4] or 78 μg/dscm [2]; depending on BTU content of hazardous waste [12].	TCl as surrogate.
Low Volatile Metals (arsenic + beryllium + chromium).	23 μg/dscm	1.5E–5 lb/MMBtu [4] and 54 μg/dscm.	3..3E–5 lb/MMBtu [4] and 110 μg/dscm.	190 μg/dscm	1.41E–5lb/MMBtu [3 4] or 12 μg/dscm [3]; depending on BTU content of hazardous waste [12].	TCl as surrogate.
Total Chlorine (Hydrogen chloride + chlorine gas).	21 ppmv [6]	86 ppmv [6]	600 ppmv [6]	73 ppmv [6]	5.08E–2 lb/MMBtu [4 6] or 31 ppmv [6]; depending on BTU content of hazardous waste [12].	25 ppmv or 99.987% SRE.
Carbon monoxide (CO) or Hydrocarbons (HC).	100 ppmv CO [8] or 10 ppmv HC.	See note #9 below.	100 ppmv CO [8] or 20 ppmv HC.	100 ppmv CO [8] or 10 ppmv HC		
Destruction and Removal Efficiency.	99.99% for each principal organic hazardous pollutant. For sources burning hazardous wastes F020, F021, F022, F023, F026, or F027, however, 99.9999% for each principal organic hazardous pollutant.					

Notes:

[1] Particulate matter, semivolatile metal, low volatile metal, and total chlorine standards for solid and liquid fuel boilers apply only to major sources. Particulate matter, semivolatile and low volatile metal standards for hydrochloric acid production furnaces apply only to major sources, although area sources must still comply with the surrogate total chlorine standard to control mercury emissions.

[2] Standard is based on normal emissions data, and is therefore expressed as an annual average emission limitation.

[3] Low volatile metal standard for liquid fuel-fired boilers is for chromium only. Arsenic and beryllium are not included in the low volatile metal total for liquid fuel-fired boilers.

[4] Standards expressed as mass of pollutant contributed by hazardous waste per million BTU contributed by the hazardous waste.

[5] APCD means ''air pollution control device'', WHB means ''waste heat boiler''.

[6] Sources may elect to comply with risk-based emission limits for hydrogen chloride and chlorine gas.

[7] Sources may elect to comply with an alternative to the particulate matter standard.

[8] Sources that elect to comply with the CO standard must demonstrate compliance with the THC standard during the comprehensive performance test that demonstrates compliance with the destruction and removal efficiency requirement.

[9] Greenfield kilns without a bypass: 20 ppmv HC or 100 ppmv CO [8] and 50 ppmv HC. Greenfield kilns with a bypass/mid kiln sampling system: Main stack standard of 50 ppmv HC and 10 ppmv HC or 100 ppmv CO [8] in the bypass duct, mid-kiln sampling system or bypass stack. Greenfield kilns with a bypass/mid-kiln sampling system: 10 ppmv HC or 100 ppmv CO [8] in the bypass duct, mid-kiln sampling system or bypass stack; Non-greenfield kilns without a bypass: 20 ppmv HC or 100 ppmv CO [8]. A greenfield kiln is a kiln whose construction commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist.

[10] MTEC means ''maximum theoretical emission concentration'', and is equivalent to the feed rate divided by gas flow rate.

[11] The opacity standard does not apply to a source equipped with a bag leak detection system under 63.1206(c)(8) or a particulate matter detection system under 63.1206(c)(9).

[12] Emission concentration-based standards apply to sources processing hazardous waste with energy content less than 10,000 BTU/lb; thermal emission standards apply to sources processing hazardous waste with energy content greater than 10,000 btu/lb.

VI. What Are the Testing and Initial Compliance Requirements?

The testing and initial compliance requirements we promulgate today for solid fuel boilers, liquid fuel boilers, and hydrochloric acid production furnaces are identical to those that are applicable to incinerators, cement kilns, and lightweight aggregate kilns at §§ 63.1206, 63.1207, and 63.1208. We note, however, that today's final rule revises some of these requirements as they apply to all or specific HWCs (*e.g.*, one-time dioxin/furan test for sources not subject to a numerical dioxin/furan standard; dioxin/furan stack test method; hydrogen chloride and chlorine stack test methods)

We also discuss compliance and testing dates for incinerators, cement kilns, and lightweight aggregate kilns as well. Even though we are not repromulgating the compliance and testing requirements for those source categories, those sources must demonstrate compliance with the replacement emission standards promulgated today.

A. Compliance Dates

The time-line for testing and initial compliance requirements is as follows:

1. The compliance date is October 14, 2008; [15]

2. You must submit a comprehensive performance test plan to the permitting authority for review and approval 12 months prior to commencing the test.

3.You must submit an eligibility demonstration for the health-based compliance alternative to the total chlorine emission standard 12 months before the compliance date if you elect to comply with § 63.1215;

4. You must place in the operating record a Documentation of Compliance by the compliance date identifying the operating parameter limits that, using available information, you have determined will ensure compliance with the emission standards;

5. For boilers and hydrochloric acid production furnaces, you must commence the initial comprehensive performance test within 6 months after the compliance date;

6. For incinerators, cement kilns, and lightweight aggregate kilns, you must commence the initial comprehensive performance test within 12 months after the compliance date;

7. You must complete the initial comprehensive performance test within 60 days of commencing the test; and

8. You must submit a Notification of Compliance within 90 days of completing the test documenting compliance with emission standards and continuous monitoring system requirements.

B. Testing Requirements

All hazardous waste combustors must commence the initial comprehensive performance test under the time lines discussed above. The purpose of the comprehensive performance test is to document compliance with the emission standards of the final rule and establish operating parameter limits to maintain compliance with those standards. You must also conduct periodic comprehensive performance testing every five years.

If your source is subject to a numerical dioxin/furan emission standard (i.e., incinerators, cement kilns, lightweight aggregate kilns that comply with the 0.2 ng TEQ/dscm standard, and liquid fuel boilers equipped with a dry air pollution control device), you must conduct a dioxin/furan confirmatory performance test no later than 2.5 years after each comprehensive performance test (i.e., midway between comprehensive performance tests). If your source is not subject to a numerical dioxin/furan emission standard (e.g., solid fuel boilers, lightweight aggregate kilns that comply with the 400 °F temperature limit at the kiln exit, liquid fuel boilers equipped with wet or no air pollution control system, and hydrochloric acid production furnaces), you must conduct a one-time dioxin/furan test to enable the Agency to evaluate the effectiveness of the carbon monoxide/hydrocarbon standard and the destruction and removal efficiency standard in controlling dioxin/furan emissions for those sources. Previous dioxin/furan emission tests may be used to meet this requirement if the combustor operated under the conditions required by the rule and if design and operation of the combustor has not changed since the test in a manner that could increase dioxin/furan emissions. The Agency will use those emissions data when reevaluating the MACT standards under CAA section 112(d)(6), when determining whether to develop residual risk standards for these sources pursuant to section 112(f)(2), and when determining whether the source's RCRA Permit is protective of human health and the environment.

You must use the following stack test methods to document compliance with the emission standards: (1) Method 29 for mercury, semivolatile metals, and low volatile metals; and (2) Method 26/26A, Methods 320 or 321, or ASTM D 6735–01 for hydrogen chloride and chlorine; [16] (3) either Method 0023A or Method 23 for dioxin/furans; and (4) either Method 5 or 5i for particulate matter.

C. Initial Compliance Requirements

The initial compliance requirements for solid fuel boilers, liquid fuel boilers, and hydrochloric acid production furnaces include: [17]

1. You must place in the operating record a Documentation of Compliance by the compliance date identifying the operating parameter limits that, using available information, you have determined will ensure compliance with the emission standards;

2. You must develop and comply with a startup, shutdown, and malfunction plan;

3. You must install an automatic waste feed cutoff system that links the operating parameter limits to the waste feed cutoff system;

4. You must control combustion system leaks;

5. You must establish and comply with an operator training and certification program;

6. You must establish and comply with an operation and maintenance plan;

7. If your source is equipped with a baghouse, you must install either a bag leak detection system or a particulate matter detection system; [18] and

8. If your source is equipped with an electrostatic precipitator or ionizing wet scrubber, you must either establish site-specific control device operating parameter limits which limits are linked to the automatic waste feed cutoff system, or install a particulate matter detection system and take corrective measures when the alarm level is exceeded.

VII. What Are the Continuous Compliance Requirements?

The continuous compliance requirements for solid fuel boilers, liquid fuel boilers, and hydrochloric acid production furnaces are identical to those applicable to incinerators, cement kilns, and lightweight aggregate kilns. See § 63.1209. We note, however, that today's final rule revises some of these requirements as they apply to all or specific HWCs (e.g., bag leak detection system requirements; optional particulate matter detection system requirements; compliance assurance for thermal emissions-based standards).

You must use carbon monoxide or hydrocarbon continuous emissions monitors (as well as an oxygen continuous emissions monitor to correct the carbon monoxide or hydrocarbon values to 7% oxygen) to ensure compliance with the carbon monoxide or hydrocarbon emission standards.

You must also establish limits (as applicable) on the feedrate of metals, chlorine, and ash, key combustor operating parameters, and key operating

[15] See 69 FR at 21313 for rationale. We received no adverse comments at proposal.

[16] Note that you may be required to use other test methods to document emissions of hydrogen chloride and chlorine if you elect to comply with the alternative, health-based emission limits for total chlorine under § 63.1215. See § 63.1208(b)(5).

[17] These same requirements currently apply to incinerators, cement kilns, and lightweight aggregate kilns.

[18] A major difference between a bag leak detection system and a particulate matter detection system is the way the alarm level is established. The alarm level for a bag leak detection system is established using concepts in the Agency's bag leak detection system guidance document while the alarm level for a particulate matter detection system is established based on the detector response during the comprehensive performance test. The ash feedrate limit for incinerators and boilers is waived if you use a particulate matter detection system but not if you use a bag leak detection system because the bag leak detection system alarm level may not provide reasonable assurance of continuous compliance with the particulate matter emission standard.

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parameters of the air pollution control device based on operations during the comprehensive performance test. You must continuously monitor these parameters with a continuous monitoring system.

VIII. What Are the Notification, Recordkeeping, and Reporting Requirements?

The notification, recordkeeping, and reporting requirements that we promulgate today for solid fuel boilers, liquid fuel boilers, and hydrochloric acid production furnaces are identical to those that are applicable to incinerators, cement kilns, and lightweight aggregate kilns. See §§ 63.1210 and 63.1211. We note, however, that today's final rule revises some of these requirements as they apply to all or specific HWCs.

You must submit notifications including the following to the permitting authority in addition to those required by the NESHAP General Provisions, subpart A of 40 CFR part 63:

1. Notification of changes in design, operation, or maintenance (§ 63.1206(b)(5)(i));

2. Notification of performance test and continuous monitoring system evaluation, including the performance test plan and continuous monitoring system performance evaluation plan (§ 63.1207(e));

3. Notification of compliance, including results of performance tests and continuous monitoring system evaluations (§§ 63.1210(b), 63.1207(j); 63.1207(k), and 63.1207(l)); and

4. Various notifications if you request or elect to comply with alternative requirements at § 63.1210(a)(2).

You must submit the following reports to the permitting authority in addition to those required by the NESHAP General Provisions, subpart A of 40 CFR part 63:

1. Startup, shutdown, and malfunction plan, if you elect to comply with § 63.1206(c)(2)(ii)(B));

2. Excessive exceedances report (§ 63.1206(c)(3)(vi)); and

3. Emergency safety vent opening reports (§ 63.1206(c)(4)(iv)).

Finally, you must keep records documenting compliance with the requirements of Subpart EEE. Recordkeeping requirements are prescribed in § 63.1211(b), and include requirements under the NESHAP General Provisions, subpart A of 40 CFR

IX. What Is the Health-Based Compliance Alternative for Total Chlorine, and How Do I Demonstrate Eligibility?

A. Overview

The rule allows you to establish and comply with health-based compliance alternatives for total chlorine for hazardous waste combustors other than hydrochloric acid production furnaces in lieu of the MACT technology-based emission standards established under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221. See § 63.1215. To identify and comply with the limits, you must:

(1) Identify a total chlorine emission rate for each on-site hazardous waste combustor. You may select total chlorine emission rates as you choose to demonstrate eligibility for the health-based limits, except the total chlorine emission rate limits for incinerators, cement kilns, and lightweight aggregate kilns cannot result in total chlorine emission concentrations exceeding the Interim Standards provided by §§ 63.1203, 63.1204, and 63.1205;[19]

(2) Calculate the HCl-equivalent emission rate for the total chlorine emission rates you select, considering long-term exposure and using Reference Concentrations (RfCs) as the health threshold metric. This emission rate is called the annual average HCl-equivalent emission rate;

(3) Perform an eligibility demonstration to determine if your annual average HCl-equivalent emission rate meets the national exposure standard (i.e., Hazard Index not exceeding 1.0 considering the maximum annual average ambient concentration of hydrogen chloride and chlorine at an off-site receptor location which concentrations are attributable to all on-site hazardous waste combustors) and thus is below the annual average HCl-equivalent emission rate limit;

(4) Calculate the HCl-equivalent emission rate for the total chlorine emission rates you select, considering short-term exposure and using acute Reference Exposure Levels (aRELs) as the health threshold metric. This emission rate is called the 1-hour average HCl-equivalent emission rate.

(5) Determine whether your 1-hour HCl-equivalent emission rate may exceed the national exposure standard (i.e., Hazard Index not exceeding 1.0 considering the maximum 1-hour average ambient concentration of hydrogen chloride and chlorine at an off-site receptor location which concentrations are attributable to all on-site hazardous waste combustors) and thus may exceed the 1-hour average HCl-equivalent emission rate limit when complying with the annual average HCl-equivalent emission rate limit, absent an hourly rolling average limit on the feedrate of total chlorine and chloride.

(6) Submit your eligibility demonstration, including your determination of whether the 1-hour average HCl-equivalent emission rate limit may be exceeded absent an hourly rolling average limit on the feedrate of total chlorine and chloride, for review and approval;

(7) Document during the comprehensive performance test the total chlorine system removal efficiency for each combustor and use this system removal efficiency to calculate chlorine feedrate limits. Also, document that total chlorine emissions during the test do not exceed the 1-hour average HCl-equivalent emission rate limit during any run of the test. In addition, establish operating limits on the emission control device based on operations during the comprehensive performance test; and

(8) Comply with the requirements for changes in the design, operation, or maintenance of the facility which could affect the HCl-equivalent emission rate limits or system removal efficiency for total chlorine, and changes in the vicinity of your facility over which you do not have control (e.g., new receptors locating proximate to the facility).

B. HCl-Equivalent Emission Rates

You must express total chlorine emission rates (lb/hr) from each on-site hazardous waste combustor, including hydrochloric acid production furnaces[20], as an annual average HCl-equivalent emission rate and a 1-hour average HCl-equivalent emission rate. See § 63.1215(b). The annual average HCl-equivalent emission rate equates chlorine emission rates to hydrogen chloride (HCl) emission rates using Reference Concentrations (RfCs) as the health risk metric for long-term exposure. The 1-hour average HCl-equivalent emission rate equates chlorine emission rates to HCl emission rates using 1-hour Reference Exposure

[19] Note that the final rule sunsets the Interim Standards on the compliance date of today's rule but codifies the Interim Standards for total chlorine under § 63.1215(b)(7).

[20] Although hydrochloric acid production furnaces are not eligible for the health-based total chlorine emission limits (because control of total chlorine is a surrogate for control of metal HAP), you must consider total chlorine emissions from hydrochloric acid production furnaces when demonstrating that total chlorine emissions from all on-site hazardous waste combustors will not exceed the Hazard Index limit of 1.0 at an off-site receptor location.

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Levels (aRELs) as the health risk metric for acute exposure.

To calculate HCl-equivalent emission rates, you must apportion total chlorine emissions (ppmv) between chlorine and HCl using the volumetric ratio of chlorine to hydrogen chloride (Cl_2/HCl).

- To calculate the annual average HCl-equivalent emission rate (lb/hr) and the emission rate limit, you must use the historical average Cl_2/HCl volumetric ratio from all regulatory compliance tests and the gas flowrate (and other relevant parameters) from the most recent RCRA compliance test or MACT performance test.
- To calculate the 1-hour average HCl-equivalent emission rate (lb/hr) and emission rate limit, you must use the highest Cl_2/HCl volumetric ratio from all regulatory compliance tests and the gas flowrate from the most recent RCRA compliance test or MACT performance test.
- If you believe that the Cl_2/HCl volumetric ratio for one or more historical compliance tests is not representative of the current ratio, you may request that the permitting authority allow you to screen those ratios from the analysis of historical ratios.
- If the permitting authority believes that too few historical Cl_2/HCl ratios are available to establish a representative average ratio and a representative maximum ratio, the permitting authority may require you to conduct periodic testing to establish representative ratios.
- You must include the Cl_2/HCl volumetric ratio demonstrated during each performance test in your data base of historical Cl_2/HCl ratios to update the ratios for subsequent calculations of the annual average and 1-hour average HCl-equivalent emission rates (and emission rate limits).

C. Eligibility Demonstration

You must perform an eligibility demonstration to determine whether the total chlorine emission rates you select for each on-site hazardous waste combustor meet the national exposure standard (i.e., the Hazard Index of 1.0 cannot be exceeded at an off-site receptor location considering maximum annual average ambient concentrations attributable to all on-site hazardous waste combustors and the RfCs for HCl and chlorine) using either a look-up table analysis or a site-specific compliance demonstration.[21] Eligibility for the health-based total chlorine standard is determined by comparing the annual average HCl-equivalent emission rate for the total chlorine emission rate you select for each combustor to the annual average HCl-equivalent emission rate limit.

The annual average HCl-equivalent emission rate limit is the HCl-equivalent emission rate, determined by equating the toxicity of chlorine to HCl using RfCs as the health risk metric for long-term exposure, which ensures that maximum annual average ambient concentrations of HCl equivalents do not exceed a Hazard Index of 1.0, rounded to the nearest tenths decimal place (0.1) and considering all on-site hazardous waste combustors. See § 63.1215(b)(2).

Your facility is eligible for the health-based compliance alternatives for total chlorine if either: (1) The annual average HCl-equivalent emission rate for each on-site hazardous waste combustor is below the HCl-equivalent emission rate limit determined from the appropriate value for the emission rate limit in the applicable look-up table and the proration procedure for multiple combustors discussed below; or (2) the annual average HCl-equivalent emission rate for each on-site hazardous waste combustor is below the annual average HCl-equivalent emission rate limit you calculate based on a site-specific compliance demonstration.

1. Look-Up Table Analysis

Look-up tables for the eligibility demonstration are provided as Tables 1 and 2 to § 63.1215. Table 1 presents annual average HCl-equivalent emission rate limits for sources located in flat terrain. For purposes of this analysis, flat terrain is terrain that rises to a level not exceeding one half the stack height within a distance of 50 stack heights.

Table 2 presents annual average HCl-equivalent emission rate limits for sources located in simple elevated terrain. For purposes of this analysis, simple elevated terrain is terrain that rises to a level exceeding one half the stack height, but that does not exceed the stack height within a distance of 50 stack heights.

If your facility is not located in either flat or simple elevated terrain, you must conduct a site-specific compliance demonstration.

To determine the annual average HCl-equivalent emission rate limit for a source from the look-up table, you must use the stack height and stack diameter for your hazardous waste combustors and the distance between the stack and the property boundary. If any of these values for stack height, stack diameter, and distance to nearest property boundary do not match the exact values in the look-up table, you must use the next lowest table value. If you have more than one hazardous waste combustor on site, you must adjust the emission rate limits provided by the tables such that the sum of the ratios for all combustors of the adjusted emission rate limit to the emission rate limit provided by the table cannot exceed 1.0. See § 63.1215 (c)(3)(v).

2. Site-Specific Compliance Demonstration

You may use any scientifically-accepted peer-reviewed risk assessment methodology for your site-specific compliance demonstration to calculate an annual average HCl-equivalent emission rate limit for each on-site hazardous waste combustor. An example of one approach for performing the demonstration for air toxics can be found in the EPA's ''Air Toxics Risk Assessment Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document,'' which may be obtained through the EPA's Air Toxics Web site at *http://www.epa.gov/ttn/atw.*

To determine the annual average HCl-equivalent emission rate limit for each on-site hazardous waste combustor, your site-specific compliance demonstration must, at a minimum: (1) estimate long-term inhalation exposures through the estimation of annual or multi-year average ambient concentrations; (2) estimate the inhalation exposure for the actual individual most exposed to the facility's emissions from hazardous waste combustors, considering locations where people reside and where people congregate for work, school, or recreation; (3) use site-specific, quality-assured data wherever possible; (4) use health-protective default assumptions wherever site-specific data are not available, and: (5) contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emissions measurement expert.

To establish the annual average HCl-equivalent emission rate limit for each combustor, you may apportion as you elect among the combustors the annual average HCl-equivalent emission rate limit for the facility, which limit ensures that the RfC-based Hazard Index of 1.0 is not exceeded.

[21] The total chlorine emission rates (lb/hr) for incinerators, cement kilns, and lightweight aggregate kilns cannot result in total chlorine emission concentrations (ppmv) exceeding the Interim Standards provided by §§ 63.1203, 63.1204, and 63.1205. The final rule sunsets the Interim Standards on the compliance date of today's rule but codifies the Interim Standards for total chlorine under § 63.1215(b)(7).

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D. Assurance That the 1-Hour HCl-Equivalent Emission Rate Will Not Be Exceeded

The long-term, RfC-based Hazard Index will always be higher than the short-term, aREL-based Hazard Index for a constant HCl-equivalent emission rate because the health threshold levels for short-term exposure are orders of magnitude higher than the health threshold levels for long-term exposure.[22] Even though maximum 1-hour average ambient concentrations are substantially higher than maximum annual average concentrations, the higher short-term ambient concentrations do not offset the much higher health threshold levels for short-term exposures. Thus, the long-term, RfC-based Hazard Index will always govern regarding whether a source can make an eligibility demonstration. Accordingly, eligibility for the health-based emission limits is based solely on whether a source can comply with the annual average HCl-equivalent emission rate limit.

Nonetheless, some sources may have highly variably chlorine feedrates (and corresponding highly variable HCl-equivalent emission rates) such that they may feed chlorine at very high levels for short periods of time and still remain in compliance with the chlorine feedrate limit established to ensure compliance with the annual average HCl-equivalent emission rate limit.[23] To ensure that the 1-hour HCl-equivalent emission rate limit will not be exceeded during these periods of peak emissions, you must establish a 1-hour average HCl-equivalent emission rate and 1-hour average HCl-equivalent emission rate limit for each combustor and consider site-specific factors including prescribed criteria to determine if the 1-hour average HCl-equivalent emission rate limit may be exceeded absent an hourly rolling average limit on chlorine feedrate. If the 1-hour average HCl-equivalent emission rate limit may be exceeded, you must establish an hourly rolling average feedrate limit on chlorine.

You must calculate the 1-hour average HCl-equivalent emission rate from the total chlorine emission rate you select for each source.

You must establish the 1-hour average HCl-equivalent emission rate limit for each affected source using either a look-up table analysis or site-specific analysis. Look-up tables are provided for 1-hour average HCl-equivalent emission rate limits as Table 3 and Table 4 to this section. Table 3 provides limits for facilities located in flat terrain. Table 4 provides limits for facilities located in simple elevated terrain. You must use the Tables to establish emission rate limits in the same manner as you use Tables 1 and 2 to establish annual average HCl-equivalent emission rate limits.

If you conduct a site-specific analysis to establish a 1-hour average HCl-equivalent emission rate limit, you must follow the risk assessment procedures you used to establish an annual average HCl-equivalent emission rate limit. The 1-hour HCl-equivalent emission rate limit, however, is the emission rate than ensures that the Hazard Index associated with maximum 1-hour average exposures is not greater than 1.0.

You must consider criteria including the following to determine if a source may exceed the 1-hour HCl-equivalent emission rate limit absent an hourly rolling average chlorine feedrate limit: (1) The ratio of the 1-hour average HCl-equivalent emission rate based on the total chlorine emission rate you select for each hazardous waste combustor to the 1-hour average HCl-equivalent emission rate limit for the combustor; and (2) the potential for the source to vary total chlorine and chloride feedrates substantially over the averaging period for the feedrate limit you establish to ensure compliance with the annual average HCl-equivalent emission rate limit.

If you determine that a source may exceed the 1-hour average HCl-equivalent emission rate limit, you must establish an hourly rolling average chlorine feedrate limit as discussed below in Section G.

You must include the following information in your eligibility demonstration to document your determination whether an hourly rolling average feedrate limit is needed to maintain compliance with the 1-hour HCl-equivalent emission rate limit: (1) Determination of the Cl2/HCl volumetric ratio established for 1-hour average HCl-equivalent emission rate determinations as provided by § 63.1215(b)(6)(ii); (2) determination of the 1-hour average HCl-equivalent emission rate calculated from the total chlorine emission rate you select for the combustor; (3) determination of the 1-hour average HCl-equivalent emission rate limit; (4) determination of the ratio of the 1-hour average HCl-equivalent emission rate to the 1-hour HCl-equivalent emission rate limit for the combustor; and (5) determination of the potential for the source to vary chlorine feedrates substantially over the averaging period for the long-term feedrate limit (*i.e.*, 12-hours, or up to annually) established to maintain compliance with the annual average HCl-equivalent emission rate limit.

E. Review and Approval of Eligibility Demonstrations

The permitting authority will review and approve your eligibility demonstration. Your eligibility demonstration must contain, at a minimum, the information listed in § 63.1215(d)(1).

1. Review and Approval for Existing Sources

If you operate an existing source, you must submit the eligibility demonstration to your permitting authority for review and approval not later than 12 months prior to the compliance date. You must also submit a separate copy of the eligibility demonstration to: U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404–01), Attn: Group Leader, Research Triangle Park, North Carolina 27711, electronic mail address *REAG@epa.gov*.

Your permitting authority should notify you of approval or intent to disapprove your eligibility demonstration within 6 months after receipt of the original demonstration, and within 3 months after receipt of any supplemental information that you submit. A notice of intent to disapprove your eligibility demonstration will identify incomplete or inaccurate information or noncompliance with prescribed procedures and specify how much time you will have to submit additional information or to comply with the MACT total chlorine standards. If your eligibility demonstration is disapproved, the permitting authority may extend the compliance date of the total chlorine standard to allow you to make changes to the design or operation of the combustor or related systems as quickly as practicable to enable you to achieve compliance with the MACT standard for total chlorine.

If your permitting authority has not approved your eligibility demonstration by the compliance date, and has not issued a notice of intent to disapprove your demonstration, you may nonetheless begin complying, on the compliance date, with the annual average HCl-equivalent emission rate limits you present in your eligibility demonstration.

If your permitting authority issues a notice of intent to disapprove your eligibility demonstration after the

[22] USEPA, ''Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 24.2.

[23] See discussion below in Section F regarding the requirement to establish chlorine feedrate limits.

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compliance date, the authority will identify the basis for that notice and specify how much time you will have to submit additional information or to comply with the MACT total chlorine standards. The permitting authority may extend the compliance date of the total chlorine standard to allow you to make changes to the design or operation of the combustor or related systems as quickly as practicable to enable you to achieve compliance with the MACT standard for total chlorine.

2. Review and Approval for New and Reconstructed Sources

The procedures for review and approval of eligibility demonstrations applicable to existing sources discussed above also apply to new or reconstructed sources, except that the date you must submit the eligibility demonstration is as discussed below.

If you operate a new or reconstructed source that starts up by April 12, 2007, or a solid fuel-fired boiler or liquid fuel-fired boiler that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before April 12, 2007, you must either: (1) Submit an eligibility demonstration for review and approval by April 12, 2006 and comply with the HCl-equivalent emission rate limits and operating requirements you establish in the eligibility demonstration; or (2) comply with the final total chlorine emission standards under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221, by October 12, 2005, or upon startup, whichever is later, except for a standard that is more stringent than the standard proposed on April 20, 2004 for your source. If a final standard is more stringent than the proposed standard, you may comply with the proposed standard until October 14, 2008, after which you must comply with the final standard.

If you operate a new or reconstructed source that starts up on or after April 12, 2007, or a solid fuel-fired boiler or liquid fuel-fired boiler that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP on or after April 12, 2007, you must comply with either of the following. You may submit an eligibility demonstration for review and approval 12 months prior to startup. Alternatively, you may comply with the final total chlorine emission standards under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221 upon startup. If the final standard is more stringent than the standard proposed for your source on April 20, 2004, however, and if you start operations before October 14, 2008, you may comply with the proposed standard until October 14, 2008, after which you must comply with the final standard.

F. Testing Requirements

You must comply with the requirements for comprehensive performance testing under § 63.1207.

1. Test Methods for Stack Gas Containing Alkaline Particulate

If you operate a cement kiln or a combustor equipped with a dry acid gas scrubber, you must use EPA Method 320/321 or ASTM D 6735–01, or an equivalent method, to measure hydrogen chloride, and the back-half (caustic impingers) of Method 26/26A, or an equivalent method, to measure chlorine.

2. Test Methods for Stack Gas Containing High Levels of Bromine or Sulfur

If you operate an incinerator, boiler, or lightweight aggregate kiln and your feedstreams contain bromine or sulfur during the comprehensive performance test at the levels indicated below, you must use EPA Method 320/321 or ASTM D 6735'01, or an equivalent method, to measure hydrogen chloride, and Method 26/26A, or an equivalent method, to measure chlorine and hydrogen chloride combined. You must determine your chlorine emissions to be the higher of: (1) The value measured by Method 26/26A, or an equivalent method; or (2) the value calculated by the difference between the combined hydrogen chloride and chlorine levels measured by Method 26/26a, or an equivalent method, and the hydrogen chloride measurement from EPA Method 320/321 or ASTM D 6735–01, or an equivalent method.

These procedures apply if you feed during the comprehensive performance test bromine at a bromine/chlorine ratio in feedstreams greater than 5 percent by mass, or sulfur at a sulfur/chlorine ratio in feedstreams greater than 50 percent by mass.[24]

Finally, you should precondition the M26/26A filter for one hour prior to beginning the performance test to minimize the potential for a low bias caused by adsorption/absorption of hydrogen chloride on the filter.

G. Monitoring Requirements

You must establish and comply with limits on the same operating parameters that apply to sources complying with the MACT standard for total chlorine under § 63.1209(o), except that feedrate limits on total chlorine and chloride must be established as described below.

1. Feedrate Limit to Ensure Compliance with the Annual Average HCl-Equivalent Emission Rate Limit

For sources subject to the feedrate limit for total chlorine and chloride under § 63.1209(n)(4) to ensure compliance with the semivolatile metals standard, the feedrate limit (and averaging period) for total chlorine and chloride to ensure compliance with the annual average HCl-equivalent emission rate limit is the same as required by that paragraph. Thus, the chlorine feedrate limit is the average of the run averages during the comprehensive performance test, and is established as a 12-hour rolling average.

That chlorine feedrate limit cannot exceed the numerical value (i.e., not considering the averaging period) of the feedrate limit that ensures compliance with the annual average HCl-equivalent emission rate limit, however. Therefore, the numerical value of the total chlorine and chloride feedrate limit must not exceed the value you calculate as the annual average HCl-equivalent emission rate limit (lb/hr) divided by [1 − system removal efficiency]. You must calculate a total chlorine system removal efficiency for each test run of the comprehensive performance test as [1 − total chlorine emission rate (g/s)/ chlorine feedrate (g/s)], and calculate the average system removal efficiency of the test run averages. If your source does not control total chlorine, you must assume zero system removal efficiency. If emissions during the comprehensive performance test exceed the annual average HCl-equivalent emission rate limit, eligibility for the health-based emission limits is not affected. This is because the emission rate limit is an annual average limit. Compliance is based on a 12-hour rolling average chlorine feedrate limit (rather than an (up to) an annual averaging period) for sources subject to the 12-hour rolling average feedrate limit for total chlorine and chloride under § 63.1209(n)(4) to ensure compliance with the semivolatile metals standard given that the more stringent feedrate limit (i.e., the feedrate limit with the shorter averaging period) would apply.

For sources exempt from the feedrate limit for total chlorine and chloride under § 63.1209(n)(4) because they comply with § 63.1207(m)(2) (which allows compliance with the semivolatile metals emission standard absent emissions testing by assuming all metals fed are emitted), the feedrate limit for total chlorine and chloride to ensure

[24] USEPA, ''Technical Support Document for HWC MACT Standards, Volume IV: Compliance with the HWC MACT Standards,'' September 2005, Chapter 15.1.2.

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compliance with the annual average HCl-equivalent emission rate must be established as follows:

- You must establish an average period for the feedrate limit that does not exceed an annual rolling average;
- You must calculate a total chlorine system removal efficiency for each test run of the comprehensive performance test as [1 − total chlorine emission rate (g/s)/chlorine feedrate (g/s)], and calculate the average system removal efficiency of the test run averages. If your source is not equipped with a control system that consistently and reproducibly controls total emissions (e.g., wet or dry scrubber), you must assume zero system removal efficiency. If emissions during the comprehensive performance test exceed the annual average HCl-equivalent emission rate limit, eligibility for emission limits under this section is not affected. The emission rate limit is an annual average limit and compliance is based on an annual average feedrate limit on total chlorine and chloride (or a shorter averaging period if you so elect under paragraph (g)(2)(ii)(A) of this section); and
- You must calculate the feedrate limit for total chlorine and chloride as the annual average HCl-equivalent emission rate limit (lb/hr) divided by [1 − system removal efficiency] and comply with the feedrate limit on the averaging period you establish.

2. Feedrate Limit To Ensure Compliance With the 1-Hour Average HCl-Equivalent Emission Rate Limit

You must establish an hourly rolling average feedrate limit on total chlorine and chloride to ensure compliance with the 1-hour average HCl-equivalent emission rate limit unless you determine that the hourly rolling average feedrate limit is waived as discussed under Section D above. If required, you must calculate the hourly rolling average feedrate limit for total chlorine and chloride as the 1-hour average HCl-equivalent emission rate limit (lb/hr) divided by [1 − system removal efficiency] using the system removal efficiency demonstrated during the comprehensive performance test.

H. Relationship Among Emission Rates, Emission Rate Limits, and Feedrate Limits

We summarize here the relationship among: (1) the total chlorine emission rate you select in your eligibility demonstration; (2) the annual average and 1-hour average HCl-equivalent emission rates you present in your eligibility demonstration; (3) the annual average and 1-hour average emission rate limits you present in your eligibility demonstration; (4) performance test emission rates for total chlorine and HCl-equivalent emissions; and (5) long-term and hourly rolling average chlorine feedrate limits.

1. Total Chlorine Emission Rate, Annual Average HCl-Equivalent Emission Rate, and Annual Average HCl-Equivalent Emission Rate Limit

For the eligibility demonstration, you must select a total chlorine emission concentration (ppmv) for each combustor, determine the Cl_2/HCl volumetric ratio, calculate the annual average HCl-equivalent emission rate (lb/hr), and document that the emission rate does not exceed the annual average HCl-equivalent emission rate limit.

You select a total chlorine (*i.e.*, HCl and chlorine combined) emission concentration (ppmv) for each hazardous waste combustor expressed as chloride ($Cl^{(-)}$) equivalent. For incinerators, cement kilns, and lightweight aggregate kilns, this emission concentration cannot exceed the Interim Standards for total chlorine. You then determine the average Cl_2/HCl volumetric ratio considering all historical regulatory emissions tests and apportion total chlorine emissions between Cl_2 and HCl accordingly. You use these apportioned volumetric emissions to calculate the Cl_2 and HCl emission rates (lb/hr) using the average gas flowrate (and other relevant parameters) for the most recent RCRA compliance test or MACT performance test for total chlorine. Finally, you use these Cl_2 and HCl emission rates to calculate an annual average HCl-equivalent emission rate, which cannot exceed the annual average HCl-equivalent emission rate limit that you establish as discussed below.

To establish the annual average HCl-equivalent emission rate limit, you may either use Tables 1 or 2 in § 63.1215 to look-up the limit, or conduct a site-specific risk analysis. Under the site-specific risk analysis option, the annual average HCl-equivalent emission rate limit would be the highest emission rate that the risk assessment estimates would result in a Hazard Index not exceeding 1.0 for the actual individual most exposed to the facility's emissions considering off-site locations where people reside and where people congregate for work, school, or recreation.

If you have more than one on-site hazardous waste combustor, and if you use the look-up tables to establish the annual average HCl-equivalent emission rate limits, the sum of the ratios for all combustors of the annual average HCl-equivalent emission rate to the annual average HCl-equivalent emission rate limit cannot not exceed 1.0. This will ensure that the RfC-based Hazard Index of 1.0 is not exceeded, a principle criterion of the eligibility demonstration.

If you use site-specific risk analysis to demonstrate that a Hazard Index of 1.0 is not exceeded, you would generally identify for each combustor the maximum annual average HCl-equivalent emission rate that the risk assessment estimates would result in an RfC-based Hazard Index of 1.0 at any off-site receptor location (i.e., considering locations where people reside and where people congregate for work, school, or recreation.[25] This emission rate would be the annual average HCl-equivalent emission rate limit for each combustor.

2. 1-Hour Average HCl-Equivalent Emission Rate and Emission Rate Limit

As discussed in Section D above, you must determine in your eligibility demonstration whether the 1-hour HCl-equivalent emission rate limit may be exceeded absent an hourly rolling average chlorine feedrate limit. To make this determination, you must establish a 1-hour average HCl-equivalent emission rate and a 1-hour average HCl-equivalent emission rate limit.

You calculate the 1-hour average HCl-equivalent emission rate from the total chlorine emission rate, established as discussed above, using the equation in § 63.1215(b)(3).

You establish the 1-hour average HCl-equivalent emission rate limit by either using Tables 3 or 4 in § 63.1215 to look-up the limit, or conducting a site-specific risk analysis. Under the site-specific risk analysis option, the 1-hour average HCl-equivalent emission rate limit would be the highest emission rate that the risk assessment estimates would result in an aREL-based Hazard Index not exceeding 1.0 at any off-site receptor location (i.e., considering locations where people reside and where people congregate for work, school, or recreation).

3. Performance Test Emissions

During the comprehensive performance test, you must demonstrate a system removal efficiency for total chlorine as [1 − TCl emitted (lb/hr)/chlorine fed (lb/hr)]. During the test, however, the total chlorine emission rate you select for each combustor and the annual average HCl-equivalent

[25] Note again, however, that the total chlorine emission concentration (ppmv) is capped by the Interim Standards for incinerators, cement kilns, and lightweight aggregate kilns.

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emission rate limit can exceed the levels you present in the eligibility demonstration. This is because those emission rates are annual average rates and need not be complied with over the duration of three runs of the performance test, which may be nominally only 3 hours.

The 1-hour average HCl-equivalent emission rate limit cannot be exceeded during any run of the comprehensive performance test, however. This limit is based on an aREL Hazard Index of 1.0; an exceedance of the limit over a test run with a nominal 1-hour duration would result in a Hazard Index of greater than 1.0.

4. Chlorine Feedrate Limits

To maintain compliance with the annual average HCl-equivalent emission rate limit, you must establish a long-term average chlorine feedrate limit. In addition, if you determine under § 63.1205(d)(3) that the 1-hour average HCl-equivalent emission rate may be exceeded (i.e., because your chlorine feedrate may vary substantially over the averaging period for the long-term chlorine feedrate limit), you must establish an hourly rolling average chlorine feedrate limit.

Long-Term Chlorine Feedrate Limit. The chlorine feedrate limit to maintain compliance with the annual average HCl-equivalent emission rate is either: (1) The chlorine feedrate during the comprehensive performance test if you demonstrate compliance with the semivolatile metals emission standard during the test (see § 63.1209(o)); or (2) if you comply with the semivolatile metals emission standard under § 63.1207(m)(2) by assuming all metals in the feed to the combustor are emitted, the HCl-equivalent emission rate limit divided by [1 − system removal efficiency] where you demonstrate the system removal efficiency during the comprehensive performance test.

If you establish the chlorine feedrate limit based on the feedrate during the performance test to demonstrate compliance with the semivolatile metals emission standard, the averaging period for the feedrate limit is a 12-hour rolling average. If you establish the chlorine feedrate limit based on the system removal efficiency during the performance test, the averaging period is up to an annual rolling average. See discussion in Part Four, Section VII.B of this preamble.

If you comply with the semivolatile metals emission standard under § 63.1207(m)(2), however, the long-term chlorine feedrate limit is based on the system removal efficiency during the comprehensive performance test rather than the feedrate during the performance test. This is because the averaging period for this chlorine feedrate limit (that ensures compliance with the annual average HCl-equivalent emission rate limit) is up to an annual rolling average. See § 63.1215(g)(2). Thus, the chlorine feedrate, and total chlorine emissions, can be higher than the limit during the relatively short duration of the comprehensive performance tests.

Hourly Rolling Average Chlorine Feedrate Limit. If you determine under § 63.1205(d)(3) that the 1-hour average HCl-equivalent emission rate limit may be exceeded, you must establish an hourly rolling average chlorine feedrate limit. That feedrate limit is established as the 1-hour HCl-equivalent emission rate limit divided by [1 − system removal efficiency]. The hourly rolling average chlorine feedrate limit is not established based on feedrates during the performance test because performance test feedrates may be substantially lower than the feedrate needed to ensure compliance with the 1-hour average HCl-equivalent emission rate. Note, however, that the hourly rolling average feedrate limit cannot be exceeded during any run of the comprehensive performance test. This chlorine feedrate limit is based on the 1-hour average HCl-equivalent emission rate limit, which is based on an aREL Hazard Index of 1.0. Thus, an exceedance of the hourly rolling average feedrate limit (and the 1-hour lHCl-equivalent emission rate limit) over a test run with a nominal 1-hour duration would result in a Hazard Index of greater than 1.0.

I. Changes

Your requirements will change in response to changes that affect the HCl-equivalent emission rate or HCl-equivalent emission rate limit for a source.

1. Changes Over Which You Have Control

Changes That Affect HCl-Equivalent Emission Rate Limits. If you plan to change the design, operation, or maintenance of the facility in a manner that would decrease the annual average or 1-hour average HCl-equivalent emission rate limit (*e.g.*, reduce the distance to the property line; reduce stack gas temperature; reduce stack height), prior to the change you must submit to the permitting authority a revised eligibility demonstration documenting the lower emission rate limits and calculations of reduced total chlorine and chloride feedrate limits.

If you plan to change the design, operation, or maintenance of the facility in a manner than would increase the annual average or 1-hour average HCl-equivalent emission rate limit, and you elect to increase your total chlorine and chloride feedrate limits, prior to the change you must submit to the permitting authority a revised eligibility demonstration documenting the increased emission rate limits and calculations of the increased feedrate limits prior to the change.

Changes That Affect System Removal Efficiency. If you plan to change the design, operation, or maintenance of the combustor in a manner than could decrease the system removal efficiency, you are subject to the requirements of § 63.1206(b)(5) for conducting a performance test to reestablish the combustor's system removal efficiency. You also must submit a revised eligibility demonstration documenting the lower system removal efficiency and the reduced feedrate limits on total chlorine and chloride.

If you plan to change the design, operation, or maintenance of the combustor in a manner than could increase the system removal efficiency, and you elect to document the increased system removal efficiency to establish higher feedrate limits on total chlorine and chloride, you are subject to the requirements of § 63.1206(b)(5) for conducting a performance test to reestablish the combustor's system removal efficiency. You must also submit a revised eligibility demonstration documenting the higher system removal efficiency and the increased feedrate limits on total chlorine and chloride.

2. Changes Over Which You Do Not Have Control

If you use site-specific risk assessment in lieu of the look-up tables to establish the HCl-equivalent emission rate limit, you must review the documentation you use in your eligibility demonstration every five years from the date of the comprehensive performance test and submit for review and approval with the comprehensive performance test plan either a certification that the information used in your eligibility demonstration has not changed in a manner that would decrease the annual average HCl-equivalent emission rate limit, or a revised eligibility demonstration. Examples of changes beyond your control that may decrease the annual average HCl-equivalent emission rate limit (or 1-hour average HCl-equivalent emission rate limit) are construction of residences at a location exposed to higher ambient

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concentrations than evaluated during your previous risk analysis, or a reduction in the RfCs or aRELs.

If, in the interim between the dates of your comprehensive performance tests, you have reason to know of changes that would decrease the annual average HCl-equivalent emission rate limit, you must submit a revised eligibility demonstration as soon as practicable but not more frequently than annually.

If you determine that you cannot demonstrate compliance with a lower annual average HCl-equivalent emission rate limit (dictated by a change over which you do not have control) during the comprehensive performance test because you need additional time to complete changes to the design or operation of the source or related systems, you may request that the permitting authority grant you additional time to make those changes as quickly as practicable.

X. Overview on Floor Methodologies

The most contentious issue in the rulemaking involved methodologies for determining MACT floors, namely, which sources are best performing, and what is their level of performance. Superficially, these questions have a ready answer: the best performers are the lowest emitters as measured by compliance tests, and those tests fix their level of performance. But compliance tests are snapshots which do not fully capture sources' total operating variability. Since the standards must be met at all times, picking lowest compliance test data to set the standard results in standards best performing sources themselves would be unable to meet at all times.

To avoid this impermissible result, EPA selected approaches that reasonably estimate best performing sources' total variability. Certain types of variability can be quantified statistically, and EPA did so here (using standard statistical approaches) in all of the floor methodologies used in the rule. There are other components of variability, however, which cannot be fully quantified, but nonetheless must be accounted for in reasonably estimating best performing sources' performance over time. EPA selected ranking methodologies which best account for this total variability.

Where control of the feed of HAP is feasible and technically assessable (the case for HAP metals and for total chlorine), EPA used a methodology that ranked sources by their ability to best control both HAP feed and HAP emissions. This methodology thus assesses the efficiency of control of both the HAP inputs to a hazardous waste combustion unit, and the efficiency of control of the unit's outputs. This methodology reasonably selects the best performing (and for new sources, best controlled) sources, and reasonably assesses their level of performance. When HAP feed control is not feasible, notably where HAP is contributed by raw material and fossil fuel inputs, EPA determined best performers and their level of performance using a methodology that selects the lowest emitters using the best air pollution control technology. This methodology reasonably estimates the best performing sources' level of performance, and better accounts for total variability in emissions levels of the best performing sources.

EPA carefully examined approaches selecting lowest emitters as best performers. Examination of other test conditions from the same best performing sources shows, however, that this approach results in standards not achievable even by the best performers. Indeed, in order to meet such standards, even ''best performing'' sources (lowest emitting in individual tests) would have to add additional air pollution control technology. EPA views this result as an end run around the section 112(d)(2) beyond-the-floor process, because floor standards would force industry-wide technological changes without consideration of the factors (cost and energy in particular) which Congress mandated for consideration when establishing beyond-the-floor standards.

Part Three: What Are the Major Changes Since Proposal?

I. Database

A. Hazardous Burning Incinerators

Five incinerators have been removed from the database because they have initiated or completed RCRA closure.[26] Two incinerators have been added to the list of sources used to calculate the floor levels.[27] Emissions data from source 3015 has been excluded for purposes of calculating the particulate matter floor because the source was processing an atypical waste stream from a particulate matter compliance perspective. See part four, section I.F. We have excluded the most recent mercury and dioxin/furan emissions data from source 327, and have instead used data from an older test condition to represent this source's emissions because the source encountered problems with its carbon injection system during the most recent test. See part four, section I.F. Emissions data from source 3006 has been excluded for purposes of calculating the semivolatile metal standard because this source did not measure cadmium emissions during its emissions test. See part four, section I.F. We have added mercury emissions data from source 901 (DSSI) to the incinerator mercury database because this source (which is otherwise subject to standards for liquid fuel boilers) is burning a waste which is unlike that burned by any other liquid fuel boiler with respect to mercury concentration and waste provenance, but typical of waste burned by incinerators with respect to those factors. See part four, section VI.D.1. This change correspondingly affects the liquid fuel boiler standard by removing that data from the liquid fuel boiler database.

B. Hazardous Waste Cement Kilns

1. Use of Emissions Data From Ash Grove Cement Company

The emissions data from Ash Grove Cement Company, which operates a recently constructed preheater/precalciner kiln located in Chanute, Kansas, are considered when calculating MACT floors for new hazardous waste burning cement kilns. In the proposal, we did not consider their emissions data in the floor analyses for existing sources because Ash Grove Cement used the data to demonstrate compliance with the new source interim standards, and did not address the data for purposes of new source standards. See 69 FR at 21217 n. 35. Consistent with our position on use of post-1999 emissions data, we are including Ash Grove Cement's emissions data in the floor analyses for new sources. See also Part Four, Section I.B of the preamble.

2. Removal of Holcim's Emissions Data From EPA's HWC Data Base

Following cessation of hazardous waste operations in 2003, we are removing all emissions data from both wet process cement kilns at Holcim's Holly Hill, South Carolina, plant from our hazardous waste combustor data base. This is consistent with our approach in both this rule and the 1999 rule to base the standards only on performance of sources that actually are operating (i.e., burning hazardous waste). See also Part Four, Section I.A and 64 FR at 52844.

[26] See ''Final Technical Support Document for HWC MACT Standards, Volume II: HWC Database'' for a list of the sources that have initiated or completed RCRA closure.

[27] We noticed the data from these sources but did not include them in the MACT standard calculations at proposal. Note that inclusion of these sources did not affect any of the calculated MACT standards. See ''Final Technical Support Document for HWC MACT Standards, Volume II: HWC Database'' for more discussion.

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3. Use of Mercury Data

As discussed below, we are using a commenter-submitted dataset as the basis of the mercury standards for existing and new cement kilns. This comprehensive dataset documents the day-to-day levels of mercury in hazardous waste fired to all cement kilns for a three year period covering 1999 to 2001. We have determined that the commenter-submitted data are more representative than data used at proposal. See Part Four, Section I.D of the preamble for our rationale.

C. Hazardous Waste Lightweight Aggregate Kilns

We are incorporating mercury data submitted by a commenter into the MACT floor analysis for existing and new lightweight aggregate kilns. These data document the day-to-day levels of mercury in hazardous waste fired to lightweight aggregate kilns located at Solite Corporation's Arvonia plant between October 2003 and June 2004. We have determined that the commenter-submitted data are more representative than the data used at proposal. See Part Four, Section I.E of the preamble for our rationale.

D. Liquid Fuel Boilers

In the proposed rule, we classified liquid fuel boilers as one category. The final rule classifies them into two for purposes of the mercury, semivolatile metals, chromium, and total chlorine standards: one for liquid fuel boilers burning lower heating value hazardous waste (hazardous waste with a heating value less than 10,000 Btu/lb), and another for liquid fuel boilers burning higher heating value hazardous waste (hazardous waste with a heating value of 10,000 Btu/lb or greater).

We also made other, minor changes to the data base because some sources have initiated closure, were misclassified as other sources in the proposed rule, or were inadvertently not considered in the floor calculations although the sources' test reports were in the docket at proposal.

E. HCl Production Furnaces

Six of the 17 hydrochloric acid production furnaces have ceased burning hazardous waste since proposal. Consequently, we do not use emissions data from these sources to establish the final standards. All six of these sources were equipped with waste heat recovery boilers and had relatively high dioxin/furan emissions. In addition, we reclassified source #2020 as a boiler based on comments received at proposal.

F. Total Chlorine Emissions Data Below 20 ppmv

We corrected all the total chlorine measurements in the data base that were below 20 ppmv to account for potential systemic negative biases in the Method 0050 data in response to comments on the proposed rule. See the discussion in Part Four, Section I.C.1 below.

To account for the bias, we corrected all total chlorine emissions data that were below 20 ppmv to 20 ppmv. We accounted for within-test condition emissions variability for the corrected data by imputing a standard deviation that is based on a regression analysis of run-to-run standard deviation versus emission concentration for all data above 20 ppmv. This approach of using a regression analysis to impute a standard deviation is similar to the approach we used to account for total variability (i.e., test-to-test and within test variability) of PM emissions for sources that use fabric filters.

II. Emission Limits

A. Incinerators

The changes in the incinerator standards for existing sources since proposal are:

Standard	Proposed limit	Final limit
Dioxin/Furans (ng TEQ/dscm)	Sources with dry air pollution control systems or waste heat boilers: 0.28; For others: 0.2 or 0.4 and temperature control at inlet of air pollution control device < 400 °F.	For all sources, 0.20 or 0.40 and temperature control < 400 °F at the air pollution control device inlet.
Particulate Matter (gr/dscf)	0.015	0.013.
Semivolatile Metals (μg/dscm)	59	230.
Low Volatile Metals (μg/dscm)	84	92.
Total Chlorine (ppmv)	1.5	32.
Alternative to the particulate matter standard: Combined emissions of lead, cadmium and selenium (μg/dscm).	59	230.
Alternative to the particulate matter standard: Combined emissions of arsenic, berrylium, chrome, antimony, cobalt, manganese, and nickel (μg/dscm).	84	92.

The changes in the incinerator standards for new sources since proposal are:

Standard	Proposed limit	Final limit
Particulate Matter (gr/dscf)	0.0007	0.0015
Mercury (μg/dscm)	8.0	8.1
Semivolatile Metals (μg/dscm)	6.5	10
Low Volatile Metals (μg/dscm)	8.9	23
Total Chlorine (ppmv)	0.18	21
Alternative to the particulate matter standard: Combined emissions of lead, cadmium and selenium (μg/dscm)	6.5	10
Alternative to the particulate matter standard: Combined emissions of arsenic, berrylium, chrome, antimony, cobalt, manganese, and nickel (μg/dscm)	8.9	23

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Hazardous Waste Burning Cement Kilns

The changes in the standards for existing cement kiln since proposal are:

Standard	Proposed limit	Final limit
Mercury (μg/dscm)	64 [1]	Both 3.0 ppmw [2] and either 120 μg/dscm (stack emissions) or 120 μg/dscm (expressed as a hazardous waste MTEC) [3].
Particulate matter	0.028 gr/dscf	0.028 gr/dscf *and* 20% opacity [4].
Semivolatile metals	4.0E–04 lb/MMBtu [5]	7.6E–04 lb/MMBtu [5] *and* 330 μg/dscm.
Low volatile metals	1.4E–05 lb/MMBtu [5]	2.1E–05 lb/MMBtu [5] *and* 56 μg/dscm.
Total chlorine (ppmv) [6]	110	120.

[1] The proposed mercury standard was an annual limit.
[2] Feed concentration of mercury in hazardous waste as-fired.
[3] HW MTEC means maximum theoretical emissions concentration of the hazardous waste and MTEC is defined at § 63.1201(a).
[4] The opacity standard does not apply to a source equipped with a bag leak detection system under § 63.1206(c)(8) or a particulate matter detection system under § 63.1206(c)(9).
[5] Standard is expressed as mass of pollutant stack emissions attributable to the hazardous waste per million British thermal unit heat input of the hazardous waste.
[6] Combined standard, reported as a chloride ($Cl^{(-)}$) equivalent.

The changes in the standards for new cement kilns since proposal are:

Standard	Proposed limit	Final limit
Mercury (μg/dscm)	35 [1]	Both 1.9 ppmw [2] and either 120 μg/dscm (stack emissions) or 120 μg/dscm (expressed as a hazardous waste MTEC) [3].
Particulate matter	0.0058 gr/dscf	0.0023 gr/dscf and 20% opacity [4].
Semivolatile metals	6.2E–05 lb/MMBtu [5]	6.2E–05 lb/MMBtu [5] *and* 180 μg/dscm.
Low volatile metals	1.4E–05 lb/MMBtu [5]	1.5E–05 lb/MMBtu [5] *and* 54 μg/dscm.
Total chlorine (ppmv) [6]	78	86.

[1] The proposed mercury standard was an annual limit.
[2] Feed concentration of mercury in hazardous waste as-fired.
[3] HW MTEC means maximum theoretical emissions concentration of the hazardous waste and MTEC is defined at § 63.1201(a).
[4] The opacity standard does not apply to a source equipped with a bag leak detection system under § 63.1206(c)(8) or a particulate matter detection system under § 63.1206(c)(9).
[5] Standard is expressed as mass of pollutant stack emissions attributable to the hazardous waste per million British thermal unit heat input of the hazardous waste.
[6] Combined standard, reported as a chloride ($Cl^{(-)}$) equivalent.

C. Hazardous Waste Burning Lightweight Aggregate Kilns

The changes in the standards for existing lightweight aggregate kilns since proposal are:

Standard	Proposed limit	Final limit
Dioxins and furans (ng TEQ/dscm)	0.40	0.20 *or* rapid quench of the flue gas at the exit of the kiln to less than 400 °F.
Mercury (μg/dscm)	67 [1]	120 μg/dscm (stack emissions) or 120 μg/dscm (expressed as a hazardous waste MTEC) [2].
Semivolatile metals	3.1E–04 lb/MMBtu [3] *and* 250 μg/dscm	3.0E–04 lb/MMBtu [3] *and* 250 μg/dscm.

[1] The proposed mercury standard was an annual limit.
[2] HW MTEC means maximum theoretical emissions concentration of the hazardous waste and MTEC is defined at § 63.1201(a).
[3] Standard is expressed as mass of pollutant stack emissions attributable to the hazardous waste per million British thermal unit heat input of the hazardous waste.

The changes in the standards for new lightweight aggregate kilns since proposal are:

Standard	Proposed limit	Final limit
Dioxins and furans (ng TEQ/dscm)	0.40	0.20 *or* rapid quench of the flue gas at the exit of the kiln to less than 400 °F.

Standard	Proposed limit	Final limit
Particulate matter	0.0099 gr/dscf	0.0098 gr/dscf.
Mercury (μg/dscm)	67 [1]	120 μg/dscm (stack emissions) or 120 μg/dscm (expressed as a hazardous waste MTEC) [2].
Semivolatile metals	2.4E–05 lb/MMBtu [3] *and* 43 μg/dscm	3.7E–05 lb/MMBtu [3] *and* 43 μg/dscm.

[1] The proposed mercury standard was an annual limit.
[2] HW MTEC means maximum theoretical emissions concentration of the hazardous waste and MTEC is defined at § 63.1201(a).
[3] Standard is expressed as mass of pollutant stack emissions attributable to the hazardous waste per million British thermal unit heat input of the hazardous waste.

D. Solid Fuel Boilers

The changes in the solid fuel boiler standards for existing sources since proposal are:

Standard	Proposed limit	Final limit
Mercury (μg/dscm)	10	11
Semivolatile Metals (μg/dscm)	170	180
Low Volatile metals (μg/dscm)	210	380
Alternative to the particulate matter standard: Combined emissions of lead, cadmium and selenium (μg/dscm)	170	180
Alternative to the particulate matter standard: Combined emissions of arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel (μg/dscm)	210	380

The changes in the solid fuel boiler standards for new sources since proposal are:

Standard	Proposed limit	Final limit
Mercury (μg/dscm)	10	11
Semivolatile Metals (μg/dscm)	170	180
Low Volatile metals (μg/dscm)	210	380
Alternative to the particulate matter standard: Combined emissions of lead, cadmium and selenium (μg/dscm)	170	180

E. Liquid Fuel Boilers

We redefined the liquid fuel boiler subcategory into two separate boiler subcategories based on the heating value of the hazardous waste they burn: Those that burn waste below 10,000 Btu/lb, those that burn hazardous waste with a heating value of 10,000 Btu/lb or greater. See Part Four, Section VI.D.2 of today's preamble for a complete discussion.

The additional changes to the liquid fuel boiler standards for existing sources since proposal are:

Standard	Proposed limit	Final limit	
		HW Fuel < 10,000 Btu/lb	HW Fuel ≥ 10,000 Btu/lb
Mercury (lb/MM Btu)	3.7E–6	19 μg/dscm	4.2E–5
Particulate matter (gr/dscf)	0.032	0.035	
Semivolatile metals (lb/MM Btu)	1.1E–5	150 μg/dscm	8.2E–5
Chromium (lb/MM Btu)	1.1E–4	370 μg/dscm	1.3E–4
Total chlorine (Lb/MM Btu)	2.5E–2	31 ppmv	5.1E–2
Alternative to the particulate matter standard: Combined emissions of lead, cadmium and selenium (lb/MM Btu).	1.1E–5	150 μg/dscm	8.2E–5
Alternative to the particulate matter standard: Combined emissions of arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel (lb/MM Btu).	1.1E–4	370 μg/dscm	1.3E–4

The changes in the liquid fuel boiler standards for new sources since proposal are:

Standard	Proposed limit	Final limit	
		HW fuel < 10,000 Btu/lb	HW fuel > 10,000 Btu/lb
Dioxin and Furan, dry APCD (ng TEQ/dscm)	0.015 or temp control <400F for dry APCD.	0.40	
Mercury (lb/MM Btu)	3.8E–7	6.8 µg/dscm	1.2E–6
Particulate matter (gr/dscf)	0.0076	0.0087	
Semivolatile metals (lb/MM Btu)	4.3E–6	78 µg/dscm	6.2E–6
Chromium (lb/MM Btu)	3.6E–5	12 µg/dscm	1.4E–5
Total chlorine (lb/MM Btu)	7.2E–4	31 µg/dscm	5.1E–2
Alternative to the particulate matter standard: Combined emissions of lead, cadmium and selenium (lb/MM Btu).	4.3E–6	78 µg/dscm [1]	6.2E–6 [1]
Alternative to the particulate matter standard: Combined emissions of arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel (lb/MM Btu).	3.6E–5	12 µg/dscm [2]	1.4E–5 [2]

[1] New or reconstructed liquid fuel boilers that process residual oil or liquid feedstreams that are neither fossil fuel nor hazardous waste and that operate pursuant to the alternative to the particulate matter standard must comply with the alternative emission concentration standard of 4.7 µg/dscm, which is applicable to lead, cadmium and selenium emissions attributable to all feedstreams (hazardous and nonhazardous).

[2] New or reconstructed liquid fuel boilers that process residual oil or liquid feedstreams that are neither fossil fuel nor hazardous waste that operate pursuant to the alternative to the particulate matter standard must comply with the alternative emission concentration standard of 12 µg/dscm, which is applicable to arsenic, beryllium, chrome, antimony, cobalt, manganese, and nickel emissions attributable to all feedstreams (hazardous and nonhazardous).

F. Hydrochloric Acid Production Furnaces

The changes in the hydrochloric acid production furnace standards for existing sources since proposal are:

Standard	Proposed limit	Final limit
Dioxin and Furans	0.4 ng TEQ/dscm	Carbon Monoxide/Total Hydrocarbons and DRE standards as surrogates.
Total chlorine	14 ppmv or 99.9927% system removal efficiency	150 ppmv or 99.923% system removal efficiency.

The changes in the hydrochloric acid production furnace standards for new sources since proposal are:

Standard	Proposed limit	Final limit
Dioxin and Furans	0.4 ng TEQ/dscm	Carbon Monoxide/Total Hydrocarbons and DRE standards as surrogates
Total chlorine	1.2 ppmv or 99.9994% system removal efficiency	25 ppmv or 99.987% system removal efficiency

G. Dioxin/Furan Testing for Sources Not Subject to a Numerical Standard

Today's final rule requires that all sources not subject to a numerical dioxin and furan standard perform a one time test to determine their dioxin and furan emissions. See the discussion in Part Four, Section VII.L.

In the proposed rule, this requirement was limited to solid fuel boilers and those liquid fuel boilers with a wet or no air pollution control system. The final rule expands this requirement to include hydrochloric acid production furnaces and those lightweight aggregate kilns that elect to comply with the temperature limit at the kiln exit in lieu of the 0.20 ng TEQ/dscm dioxin/furan standard. Those sources are not subject to a numerical dioxin/furan standard under the final rule for reasons explained in Volume III of the Technical Support Document, Sections 12 and 15. We note that sources not subject to a numerical dioxin/furan emission standard are subject to the carbon monoxide or hydrocarbon standards and the DRE standard as surrogates.

We are making no changes to the implementation of this requirement. See the proposed rule at 69 FR at 21307 for more information.

III. Statistics and Variability

A. Using Statistical Imputation To Address Variability of Nondetect Values

In the final rule, we use a statistical approach to impute the value of nondetect emissions and feedrate measurements to avoid dampening of the variability of data sets when nondetect measurements are assumed to be present at the detection limit.

At proposal, we assumed that nondetects (i.e., HAP levels in stack emissions below the level of detection of the applicable analytic method) are invariably present at the detection limit. Commenters on the proposed rule stated, however, that assuming nondetects are present at the detection limit dampens emissions variability—a consideration necessary to reasonably ascertain sources' performance over time. This could have significant practical consequence for those data sets (such as the data base for liquid fuel boilers) dominated by nondetected values. We agree with these commenters, and instead of making the arbitrary assumption that all nondetected values are identical (which

in fact is highly unlikely), we are using a statistical methodology to impute the value of nondetect measurements.

The imputation approach assigns a value for each nondetect measurement in a data set within the possible range of values that results in maximizing the 99th percentile upper prediction limit for the data set. For example, the possible range of values for a measurement that is 100% nondetect is between zero and the detection limit.

On February 4, 2005 we distributed a direct request for comments on the imputation approach to major stakeholders. We respond to the comments we received in Part Four, Section IV.D of today's notice.

B. Degrees of Freedom When Imputing a Standard Deviation Using the Universal Variability Factor for Particulate Matter Controlled by a Fabric Filter

The use of the universal variability factor to impute a standard deviation for particulate emissions from sources controlled with a fabric filter takes advantage of the empirical observation that the standard deviation of particulate emissions from sources is positively correlated to the average particulate emissions of sources. Based on this observation, we use regression analysis to determine the best fitting curve to explain the relationship of average value to standard deviation.

In the final rule, we use the actual sample size, rather than an assumed sample size of nine used at proposal, to determine the degrees of freedom for the t-statistic to calculate the floor using the standard deviation imputed from the universal variability factor for particulate matter controlled by a fabric filter.

At proposal, we used eight degrees of freedom to identify the t-statistic to account for within-test condition variability (i.e., run-to-run variability) for standard deviations imputed from the universal variability factor regression.[28] This is because, on average, about three test conditions with nine individual test runs are associated with each source used to develop the regression curve.

A commenter states, however, that this approach can dramatically understate variability when imputing a standard deviation for a source with only three runs because the t-statistic is substantially higher for 2 degrees of freedom than 8 degrees of freedom.

We agree with the commenter. Moreover, using the actual number of runs to identify the t-statistic rather than assuming nine runs is appropriate given that the true test condition average is less certain for sources with only three runs, and thus there is less certainty in the imputed standard deviation. The higher t-statistic associated with a three-run data set reflects this uncertainty.

In addition, we include emissions data classified as ''normal'' in the regression analysis for the final rule. At proposal, we used only data classified as CT (i.e., highest compliance test condition in a test campaign) or IB (i.e., a compliance test condition that achieved lower emissions than another compliance test condition in the test campaign). We conclude that normal data (i.e., emissions data that were not used to establish operating limits and thus do not reflect variability in controllable operating parameters) should also be considered in the regression analysis because particulate matter emissions are relatively insensitive to baghouse inlet loading and operating conditions.[29] Including normal emissions in the analysis provides additional data to better quantify these devices' performance variability.

IV. Compliance Assurance for Fabric Filters, Electrostatic Precipitators, and Ionizing Wet Scrubbers

The final rule provides additional requirements to clarify how you determine the duration of periods of operation when the alarm set point has been exceeded for a bag leak detection system or a particulate matter detection system:

1. You must keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken.

2. You must record the percent of the operating time during each 6-month period that the alarm sounds.

3. In calculating the operating time percentage, if inspection of the fabric filter, electrostatic precipitator, or ionizing wet scrubber demonstrates that no corrective action is required, no alarm time is counted.

4. If corrective action is required, each alarm shall be counted as a minimum of 1 hour.

The final rule also establishes revised procedures for establishing the alarm set point if you elect to use a particulate matter detector system in lieu of site-specific operating parameter limits for compliance assurance for sources equipped with electrostatic precipitators and ionizing wet scrubbers. The rule explicitly allows you to maximize controllable operating parameters during the comprehensive performance test to account for variability by, for example, detuning the APCD or spiking ash. To establish the alarm set-point, you may either establish the set-point as the average of the test condition run average detector responses during the comprehensive performance test or extrapolate the detector response after approximating the correlation between the detector response and particulate matter emission concentrations. You may extrapolate the detector response up to a response value that corresponds to 50% of the particulate matter emission standard or 125% of the highest particulate matter concentration used to develop the correlation, whichever is greater. To establish an approximate correlation of the detector response to particulate matter emission concentrations you should use as guidance Performance Specification-11 for PM CEMS (40 CFR Part 60, Appendix B), except that you need conduct only 5 runs to establish the initial correlation rather than a minimum of 15 runs required by PS–11.

The final rule also notes that an exceedance of a detector response that corresponds to the particulate matter emission standard is not evidence that the standard has been exceeded because the correlation is an approximate correlation used for the purpose of compliance assurance to determine when corrective measures must be taken. The correlation, however, does not meet the requirements of PS–11 for compliance monitoring.

In addition, if you elect to use a particulate matter detection system in lieu of site-specific control device operating parameter limits on the electronic control device, the ash feedrate limit for incinerators and boilers under § 63.1209(m)(3) is waived. The ash feedrate limit is waived because the particulate matter detection system continuously monitors relative particulate matter emissions and the alarm set point provides reasonable assurance that emissions will not exceed the standard.[30]

[28] USEPA, ''Draft Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'' March 2004, p. 5–4.

[29] USEPA, ''Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 5.3. See also Part Four, Section III.C of this preamble.

[30] Note that if your incinerator or boiler is equipped with a fabric filter and you elect under § 63.1206(c)(8)(i) to use a particulate matter detection system in lieu of a bag leak detection system for compliance assurance, the ash feedrate limit is waived. The ash feedrate limit is not waived if you use a bag leak detection system, however, because the alarm level may not ensure compliance with the emission standard when you follow the

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Finally, you must submit an excessive exceedance notification within 30 days of the date that the alarm set-point is exceeded more than 5 percent of the time during any 6-month block period of time, or within 30 days after the end of the 6-month block period, whichever is earlier. The proposed rule would have required you to submit that notification within 5 days of the end of the 6-month block period.

V. Health-Based Compliance Alternative for Total Chlorine

The final rule includes the following major changes to the proposed health-based compliance alternative for total chlorine:

(1) You must use 1-hour Reference Exposure Levels (aRELs) rather than 1-hour acute exposure guideline levels (AEGL–1) as the acute health risk threshold metric when calculating 1-hour HCl-equivalent emission rates;

(2) You must establish a long-term average chlorine feedrate limit (i.e., 12 hour rolling average or an (up to) annual rolling average) as the annual average HCl-equivalent emission rate limit divided by [1 − system removal efficiency]. You establish the total chlorine system removal efficiency during the comprehensive performance test. The proposed rule would have required you to establish the long-term average chlorine feedrate limit as the average of the test run averages of the comprehensive performance test.[31]

(3) At proposal, we requested comment on whether and how to establish a short-term chlorine feedrate limit to ensure that the acute exposure Hazard Index of 1.0 is not exceeded. See 69 FR at 21304. We conclude for the final rule that a 1-hour rolling average feedrate limit may be needed for some situations (i.e., if chlorine feedrates can vary substantially during the averaging period for the long-term feedrate limit and potentially result in an exceedance of the 1-hour average HCl-equivalent emission rate limit). Accordingly, although your eligibility for the health-based compliance alternatives is based on annual average HCl-equivalent emissions, you must determine considering prescribed criteria whether your 1-hour HCl-equivalent emission rate may exceed the national exposure standard (i.e., Hazard Index not exceeding 1.0 considering the maximum 1-hour average ambient concentration of hydrogen chloride and chlorine at an off-site receptor location[32]) and thus may exceed the 1-hour average HCl-equivalent emission rate limit absent an hourly rolling average limit on the feedrate of chlorine. If the acute exposure standard may be exceeded, you must establish an hourly rolling average chlorine feedrate limit as the 1-hour HCl-equivalent emission rate limit divided by [1 − system removal efficiency]. You establish the system removal efficiency during the comprehensive performance test.

(4) When calculating HCl-equivalent emission rates, rather than partitioning total chlorine emissions between chlorine and HCl (i.e., the Cl_2/HCl volumetric ratio) based on the comprehensive performance test as proposed, you must establish the Cl_2/HCl volumetric ratio used to calculate the annual average HCl-equivalent emission rate based on the historical average ratio from all regulatory compliance tests. You must establish the Cl_2/HCl volumetric used to calculate the 1-hour average HCl-equivalent emission rate as the highest of the historical ratios from all regulatory compliance tests. The rule allows you to exclude ratios from historical compliance tests where the emission data may not be representative of the current Cl_2/HCl ratio for reasons such as changes to the design or operation of the combustor or biases in measurement methods. The rule also explicitly allows the permitting authority to require periodic emissions testing to obtain a representative average and maximum ratio;

(5) The look-up table analysis has been refined by presenting annual average and 1-hour HCl-equivalent emission rate limits as a function of stack height, stack diameter, and distance to property line. In addition, separate look-up tables are presented for flat terrain and simple elevated terrain;

(6) The proposed rule required approval of the eligibility demonstration before you could comply with the alternative health-based emission limits for total chlorine. Under the final rule, if your permitting authority has not approved your eligibility demonstration by the compliance date, and has not issued a notice of intent to disapprove your demonstration, you may nonetheless begin complying, on the compliance date, with the annual average HCl-equivalent emission rate limits you present in your eligibility demonstration. In addition, if your permitting authority issues a notice of intent to disapprove your eligibility demonstration, the authority will identify the basis for that notice and specify how much time you will have to submit additional information or to comply with the MACT total chlorine standards. The permitting authority may extend the compliance date of the total chlorine standards to allow you to make changes to the design or operation of the combustor or related systems as quickly as practicable to enable you to achieve compliance with the MACT total chlorine standards;

(7) We have revised the approach for determining chlorine emissions if you feed bromine or sulfur during the comprehensive performance test at levels higher than those specified in § 63.1215(e)(3)(ii)(B). Under the final rule, you must use EPA Method 320/321 or ASTM D 6735'01, or an equivalent method, to measure hydrogen chloride, and Method 26/26A, or an equivalent method, to measure chlorine and hydrogen chloride. You must determine your chlorine emissions to be the higher of: (1) The value measured by Method 26/26A, or an equivalent method; or (2) the value calculated by difference between the combined hydrogen chloride and chlorine levels measured by Method 26/26a, or an equivalent method, and the hydrogen chloride measurement from EPA Method 320/321 or ASTM D 6735–01, or an equivalent method; and

(8) The proposed rule would have required you to conduct a new comprehensive performance test if you planned to make changes to the facility that would lower the annual average HCl-equivalent emission rate limit. Under the final rule, you would be required to conduct a performance test as a result of a planned change only for a change to the design, operation, or maintenance of the combustor that could affect the system removal efficiency for total chlorine if the change could reduce the system removal efficiency, or if the change would increase the system removal efficiency and you elect to increase the feedrate limits on total chlorine and chloride.

concepts in the Agency's guidance document on bag leak detection systems to establish the alarm level.

[31] Note that, as a practical matter, most sources must establish the chlorine feedrate limit as the average of the test run average feedrate limit during the comprehensive performance test to demonstrate compliance with the semivolatile emission standard. This is because chlorine feedrate is a compliance assurance parameter for the semivolatile metal emission standard. That feedrate limit is based on a 12-hour rolling average. To ensure compliance with the annual average HCl-equivalent emission rate limit, however, that feedrate limit cannot exceed the value calculated as the annual average HCl-equivalent emission rate limit divided by [1 − system removal efficiency], where you demonstrate the total chlorine system removal efficiency during the performance test.

[32] Under the site-specific risk assessment approach to demonstrate eligibility, you must consider locations where people reside and where people congregate for work, school, or recreation.

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Part Four: What Are the Responses to Major Comments?

I. Database

A. Revisions to the EPA's Hazardous Waste Combustor Data Base

Comment: Several commenters identify sources which have ceased operations as a hazardous waste combustor and should be removed from EPA's data base.

Response: We agree with commenters that data and information from sources no longer burning hazardous waste should not be included in our hazardous waste combustor data base and should not be used to calculate the MACT standards. We consider any source that has initiated RCRA closure procedures and activities as a source that is no longer burning hazardous waste. This data handling decision is consistent with the approach we used in the 1999 final rule. See 64 FR at 52844. As we stated in that rule, ample emissions data remain to support calculating the MACT standards without using data from sources that no longer burn hazardous waste.

As a result, we removed the following former hazardous waste combustors from the data base: the Safety-Kleen incinerator in Clarence, New York, the Dow Chemical Company incinerators in Midland, Michigan, and LaPorte, Texas, the two Holcim wet process cement kilns in Holly Hill, South Carolina, the Dow Chemical Company liquid fuel-fired boiler in Freeport, Texas, the Union Carbide liquid fuel-fired boilers in Hahnville, Louisiana, and Texas City, Texas, and six Dow Chemical Company hydrochloric production furnaces in Freeport, Texas.

We are retaining, however, Solite Corporation's lightweight aggregate facility in Cascade, Virginia, in the data base. Even though the facility recently initiated RCRA closure procedures, this data handling decision differs from those listed in the preceding paragraph because Solite Corporation provided this new information in February 2005 while information on the other closures was reported or available to us in 2004. Because we cannot continually adjust our data base and still finalize this rulemaking by the court-ordered deadline, we stopped making revisions to the data base in late 2004. Additional facility changes after that date, like Solite Corporation's Cascade facility closure, simply could not be incorporated.

Comment: One commenter identifies a source in EPA's data base that should be classified as a boiler instead of a hydrochloric acid production furnace.

Response: We agree with the commenter. In today's rule, Dow Chemical Company's boiler F–2820, located in Freeport, Texas, is reclassified in our data base as a boiler. This source is identified as unit number 2020 in our data base.

B. Use of Data From Recently Upgraded Sources

Comment: Many commenters recommend that EPA remove from the data base (or not consider for standards-setting purposes) emissions data from sources that upgraded their emissions controls to comply with the promulgated emission standards of either the 1999 rule or the 2002 interim standards. Several commenters also state that any emissions data that were obtained or used to demonstrate compliance with the promulgated standards of 1999 or 2002 should not be used for standard-setting purposes by the Agency. That is, EPA must evaluate the source category as it existed at the beginning of the rule development process and not after emissions controls are later added to comply with the 1999 or 2002 standards. Several commenters also state that EPA is only partly correct in claiming that the interim standards are not MACT standards because the interim standards were established and considered to be MACT until the Court issued its opinion in July 2001. Until that time, sources proceeded to upgrade their facilities to achieve the standards promulgated in 1999. The rationale for these recommendations is threefold: (1) Use of the data unfairly ignores the MACT-driven reductions already achieved by some sources; (2) it is contrary to sound public policy to use data from upgraded facilities to ''ratchet down'' the MACT floors to a level more stringent because these sources would not have increased their level of performance but for the legal obligation to comply with the standards; and (3) EPA's reliance on *National Lime Ass'n* v. *EPA*, 233 F.3d 625, 640 (D.C. Cir. 2000), for the proposition that the motivation for a source's performance is legally irrelevant in developing MACT floor levels is misplaced because that case involved the initial MACT standard setting process, and not a subsequent rule.

One commenter agrees with EPA's proposed position and states that use of data from sources that have upgraded is not only appropriate, but also required by the Clean Air Act. This commenter states that the actual performance of sources that have upgraded their emissions equipment—to meet the 1999 standards or for any reason—is reflected only by the most recently generated emissions data for the source. Thus, the Clean Air Act requires EPA to use the most recently generated data available to it and precludes the Agency from using older, out-of-date performance data.

EPA also received several comments stating that the language of section 112(d)(3)(A) of the Clean Air Act informs how the Agency should consider emissions data from sources that conducted testing after that 1999 rule was promulgated. One commenter states that the only data which should not be used in calculating the MACT floors are from sources that are subject to lowest achievable emission rates (LAER). Thus, the commenter states, Congress considered the possibility of significant and recent upgrades, and concluded that EPA should use up-to-date data to reflect source's performance, but must exclude certain sources from the floor calculation if their upgrades were of a specific degree and were accomplished within a specific period of time. Another commenter states that Congress did not intend to pile technology upon technology as confirmed by section 112(d)(3)(A) that specifically excludes sources that implemented LAER from consideration when establishing section 112(d) standards. Thus, the commenter states, considering data from sources that have upgraded violates both the language and intent of the Clean Air Act. Another commenter states that, while Congress no doubt contemplated that EPA should use all available emissions information in setting initial MACT standards, neither the statute nor the legislative history suggest that follow-up MACT rulemakings require the use of data reflecting compliance efforts with previous MACT standards or interim standards.

Response: As proposed, EPA maintains its position on use of post-1999 emissions data. The statute indicates that EPA is to base MACT floors on performance of sources ''for which the Administrator has emissions information.'' Section 112(d)(3)(A); *CKRC*, 255 F. 3d at 867. There can be no dispute that post-1999 performance data in EPA's possession fits this description. We also reiterate that the motivation for the control reflected in data available to us is irrelevant. See 69 FR at 21217–218. We further agree with those commenters who pointed out that Congress was explicit when it wanted certain emissions information (i.e., sources operating pursuant to a LAER standard) excluded from consideration in establishing floors. There is, of course, no such enumerated exception

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for sources that have upgraded their performance for other reasons.

We also do not agree with those commenters arguing (with respect to the standards for the Phase 1 sources (incinerators, cement kilns, and lightweight aggregate kilns)) in effect that the present rulemaking involves revision of an existing MACT standard. If this were indeed a revision of a MACT standard under section 112(d)(6), then EPA would not redetermine floor levels. See 70 FR at 20008 (April 15, 2005). However, EPA has not to date promulgated valid MACT floors or valid MACT standards for these sources. The 1999 standards do not reflect MACT, as held by the *CKRC* court. The interim standards likewise do not reflect MACT, but were designed to prevent a regulatory gap and were described as such from their inception. 67 FR at 7693 (Feb. 13, 2002); see also *Joint Motion of all Parties for Stay of Issuance of Mandate* in case no. 99–1457 (October 19, 2001), pp. 11–12 (''The Parties emphasize that the contemplated interim rule is in the nature of a remedy. It would not respond to the Court's mandate regarding the need to demonstrate that EPA's methodology reasonably predicts the performance of the average of the best performing twelve percent of sources (or best-performing source). EPA intends to address those issues in a subsequent rule, which will necessarily require a longer time to develop, propose, and finalize.'') EPA consequently believes that it is adopting in this rule the initial section 112(d) MACT standards for hazardous waste burning incinerators, cement kilns, and lightweight aggregate kilns, and that the floor levels for existing sources are based, as provided in section 112(d)(3), on performance of those sources for which EPA has ''emissions information.''

However, we disagree with the comment that we must make exclusive use of the most recent information from hazardous waste combustion sources. There is no such restriction in section 112(d)(3). EPA has exhaustively examined all of the data in its possession for all source categories covered by this rule, and determined (and documented) which data are suitable for evaluating sources' performance.

C. Correction of Total Chlorine Data to Address Potential Bias in Stack Measurement Method

Comment: Several commenters state that EPA's proposed total chlorine standards of 1.5 ppm for existing incinerators and 0.18 ppm for new incinerators are based on biased data of indeterminate quality and are unachievable. Commenters assert that Method 26A and its RCRA equivalent, SW 846 Method 0050, have a negative bias at concentrations below 20 ppmv when used on stacks controlled with wet scrubbers. Commenters cite two recurring situations when this bias is likely to occur: (1) hydrogen chloride dissolving in condensed moisture in the sampling train; and (2) hydrogen chloride reacting with alkaline compounds from the scrubber water that are collected on the filter ahead of the impingers.

Commenters are particularly concerned about the negative bias associated with stack gas containing substantial water vapor. Commenters note that EPA found in a controlled laboratory study by Steger [33] that the bias is between 17 and 29 percent at stack gas moisture content of 7 to 9 percent. This stack gas moisture is much less than the nominal 50% moisture contained in some hazardous waste combustor stacks according to the commenters. Commenters believe this is why EPA's Method 0050, which was used to gather most of the data in the HWC MACT data base, states in Section 1.2 that ''this method is not acceptable for demonstrating compliance with HCl emission standards less than 20 ppm.''

Moreover, commenters state that the procedures in Method 0050 to address the negative bias caused by condensed moisture were not followed for many RCRA compliance tests. The method uses an optional cyclone to collect moisture droplets, and requires a 45 minute purge of the cyclone and sampling train to recover hydrogen chloride from water collected by the cyclone and any condensed moisture in the train. The cyclone is not necessary if the stack gas does not contain water droplets. According to commenters, the cyclone and subsequent purge were often not used in the presence of water droplets because a potential low bias below 20 ppmv was irrelevant when demonstrating compliance with emission standards on the order of 100 ppmv. There was no need for the extra complexity and expense of using a cyclone and train purge given the purpose of the test. Although the data were acceptable for their intended purpose, commenters conclude that the data are not useful for establishing standards below 20 ppmv.

For these reasons, commenters suggest that EPA not consider total chlorine measurements below 20 ppmv when establishing the standards.

Response: For the reasons discussed below, we corrected all total chlorine measurements in our data base for all source categories that were below 20 ppmv to 20 ppmv to establish the total chlorine floors. Moreover, to address run-to-run variability given that all runs for several data sets are now corrected to 20 ppmv, we impute a run standard deviation based on a regression analysis of run standard deviation versus total chlorine concentration for sources with total chlorine measurements greater than 20 ppmv. This is the same approach we used to impute variability from sources using fabric filters when determining the particulate matter MACT floors.

Effect of Moisture Vapor. Commenters imply that stack gas with high levels of gas phase water vapor will inherently be problematic, particularly at emissions less than 20 ppmv. There is no basis for claiming that water vapor, per se, causes a bias in SW–846 Method 0050 or its equivalent, Method 26A. Condensed moisture (i.e., water droplets), however, can cause a bias because it can dissolve hydrogen chloride in the sampling train and prevent it from being captured in the impingers if the sampling train is not properly purged. Water droplets can potentially be present due to entrainment from the wet scrubber, condensation in cooler regions of the stack along the stack walls, and entrainment from condensed moisture dripping down the stack wall across the inlet duct opening.

Although Method 0050 addresses the water droplet issue by use of a cyclone and 45 minute purge, the Steger paper (Ibid.) concludes that a 45 minute purge is not adequate to evaporate all water collected by the cyclone in stacks with a total moisture content (vapor and condensed moisture) of 7 to 9%. At those moisture levels, Steger documented the negative bias that commenters reference. Steger's recommendation was to increase the heat input to the sample train by increasing the train and filter temperature from 120C (248F) to 200C (392F). We agree that increasing the probe and filter temperature will provide a better opportunity to evaporate any condensed moisture, but another solution to the problem is to require that the post-test purge be run long enough to evaporate all condensed moisture. That is the approach used by Method 26A, which EPA promulgated after Method 0050, and which sources must use to demonstrate compliance with the final standards. Method 26A uses an extended purge time rather than

[33] Steger, J.L., et al, ''Laboratory Evaluation of Method 0050 for Hydrogen Chloride'', Proc of 13th Annual Incineration Conference, Houston, TX, May 1994.

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elevating the train temperature to address condensed moisture because that approach can be implemented by the stack tester at the site without using nonstandard equipment.

We attempted to quantify the level of condensed moisture in the Steger study and to compare it to the levels of condensed moisture that may be present in hazardous waste combustor stack gas. This would provide an indication if the bias that Steger quantified with a 45 minute purge might also be applicable to some hazardous waste combustors. We conclude that this comparison would be problematic, however, because: (1) given the limited information available in the Steger paper, it is difficult to quantify the level of condensed moisture in his gas samples; and (2) we cannot estimate the levels of condensed moisture in hazardous waste combustor stack gas because, even though condensed moisture may have been present during a test, method protocol is to report the saturation moisture level only (i.e., the amount of water vapor present), and not the total moisture content (i.e., both condensed and vapor phase moisture).

We can conclude, however, that, if hazardous waste combustor stack gas were to contain the levels of condensed moisture present in the gas that Steger tested, the 45 minute purge required by Method 0050 would not be sufficient to avoid a negative bias. We also conclude that this is potentially a practical issue and not merely a theoretical concern because, as commenters note, hazardous waste combustors that use wet scrubbers are often saturated with water vapor that will condense if the flue gas cools.

Data from Wet Stacks When a Cyclone Was Not Used. Commenters state that Method 0050 procedures for addressing water droplets (adequate or not, as discussed above) were not followed in many cases because a low bias below 20 ppmv was not relevant to demonstrating compliance with standards on the order of 100 ppmv. We do not know which data sets may be problematic because, as previously stated, the moisture concentration reported was often the saturation (vapor phase only) moisture level and not the total (vapor and liquid) moisture in the flue gas. We also have no documentation that a cyclone was used—even in situations where the moisture content was documented to be above the dew point. We therefore conclude that all data below 20 ppmv from sources controlled with a wet scrubber are suspect and should be corrected.

Potential Bias Due to Filter Affinity for Hydrogen Chloride. Studies by the American Society of Testing and Materials indicate that the filter used in the Method 0050 train (and the M26/26A trains) may adsorb/absorb hydrogen chloride and cause a negative bias at low emission levels. (See ASTM D6735–01, section 11.1.3 and ''note 2'' of section 14.2.3) This inherent affinity for hydrogen chloride can be satisfied by preconditioning the sampling train for one hour. None of the tests in our database were preconditioned in such a manner.

We are normally not concerned about this type of bias because we would expect the bias to apply to all sources equally (e.g., wet or dry gas) and for all subsequent compliance tests. In other words, we are ordinarily less concerned if a standard is based on biased data, as long as the means by which the standard was developed and the means of compliance would experience identical bias.

However, we did correct the wet gas measurements below 20 ppmv to address the potential low bias caused by condensed moisture. This correction would also correct for any potential bias caused by the filter's inherent affinity for hydrogen chloride. This results in a data set that is partially corrected for this issue—sources with wet stacks would be corrected for this potential bias while sources with dry stacks would not be corrected. To address this unacceptable mix of potentially biased and unbiased data (i.e., dry gas data biased due to affinity of filter for hydrogen chloride and wet gas data corrected for condensed moisture and affinity of filter for hydrogen chloride), we also correct total chlorine measurements from dry gas stacks (i.e., sources that do not use wet scrubbers).

Deposition of Alkaline Particulate on the Filter. Commenters are also concerned that hydrogen chloride may react with alkaline compounds from the scrubber water droplets that are collected on the filter ahead of the impingers. Commenters suggest this potential cause for a low bias at total chlorine levels below 20 ppmv is another reason not to use measurements below 20 ppmv to establish the standards.

Although alkaline particulate deposition on the method filter causing a negative bias is a much greater concern for sources that have stack gas containing high levels of alkaline particulate (e.g., cement kilns, sources equipped with dry scrubbers), we agree with commenters that this may be of concern for all sources equipped with wet scrubbers. Our approach to correct all data below 20 ppmv addresses this concern.

Decision Unique to Hazardous Waste Combustors. We note that the rationale for our decision to correct total chlorine data below 20 ppmv to account for the biases discussed above is unique to the hazardous waste combustor MACT rule. Some sources apparently did not follow Method 0050 procedures to minimize the low bias caused by condensed moisture for understandable reasons. Even if sources had followed Method 0050 procedures to minimize the bias (i.e., cyclone and 45 minute purge) there still may have been a substantial bias because of insufficient purge time, as Steger's work may indicate. We note that the total chlorine stack test method used by sources other than hazardous waste combustors—Method 26A—requires that the cyclone and sampling train be purged until all condensed moisture is evaporated. We believe it is necessary to correct our data below 20 ppmv data because of issues associated exclusively with Method 0050 and how it was used to demonstrate compliance with these sources.

Determining Variability for Data at 20 ppmv. Correcting those total chlorine data below 20 ppmv to 20 ppmv brings about a situation identical to the one we confronted with nondetect data. See Part Four, Section V.B. below. The MACT pool of best performing source(s) for some data sets is now comprised of largely the same values. This has the effect of understating the variability associated with these data.

To address this concern, we took an approach similar to the one we used to determine variability of PM emissions for sources equipped with a fabric filter. In that case, we performed a linear regression on the data, charting variability against emissions, and used the variability that resulted from the linear regression analysis as the variability for the sources average emissions. In this case, most or all of the incinerator and liquid fuel boiler sources in the MACT pool have average emissions at or near 20 ppmv. We therefore performed a linear regression on the total chlorine data charting average test condition results above 20 ppmv against the variability associated with that test condition. The variability associated with 20 ppmv was the variability we used for incinerator and liquid fuel boiler data sets affected by the 20 ppmv correction.

We also considered using the statistical imputation approach we used for nondetect values. See discussion in Section IV.B below. The statistical imputation approach for correcting data below 20 ppmv without dampening variability would involve imputing a value between the reported value and 20

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ppmv because the ''true'' value of the biased data would lie in this interval. This approach would be problematic, however, given that many of the reported values were much lower than 20 ppmv; our statistical imputation approach would tend to overestimate the run to run variability. Consequently, we conclude that a regression analysis approach is more appropriate. A regression analysis is particularly pertinent in this situation because: (1) We consider data above 20 ppmv used to develop the regression to be unbiased; and (2) all the corrected data averages for which we are imputing a standard deviation from the regression curve are at or near 20 ppmv. Thus, any potential concern about downward extrapolation from the regression would be minimized.

We note that, although a regression analysis is appropriate to estimate run-to-run variability for the corrected total chlorine data, we could not use a linear regression analysis to address variability of nondetect values. To estimate a standard deviation from a regression analysis, we would need to know the test condition average emissions. This would not be feasible, however, because some or all of the run measurements for a test condition are nondetect. In addition, we are concerned that a regression analysis would not accurately estimate the standard deviation at low emission levels because we would have to extrapolate the regression downward to levels where we have few measured data (i.e., data other than nondetect). Moreover, the statistical imputation approach is more suitable for handling nondetects because the approach calculates the run-to-run variability by taking into account the percent nondetect for the emissions for each run.[34] A regression approach would be difficult to apply particularly in the case of test conditions containing partial nondetects or a mix of detect and nondetect values. Given these concerns with using a regression analysis to estimate the standard deviation of test conditions with runs that have one or more nondetect (or partial nondetect) measurements, we conclude that the statistical imputation approach best assures that the calculated floor levels account for run-to-run emissions variability.

Compliance with the Standards. The final standards are based on data that were corrected to address specific issues concerning these data. See the above discussion regarding stack gas moisture, filter affinity for hydrogen chloride, and alkaline compound reactions with hydrogen chloride in the sampling train.

Sources must demonstrate compliance using a stack test method that also addresses these issues. Sources with wet stacks must use Method 26A and follow those procedures regarding the use of a cyclone and the purging of the system whenever condensed moisture may be present in the sampling system.

Finally, all sources—those with either wet or dry gas—should precondition the sampling train for one hour prior to beginning the test to satisfy the filter's affinity for hydrogen chloride. The permitting authority will ensure that sources precondition the sample train (under authority of § 63.1209(g)(2)) when they review and approve the performance test plan.

D. Mercury Data for Cement Kilns

Comment: Several commenters state that EPA's data base of mercury emissions data (and associated feed concentrations of mercury in the hazardous waste) are unrepresentative and unsuitable for use in determining MACT standards for cement kilns. These comments are supported by an extensive amount of data submitted by the cement manufacturing industry including three years of data documenting day-to-day levels of mercury in hazardous waste fuels fired to all 14 hazardous waste burning cement kilns.[35] The commenters recommend that EPA use the commenter-submitted data as the basis for assessing cement kilns' performance for control of mercury because it is the most complete and representative data available to EPA.

Response: We agree that the commenter-submitted mercury data are more representative than those we used at proposal. First, these data represent a significantly larger and more comprehensive dataset compared to the one used to support the proposed mercury standard. The commenter-submitted data document the day-to-day levels of mercury in hazardous waste fired to all cement kilns for a three year period covering 1999 to 2001. In total, approximately 20,000 measurements of the concentration of mercury in hazardous waste are included in the dataset. When considered in whole, these data describe the performance (and variability thereof) of all cement kilns for the three year period because each measurement represents the mercury concentration in the burn tank used to fire the kiln over the course of a day's operation (or longer period).[36] In comparison, the data used to support the proposed floor level consisted of a much smaller dataset of approximately 50 test conditions representing a snapshot of performance somewhere in the range of normal operations, with each test condition representing a relatively short period of time (e.g., several hours).[37] As discussed at proposal, we were concerned regarding the representativeness of this smaller dataset. See 69 FR at 21251. In addition, the commenter-submitted dataset allows us to better evaluate the only mercury control technique used by existing hazardous waste burning cement kilns—controlling the feed concentration of mercury in the hazardous waste. The commenters have demonstrated convincingly that the mercury dataset used at proposal does not properly show the range of performance and variability in performance these cement kilns actually experience, while the significantly more robust dataset submitted by commenters does illustrate this variability. Thus, we conclude the larger commenter-submitted dataset is superior to EPA's smaller testing dataset.

We note that our MACT floor analysis of the commenter-submitted dataset to determine which sources are the best performers and to identify a mercury standard for cement kilns is discussed in the background document.[38] Additional discussion of issues related to the mercury standard for cement kilns is found in Part Four, Section VI.B of the preamble.

[34] For multi-constituent HAP (e.g. SVM) the emissions for a run could be comprised of fully detected values for some HAP and detection limits for other HAP that were nondetect.

[35] See docket item OAR–2004–0022–0049.

[36] Mercury is a volatile compound at the typical operating temperatures of the air pollution control devices used by cement kilns (i.e., baghouses and electrostatic precipitators). Most of the mercury exits the cement kiln system as volatile stack emissions, with a smaller fraction partitioning to the clinker product or cement kiln dust. Thus, in general, there is a proportional relationship between the mercury concentration in the hazardous waste and stack emissions of mercury (i.e., as the mercury concentration in hazardous waste increases (assuming mercury concentrations in other inputs such as raw materials and fossil fuels (coal) and other factors remain constant), emissions of mercury will correspondingly increase).

[37] EPA's dataset for mercury for cement kilns is not like the RCRA compliance test emission data for other HAPs where each source designs the compliance test such that the operating limits it establishes account for the variability it expects to encounter during its normal operations (e.g., semi- and low volatile metals). This is not necessarily true for mercury for cement kilns as shown in our analysis of our mercury dataset at proposal. See 69 FR at 21251.

[38] USEPA, ''Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'' Sections 7.5.3 and 11.0, September 2005.

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E. Mercury Data for Lightweight Aggregate Kilns

Comment: One commenter, an owner and operator of seven of the nine operating lightweight aggregate kilns, states that the mercury dataset used by EPA at proposal is a limited and unrepresentative snapshot of performance of their seven kilns. To support their position that the snapshot emissions data are unrepresentative, the commenter submitted eight months of data documenting levels of mercury in hazardous waste fuels fired to their lightweight aggregate kilns.[39]

Response: We agree with the commenter that their mercury data submission is more representative than those used at proposal. As discussed in a notice for public comment sent directly to certain commenters,[40] the commenter-submitted dataset documents the day-to-day levels of mercury in hazardous waste fuels fired to Solite Corporation's Arvonia kilns between October 2003 and June 2004. The dataset consists of over 310 measurements of the concentration in mercury in hazardous waste. Each measurement represents the mercury concentration of the burn tank used to fire the kiln over the course of a day's operation (or longer period). In comparison, the data used to support the proposed floor level consisted of a smaller dataset of 15 test conditions.

The nature of the mercury data submitted by the commenter is the same as we received for the cement kiln category discussed in the preceding section. For similar reasons, we accept the more comprehensive commenter-submitted dataset as one that better shows the range of performance and variability in performance for these lightweight aggregate kilns. One notable difference, however, is that the commenter submitted mercury data only for its company (representing seven of nine lightweight aggregate kilns). Thus, we received no data documenting day-to-day levels of the concentration of mercury in hazardous waste fuels for the other two lightweight aggregate kilns owned by a different company. For these two lightweight aggregate kilns, we continue to use available data available in our database.[41]

Comment: One commenter opposes the use of the commenter-submitted mercury data because EPA would be uncritically accepting a limited and select data set from a commenter with a direct interest in the outcome of its use. Instead, the commenter suggests EPA use its section 114 authority to obtain all data that are available, not just the data selected by that commenter.

Response: We disagree that we uncritically accepted the commenter-submitted mercury data. The reason the commenter submitted data collected between October 2003 and June 2004 is that the facility was, prior to October 2003, in the process of upgrading its on-site analysis equipment. One outcome of this laboratory upgrade was its capability to detect mercury in hazardous waste at lower concentrations. Prior to the upgrade, the facility's on-site laboratory was capable of detecting mercury in the hazardous waste at a concentration of approximately 2 ppmw, which is a level such that the vast majority of measurements would neither be detected nor useful for identifying best performers and their level of performance.[42] The June 4, 2004 cutoff date represents a practicable date that measurements could still be incorporated into the commenter's public comments to the proposed rule, which were submitted on July 6, 2004. Finally, the commenter provided all waste fuel measurements during this period and states reliably that no measurements made during this period were selectively excluded.[43]

We also reject the commenter's suggestion that we use our authority under section 114 of the Clean Air Act to obtain additional hazardous waste mercury concentration data from the facility. There is no obligation for us to gather more performance data, given that the statute indicates that we are to base floor levels on performance of sources ''for which the Administrator has emissions information.'' Section 112(d)(3)(A); *CKRC*, 255 F. 3d at 867. In addition, given our concerns about the usefulness of measurements with high detection limits discussed above, the collection of additional data prior to the laboratory upgrade would not be productive. When balanced against the expenditure of significant resources, both in time and level of effort, to collect several more months of data, we conclude that obtaining additional mercury measurements is unnecessary because the available eight months of data—including over 310 individual measurements—represent a significant amount of data that we judge to be adequately reflective of the source's performance and variability in performance.

F. Incinerator Database

Comment: Commenters state that many of the top performers (e.g., 3011, 3015, 3022, 349) dilute emission concentrations in the stack by burning natural gas to initiate reactive waste (e.g., explosives, inorganic hydrides) or to decontaminate inert material. Commenters do not believe these units should be considered ''representative'' of the overall incinerator source category and should not be used to establish standards for incinerators combusting primarily organic wastes.

Response: Source 3022 has closed and has been removed from the database. Emission data from source #3015 (ICI explosives) has been excluded for purposes of calculating the particulate matter floor because the test report indicates this source was primarily feeding scrap metal, which we conclude to be an atypical waste stream from a particulate matter compliance perspective.[44]

The sources identified by the commenter are among the best performing sources in two instances. Source 3011 is the second ranked best performer for the particulate matter standard. This source is among the best performers for particulate matter because it uses a state-of-the art baghouse that is equipped with Teflon coated bags. There is no evidence to suggest that this source was diluting its particulate matter emissions. We acknowledge that we do not have ash feed data for the test conditions that were used in the particulate matter standard analysis. However, this source had the third and fourth highest metal feed control levels among all the sources used in the MACT analysis for the semivolatile and low volatile metal

[39] See docket items OAR–2004–0022–0270 and OAR–2004–0022–0333.

[40] See docket item OAR–2004–0022–0370.

[41] Unlike that is available for the commenter's kilns, we note that we have compliance test emissions data, which is designed to maximize operating parameters (e.g., HAP feedrates) that affect emissions, for the other two kilns. For additional discussion on how these data were analyzed in conjunction with the commenter-submitted data, see the document ''Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'' Section 7.5.3 and 12.0, September 2005.

[42] A mercury concentration of 2 ppmw in the hazardous waste corresponds to a stack concentration of approximately 200 μg/dscm, which is well above the interim standard of 120 μg/dscm for mercury.

[43] See also docket items OAR–2004–0022–0233 and OAR–2004–0022–0367.

[44] We did not have ash feed data for source 3015. We acknowledge that ash feed control levels do not significantly affect particulate matter emissions from sources equipped with baghouses. However, in this instance, the particulate matter emissions from this source may not be representative because this source may not have been feeding any appreciable levels of ash given that scrap metal feeds generally would not contribute to the ash loading into the baghouse.

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standards.[45] We therefore conclude that it is appropriate to include this source in the MACT analysis that determines the relevant best performers for particulate matter.

Source 349 is the eighth ranked (out of 11) best performer for the particulate matter standard. We acknowledge that the ash feed level for this source is lower than most incinerators equipped with baghouses. However, particulate matter emissions from sources equipped with baghouses are not significantly affected by the ash inlet loading to the baghouse.[46] This is further supported by the fact that this source is ranked eighth among the best performers. We conclude source 349 is a best performer not because of its relatively low ash feed level, but rather because it is equipped with a well designed and operated baghouse. It is therefore appropriate to include this source in the MACT analysis.

Comment: Commenters state that source 341 should not be considered in the MACT analysis because it is a small laboratory waste burner that processes only 900 lbs/hr of waste. Commenters claim that more than 80 percent of the waste profile is non-hazardous waste.

Response: We approached this comment by asking if it would be appropriate to create a separate subcategory for source 341. We conclude it is not necessary to subcategorize hazardous waste incinerators based on the size of combustion units. This is because the ranking factors used to identify the relevant best performing sources are normalized in order to remove the influence that combustion unit size would otherwise have when identifying best performing sources. See part 4 section III.D below. Air pollution control system types (a ranking factor for particulate matter) are generally sized to match the corresponding volumetric gas flow rate in order to achieve a given control efficiency. The size of the combustor therefore does not influence a source's ability to achieve a given control efficiency. System removal efficiency and hazardous waste feed control MTECs (ranking factors used by the SRE/Feed methodology as described in part 4 section III.B below) are also not influenced by the size of the combustor.[47]

Emission limitations are similarly normalized to remove the influence of combustion unit size by expressing the standards as emission concentration limits rather than as mass emission rate limits. See section III.D. This is illustrated in the following example. Assume there are two cement kilns side by side with similar designs, the only difference being one is twice the size of the other, producing twice as much clinker. They both have identical types of air pollution control systems (the larger source is equipped with a larger control device that is appropriately sized to accommodate the larger volumetric gas flow rates and achieves the same control efficiency as the smaller control device). If we were to assess performance based on HAP mass emission rates (e.g., pounds per hour), the smaller source would be the better performer because its mass emission rates would be half of the mass emission rate of the larger source, even though they both are achieving the same back-end control efficiency. Emission concentrations, on the other hand, are calculated by dividing the HAP mass emission rate (e.g., pounds per hour) by the volumetric gas flowrate (e.g., cubic feet per hour). In the above example, both sources would have identical HAP emission concentrations (the larger source has twice the mass emission rate, but twice the volumetric gas flow rate), accurately reflecting their identical control efficiency. Emission concentrations normalize the size of each source by accounting for volumetric gas flowate, which is directly tied to the amount of raw material each source processes (and subsequently the amount of product that is produced). This is a reason we point out that normalization eliminates the need to create subcategories based on unit size. See part four section III.D.

Further, it would be difficult to determine an appropriate minimum size cutoff in which to base such a subcategorization determination. Such a subcategorization scheme could also yield nonsensical floor results, as was the case when we assessed subcategorizing commercial incinerators and on-site incinerators.[48]

We have identified source 341 as the best performing source for particulate matter and low volatile metals. It is the single best performing source for these standards because it is equipped with a state-of-the-art baghouse.[49] This source, which simultaneously feeds hazardous and nonhazardous wastes, conducted several emission tests that reflected different modes of operation. The amount of nonhazardous waste that was processed in the combustion unit varied across test conditions. We could not ascertain the exact amount of hazardous waste processed in the test condition that was used in the MACT analysis for low volatile metals because the test report stated the wastes that were processed were a mixture of hazardous and nonhazardous wastes, although we estimate that at least 26% of the waste processed was nonhazardous.[50] We note that we are aware of several other incinerators that processed nonhazardous waste at levels greater than 26 percent during their emission tests. We therefore do not believe this to be atypical operation that warrants subcategoriztion.

Moreover, the fact that this source was feeding nonhazardous wastes does not result in atypically low hazardous waste low volatile metal feed control levels, as evidenced by the relative feed control ranking for this source of thirteenth among the 26 sources assessed in the MACT analysis. It also has the highest normalized hazardous waste feed control level among the best performing sources, and has the fifth best low volatile metal system removal efficiency among those same 26 sources. We repeat that this source is being identified as the best performing source primarily because it is equipped with a highly efficient baghouse, not because it is feeding low levels of HAP metals attributable to its hazardous waste.

Furthermore, this source is not the lowest emitting source in the database. There are two sources with similar, but slightly lower low volatile metal compliance test emissions (one commercial incinerator and one onsite, non-commercial incinerator). This provides further evidence that the

[45] We note that feed control levels are normalized based on each source's gas flowrate. The feed control levels used to assess performance are therefore appropriate indicators that directly address whether emissions of these pollutants are in fact being diluted by the combustion of natural gas.

[46] See USEPA, ''Technical Support Document for the HWC MACT Standards, Vol I: Description of Source Categories,'' September 2005, Section 3.2.2, for further discussion.

[47] System removal efficiency is a measure of the amount of the pollutant that is removed from the flue combustion gas prior to being emitted and likewise is not influenced by the size of the combustor because back-end control systems are sized to achieve a given performance level. Hazardous waste feed control levels are normalized to remove the influence of combustor size by dividing each source's mass feed rate by its volumetric gas flowrate.

[48] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards'', September 2005, Section 4.3.2 for further discussion.

[49] See USEPA, ''Final Technical Support Document for the HWC MACT Standards, Volume I: Description of Source Categories'', September 2005, Section 3.2.1, for further discussion.

[50] See USEPA, ''Final Technical Support Document for the HWC MACT Standards, Volume I: Description of Source Categories'', September 2005, Section 2.1 for further discussion.

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emissions from this source appropriately represent emissions of a relevant best performing source.

Regarding the particulate matter standard, source 341 does not have atypically low ash feed rates as compared to other sources equipped with baghouses. Out of the nine best performing particulate matter sources for which we have ash feed information, this source ranks fourth (a ranking of one is indicative of the lowest ash feed rate). Nonetheless, as previously discussed, particulate matter emissions from sources equipped with baghouses are not significantly affected by the ash inlet loading to the baghouse. We note that particulate matter emissions from the second and third best performing source are not significantly different from this source, providing further evidence that this source is representative of the range of emissions exhibited by other well designed and operating incinerators equipped with baghouses.[51]

Comment: Commenters state that sources 3018 and 3019 are identified as best performers for mercury emissions for incinerators. After evaluating the trial burn plans for these sources, the commenter believes the data should not be used to calculate the MACT floor because the spiking rate for mercury was extremely low for a compliance test. The ranking for feedrate is therefore unrepresentative. The commenter suggests that these test results should be characterized as ''normal''.

Response: We have verified that the emission tests performed for sources 3018 and 3019 reflect the upper range of mercury emissions that are not to be exceeded by these sources, and that their spiked mercury feed rates were back-calculated from a risk assessment. We therefore conclude that we properly characterized these emissions as compliance test emissions data because they reflect the emissions resulting from the upper bound of hazardous waste mercury feedrates from these sources.[52] Consequently, these data are properly included with the other data used to calculate floor standards for mercury for incinerators.

Comment: Commenters state the trial burn plan for sources 3018 and 3019 describes these units to be of similar design. Thus the difference in results between these two similar sources is indicative of additional variability above and beyond the run-to-run variability and should be assessed if the data are deemed usable at all.

Response: We conclude both of these sources are in fact unique sources that should be assessed as individual sources for purposes of the MACT analysis. Although these sources are of similar design, we do not believe they are identical, in part because: (1) The facility itself conducted separate emission tests for the two units (rather than trying to avail itself of the 'data in lieu' option, which could save it the expense of a second compliance test, the obvious inference being that the source or regulatory official regards the two units as different); and (2) discussions with facility representatives indicated these units are similar, but not identical.[53] As a result, it would be inappropriate to assess emissions variability by combining the emissions of these two sources into one test condition given they are not identical units.

Comment: Commenters state that emissions data from source 327 should not be used to calculate dioxin/furan and mercury floors because they claim the carbon injection system did not appear to function properly during the test.

Response: We agree with the commenters. We have determined that this source encountered problems with its carbon injection system during the emissions test from which the data were obtained and subsequently used in EPA's proposed MACT analysis. We have also verified that this source did not establish operating parameter limits for the carbon injection system as a result of this test.[54] We therefore have excluded this mercury and dioxin data from the MACT analysis, and have instead used emissions data from an older test condition to represent this source's emissions.

Comment: Commenters state that the emissions data from source 3006 were based on a miniburn to determine how close the unit was to achieving the interim MACT standards. The commenter questions whether these data should be used for purposes of calculating MACT standards.

Response: The fact that a source conducts a voluntary emissions test (e.g., a miniburn) to determine how close it is operating to upcoming emission standards does not necessarily lead us to conclude that the emission data are inappropriate for purposes of calculating MACT standards. However, since proposal, we have determined that this source did not measure cadmium emissions during this emissions test. As a result, we conclude the semivolatile metal emissions data from this source should not be used in the MACT standard calculation for semivolatile metals because the data do not represent the source's combined emissions of lead and cadmium.

II. Affected Sources

A. Area Source Boilers and Hydrochloric Acid Production Furnaces

Comment: Five commenters state that the area sources subject to the proposed rule are negligible contributors to 112(c)(6) HAP emissions and should not be subject to major source standards for 112(c)(6) HAP. Commenters note that requiring compliance with MACT for 112(c)(6) HAP and RCRA for other toxic pollutants is more complicated and burdensome for sources than complying only with RCRA. Although an area source can choose to become regulated as a major source in order to reduce some RCRA requirements, they would become subject to more onerous emissions limits under Subpart EEE and the other MACT requirements.

One of these commenters states that subjecting an area source to major source standards under 112(c)(6) sends a negative message to industry that EPA does not value emissions reduction and/or chemical substitution, or other methods used by area sources to achieve that status. EPA is no longer providing any incentive for sources to take such difficult yet environmentally beneficial steps to become an area source. Imposing Title V permitting requirements on an entire facility that operates as an area source of hazardous air pollutants (HAPs) will impose an unfair and undue burden on the facility.

Another of these commenters states that section 112(c)(6) requires in pertinent part that EPA list categories and subcategories of sources assuring that sources accounting for not less than 90% of the aggregate emissions of each pollutant (specified in 112(c)(6)) are subject to standards under Section 112(d)(2) or (d)(4). In 1998, EPA published a notice identifying the list of source categories accounting for the section 112(c)(6) HAP emissions and to be regulated under section 112(d) to meet the 90% requirement. (63 FR 17838) At the time, EPA acknowledged that MACT standards for a number of the source categories had not yet been promulgated, and stated that when the

[51] Source 341 particulate matter emissions, after accounting for variability, equated to 0.0015 gr/dscf. The second and third ranked particulate matter sources emissions, considering variability, equated to 0.0018 and 0.0023 gr/dscf, respectively.

[52] See February 11, 2005 memo to docket titled ''October 20 Conference Call with Squibb Manufacturing regarding Source # 3018 and 3019''.

[53] Also see February 11, 2005 memo to docket titled ''October 20 Conference Call with Squibb Manufacturing regarding Source # 3018 and 3019''.

[54] See July 15, 2005 memo to docket titled ''Telephone Conversation with Utah DEQ Regarding 2001 Clean Harbor Emission Test.''

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regulations for each of those categories are developed, EPA will analyze the data specific to those sources and determine, under Section 112(d), in what manner requirements will be established. EPA also stated that:

''Some area categories may be negligible contributors to the 90% goal, and as such pose unwarranted burdens for subjecting to standards. These trivial source categories will be removed from the listing as they are evaluated since they will not contribute significantly to the 90% goal.'' (63 FR 17841)

The commenter believes the ''two or fewer'' area source boilers identified by EPA in the present rulemaking are ''negligible contributors'' to the 90% goal and therefore, should not be required to adopt the same MACT emission limitations and requirements as major sources of the 112(c)(6) pollutants. The commenter believes EPA's decision to subject area source boilers and hydrochloric acid production furnaces is incorrect, unsupported by the administrative record, and therefore arbitrary and capricious.

One commenter states that, if EPA regulates area sources, it should significantly reduce the administrative burden for area sources by: exempting them from Title V provisions for Subpart EEE requirements; exempting them from compliance with the General Provisions of 63 Subpart A; limiting them to a one-time comprehensive performance test; or limiting other applicable requirements.

Response: We continue to believe that boiler and hydrochloric acid furnace area sources warrant regulation under the major source MACT standards for mercury, dioxin/furan, carbon monoxide/hydrocarbons, and destruction and removal efficiency pursuant to section 112(c)(6).

As discussed at proposal (69 FR at 21212), section 112(c)(6) of the CAA requires EPA to list and promulgate section 112(d)(2) or (d)(4) standards (i.e., standards reflecting MACT) for categories and subcategories of sources emitting seven specific pollutants. Five of those listed pollutants are emitted by boilers and hydrochloric acid production furnaces: mercury, 2,3,7,8-tetrachlorodibenzofuran, 2,3,7,8-tetrachlorodibenzo-p-dioxin, polycyclic organic matter, and polychlorinated biphenyls.

As discussed below, EPA must assure that source categories accounting for not less than 90 percent of the aggregated emissions of each enumerated pollutant are subject to MACT standards (and of course is not prohibited from requiring more than 90 percent of aggregated emissions to be controlled by MACT standards). Congress singled out the pollutants in section 112(c)(6) as being of "'specific concern'" not just because of their toxicity but because of their propensity to cause substantial harm to human health and the environment via indirect exposure pathways (i.e., from the air through other media, such as water, soil, food uptake, etc.). Furthermore, these pollutants have exhibited special potential to bioaccumulate, causing pervasive environmental harm in biota and, ultimately, human health risks.

Section 112(c)(6) of the CAA requires EPA to list categories and subcategories of sources of seven specified pollutants to assure that sources accounting for not less than 90 percent of the aggregate emissions of each such pollutant are subject to standards under CAA section 112(d)(2) or 112(d)(4). In 1998, EPA issued the list of source categories pursuant to section 112(c)(6), and that list is published at 63 Fed. Reg. 17838, 17849, Table 2 (April 10, 1998).

In the 1998 listing, EPA identified the following three subcategories of the HWC source category that emit one or more of the seven section 112(c)(6) pollutants: (1) Hazardous waste incinerators—(emit mercury, dioxin, furans, polycyclic organic matter (POM) and polychlorinated biphenyls (PCBs)); (2) Portland cement manufacture: hazardous waste kilns—(emit mercury, dioxin, furans, and POM); and (3) lightweight aggregate kilns: hazardous waste kilns—(emit dioxin, furans, and mercury). These three subcategories are all subject to today's rule, which is issued pursuant to CAA section 112(d)(2). As explained below, the HWC NESHAP effectively controls emissions of the identified section 112(c)(6) pollutants from the identified subcategories. Accordingly, EPA considers the sources in these three subcategories as being ''subject to standards'' for purposes of section 112(c)(6).

Specifically, with regard to hazardous waste-burning incinerators, cement kilns, and lightweight aggregate kilns, EPA is adopting in this final rule MACT standards for mercury and dioxins/furans. EPA has already adopted MACT standards for control of POM and PCBs emitted by these sources in the 1999 rule, which standards were not reopened or reconsidered in this rulemaking. These standards are the CO/HC standards, which in combination with the Destruction Removal Efficiency (DRE) requirement, assure that these sources operate continuously under good combustion conditions which inhibit formation of POM and PCBs as combustion by-products, or destroy these HAP if they are present in the wastes being combusted.[55] See discussion in Part Four, Sections V.A and V.B of this preamble.

The HWC NESHAP also applies to hazardous waste-burning boilers and hydrochloric acid production furnaces. In particular, for these boilers and furnaces, this rule addresses emissions of dioxin/furan, mercury, POM and PCBs either through specific numeric standards for the identified HAP, or through standards for surrogate pollutants which control emissions of the identified HAP.

We estimate that approximately 620 pounds of mercury are emitted annually in aggregate from hazardous waste burning boilers in the United States.[56] Also, we estimate that hazardous waste burning boilers and hydrochloric acid production furnaces emit in aggregate approximately 2.3 and 0.2 grams TEQ per year of dioxin/furan, respectively. Controlling emissions of these HAP from area sources consequently reduces emissions of these HAP through application of MACT standards. We note that only major source boilers and hydrochloric acid furnaces are subject to the full suite of subpart EEE emission standards.[57] Section 112(c)(3) of the CAA requires us to subject area sources to the full suite of standards applicable to major sources if we find ''a threat of adverse effects to human health or the environment'' that warrants such action. We cannot make this finding for area source boilers and halogen acid production furnaces. 69 FR at 21212. Consequently, as proposed, area sources in these categories would be subject only to the MACT standards for mercury, dioxin/furan, and polycyclic

[55] Courts have repeatedly upheld EPA's authority under CAA section 112(d) to use a surrogate to regulate hazardous pollutants if it is reasonable to do so. See, e.g., *National Lime*, 233 F. 3d at 637 (holding that EPA properly used particulate matter as a surrogate for HAP metals).

[56] See USEPA ''Technical Support Document for HWC MACT Standards, Volume V: Emission Estimates and Engineering Costs,'' September, 2005, Section 3.

[57] We note that as a practical matter, however, the same MACT standards apply to both major and area source HCl production furnaces. This is because major sources are subject to the following standards: CO/HC, DRE, and total chlorine. Because the CO/HC and DRE standards are surrogates to control dioxin/furan, and the total chlorine standard is a surrogate to control metal HAP, area sources are subject to the same standards that address dioxin/furan, polycyclic organic matter, polychlorinated biphenyls, and mercury. There is an enforcement difference between the requirements, however. For area sources, an exceedance of the total chlorine standard (or failure to ensure that compliance is maintained) relates to control of mercury only while for a major source, the same failure relates to control of mercury, other metal HAP, and HCl and chlorine.

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organic matter and polychlorinated biphenyls (through the surrogate standards for carbon monoxide/hydrocarbons and destruction and removal efficiency) to control the HAP enumerated in section 112(c)(6). RCRA standards under Part 266, Subpart H for particulate matter, metals other than mercury, and hydrogen chloride and chlorine gas would continue to apply to these area sources unless an area source elects to comply with the major source standards in lieu of the RCRA standards. See § 266.100(b)(3) and the revisions to §§ 270.22 and 270.66.

Commenters refer to the ''two or fewer'' potential area source boilers we identified at proposal as ''negligible contributors'' and, therefore, conclude that these area sources should not be subject to major source standards for emission of these HAPs. Commenters did not quantify the amount of emissions from area sources, and did not even identify how many area sources are at issue. We do not know how many boilers and hydrochloric acid furnaces are area sources. We apparently underestimated the number given that four companies commented on the proposed rule saying that area sources should not be subject to major source standards for mercury, dioxin/furan, PCBs, and polycyclic organic matter, and one of those companies indicates it operates multiple area sources. Consequently, we continue to believe that area sources in these categories may have the potential to emit more than negligible levels of these HAP.

We also note that the major source standards are tailored to minimize the compliance burden for sources that emit low levels of HAP. Commenters raise concerns about applying the major source standards for HAP enumerated in section 112(c)(6) to liquid fuel boiler area sources. The emission standard compliance burden for liquid fuel boilers that have the potential to emit only low levels of mercury, dioxin/furan, and polycyclic organic matter is minimal. For example, sources that emit low levels of mercury because their feedstreams have low levels of mercury can elect to comply with the mercury emission standard by documenting that the mercury in feedstreams will not exceed the standard assuming zero removal by emission control equipment. We note that 75% of the liquid fuel boilers in our data base, and the two boilers cited by commenters, do not have emission control devices.

The compliance burden for the major source standards for dioxin/furan and for the surrogates to control other polycyclic organic matter—carbon monoxide/hydrocarbons and destruction and removal efficiency (DRE)—should also be minimal for area source liquid fuel boilers. The dioxin/furan standard applicable to the 90% of liquid fuel boilers with wet or no air pollution control equipment is compliance with the carbon monoxide/hydrocarbon standard and the DRE standard. Liquid fuel boilers already comply with these same standards under RCRA. The surrogate standards to control other polycyclic organic matter are also the carbon monoxide/hydrocarbon and DRE standards. Finally, we note that the DRE requirement under Subpart EEE is less burdensome than the DRE requirement under RCRA. Under Subpart EEE, a source needs to conduct a one-time only DRE test, provided that design and operation does not change in a manner than could adversely affect DRE. Under RCRA, the DRE test must be conducted each time the RCRA permit is renewed.

The incremental compliance burden associated with the other Subpart EEE major source requirements, such as the operations and maintenance plan, the startup, shutdown, and malfunction plan, operator training, and the automatic waste feed cutoff system should also be minimal for liquid fuel boilers without an emission control device. In addition, most of the requirements are either identical to or very similar to requirements under RCRA with which these area sources are already complying.[58]

B. Boilers Eligible for the RCRA Low Risk Waste Exemption

Comment: Several commenters state that EPA should exempt those boilers that qualify as Low Risk Waste Exemption (LRWE) burners under the RCRA Boiler and Industrial Furnace Rule at § 266.109 from the MACT particulate matter and destruction and removal efficiency (DRE) standards because EPA has not: (1) Made a demonstration that the data used to provide the exemption to low risk burners under RCRA is no longer valid; or (2) established in the affirmative that regulating these units will provide any benefit to human, health and the environment. Commenters believe that regulating LRWE units under Subpart EEE is unnecessary and inconsistent with RCRA subtitle C and more importantly, appears to be controlling LRWE units for control's sake.

Commenters also state that EPA has not properly addressed the requirements of CAA section 112(n)(7) regarding the inconsistency between the requirements for Low Risk Waste Exempt (LRWE) units under RCRA and those of Subpart EEE. The purported purpose of section 112(n)(7) is to allow EPA to avoid imposing additional emission limitations on a source category subcategory when such limitations would be unnecessary and duplicative.

In addition, commenters state that the costs associated with this MACT are much more than improved feed control or better back-end control. This proposed rule also requires substantial dollar investment in improved data acquisition, computer controls and recordkeeping systems, performance testing, training, development of plans, and other regulatory requirements.

Response: Boilers and hydrochloric acid production furnaces that currently qualify for the RCRA § 266.109 low risk waste exemption are not exempt from Subpart EEE under the final rule.

The Administrator does not have the authority under CAA section 112(d) to exempt sources that comply with RCRA § 266.109. Indeed, there is no necessary connection between the two provisions, since one is technology-based and the other is risk-based. CAA section 112(d)(2) requires the Administrator to establish technology-based emission standards, standards that require the maximum degree of reduction in emissions that is deemed achievable. Although section 112(d)(4) gives the Administrator the authority to establish health-based emission standards in lieu of the MACT standards for pollutants for which a health threshold has been established, we cannot use that authority to develop health-based standards for sources that comply with RCRA § 266.109 because those sources emit HAP for which a health threshold has not been established.

The final rule complies fully with CAA section 112(n)(7) by coordinating applicability of the RCRA and CAA requirements and precluding dual requirements. For example, RCRA requirements that are duplicative of MACT requirements will be removed from the RCRA operating permit when the permitting authority issues a certification of compliance after the source submits a Notification of Compliance.

We also note that the MACT standards are tailored to impose

[58] RCRA, 40 CFR Part 264 requirements that are similar to MACT requirements include: the general inspection requirements and personnel training requirements of Subpart B; the preparedness and prevention requirements of Subpart C, including design and operation of facility, testing and maintenance of equipment, and access to communications or alarm system; the contingency plan and emergency procedures requirements of Subpart D; and the operating requirements and monitoring and inspection requirements of Subpart O.

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minimal burden on sources that have low emissions of HAP. The particulate matter emission standard and associated testing can be waived (similar to the § 266.109 exemption) for boilers that elect to document that emissions of total metal HAP do not exceed the limits provided by § 63.1206(b)(14). Hydrochloric acid production furnaces are not subject to a particulate matter emission standard.

The compliance burden with the destruction and removal efficiency (DRE) standard is also minimal given that it is a one-time test, provided that the source does not change its design or operation in a manner that would adversely affect DRE. In addition, the compliance burden for sources with low levels of metals in their feedstreams is minimal. Sources can document compliance with the metals emission standards by assuming all metals in the feed are emitted (i.e., by assuming zero system removal efficiency). Under this procedure, boilers burning relatively clean wastes are not required to conduct a performance test to document compliance with the metals emission standards.

Further, we note that the MACT standard to control organic HAP emissions other than dioxin/furan is the same as the RCRA standard—demonstrating good combustion conditions by complying with a carbon monoxide standard of 100 ppmv.

Finally, we note that the ancillary requirements under MACT (e.g., personnel training; operating and maintenance plan; startup, shutdown, and malfunction plan) should not pose substantially higher costs than similar requirements under RCRA. See response to comment in Section A above. To the extent that compliance costs increase, we have accounted for those costs in our estimates of the cost of the final rule.[59]

C. Mobile Incinerators

Comment: A mobile incinerator used as a directly-fired thermal desorption unit at a Superfund remediation site should not be an affected source under this rule.

Response: EPA is not determining or changing the applicability of any hazardous waste burning unit under today's rule. A combustion unit that treats hazardous waste and meets the definition of incinerator at 40 CFR 260.10 is an affected source under this rule. 40 CFR part 63 also defines a source as any building, structure, facility, or installation which emits or may emit any air pollutant. A mobile incinerator at a remediation site meets this definition.

Comment: One commenter states that a subcategory with different standards must be created for mobile incinerators, or the standards for incinerators must be calculated using actual emissions data from mobile units.

Response: EPA did not have any emissions data from mobile incinerators in the database for the proposed rule. That data base was developed over many years with ample opportunity for public comment. We developed a data base for incinerators to support the 1996 proposed rule (61 FR 17358) and noticed that data base for public comment on January 7, 1997 (64 FR 52828). We updated that data base in July 2002, and noticed the revised data base for public comment (67 FR 44452). We used that revised data base to support the proposed rule. We did not receive comments providing data for mobile incinerators as a result of either public notice.

One commenter on the proposed rule provided a summary of emissions data from one test at a mobile incinerator. The commenter suggested that the data support its view that its mobile incinerator is unique and that EPA should consider subcategorizing incinerators according to mobile incinerators versus other incinerators. We analyzed these data and conclude that the final standards are readily achievable by this source. Moreover, as explained elsewhere, EPA's approach to assess the need for subcategorization is to apply a statistical test to determine whether the emissions data are statistically different from the remaining group. Given that owners and operators of mobile incinerators have not provided emissions data prior to proposal, and that the commenter provides summarized data for only one mobile incinerator (which also indicate that the source can achieve the emission standards in the final rule); we are not compelled to gather additional information, particularly given our time constraints to promulgate the final rule under a court-ordered deadline.

Comment: In support of subcategorizing mobile incinerators, commenters state that mobile thermal treatment systems are substantially different from hazardous waste incinerators. They are much smaller in size, firing capacity rate, refractory lining, and operating temperatures. Most of them treat contaminated soil, so have very high particulate feedrate loading with high ash content, rapid kiln rotation rate, and counter-current flow design like cement kilns. This results in high particulate matter emissions. They operate only for a short duration at a site (usually less than 6 months), and have no flexibility with regard to their waste feed.

Response: We recognize that there is variability between various sources' with regard to size, capacity, operating temperatures etc., and so we applied a statistical test to assess the need of subcategorization, as has been discussed above. The emissions data provided by the commenter also indicate the source can achieve the final standards. The soil entrained in desorber off-gases of mobile incinerators has a relatively large particle size, and is very easy to capture with conventional particulate control systems (such as a fabric filter) used by the incinerators.

Comment: Since mobile incinerators are relocated from site to site, the new source standard should not apply based on the erection date of the mobile unit.

Response: We are not changing the applicability of a new or reconstructed source designation in this rulemaking. The relocation issue is addressed in the definition of ''construction'' in 40 CFR Section 63.2, which states: ''Construction does not include the removal of all equipment comprising an *affected source* from an existing location and the reinstallation of such equipment at a new location * * *'' (emphasis added). Therefore, the relocation of an existing Subpart EEE affected source, such as a mobile incinerator, would not result in that mobile incinerator becoming a ''new'' source. Keep in mind also that the relocation exemption only applies to affected sources. If a mobile incinerator is relocated from an R&D facility (where the unit is not an affected source per Table 1 to Section 63.1200) to a location where the mobile incinerator would become an affected source, the relocation exemption within the definition of ''construction'' would not apply and the mobile incinerator would be a ''new'' source. Also, with regard to leased sources, the owner/operator of the facility is responsible for all affected sources operating at his/her facility regardless of whether the sources are owned or leased. The owner or operator should obtain from the leasing company all relevant information pertaining to the affected source in order to be able to demonstrate that the affected source is operating in compliance with the appropriate standards.

III. Floor Approaches

In this section we discuss comments addressing methodologies used in this rule for determining MACT floors. We address comments relating both to

[59] USEPA ''Technical Support Document for HWC MACT Standards, Volume V: Emission Estimates and Engineering Costs,'' September, 2005.

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general, overarching issues and to the specific methodologies used in the rule. Our most important point is that the methodologies EPA selected reasonably estimate the performance of the best performing sources by best accounting for these sources' total variability.

A. Variability

1. Authority To Consider Emissions Variability

Comment: Many commenters concur with our approach to account for emissions variability while several commenters believe that our approach does not adequately account for emissions variability. See discussions on separate topics below. One commenter, however, states that use of variability factors (however derived) is inherently unlawful and arbitrary and capricious. The commenter notes that, because floors for existing sources must reflect the ''average'' emission level achieved by the relevant best performing sources, they cannot reflect any worse levels of performance from the best performers. Indeed, the argument is that the Clean Air Act already accounts for variability by requiring EPA to base existing source floors on the average emission level achieved by the best performing sources.

The commenter continues by stating that EPA has added variability factors both to each individual source's performance and to the collective performance of the alleged best performers, in each case purporting to find an emission level that the individual or group would meet ninety-nine times out of 100 future emission tests. Thus, EPA ignores sources' measured performance in favor of the theoretical worst performance that might ever be expected from them. By looking to the best performers' worst performance rather than their average performance, EPA would set weaker floors than the Clean Air Act allows.

In addition, the commenter notes that EPA's approach to account for emissions variability is arbitrary and capricious because EPA never explains why it chose the 99th percentile for its variability adjustments rather than some other percentile.

Finally, the commenter notes that EPA appears to indicate that its variability analysis would either be applied to variation between sources or would affect EPA's statistical analysis of the variation between sources. The commenter states that any attempt by EPA to add a variability factor to adjust for intersource variability is unlawful and arbitrary and capricious.

Response: Our response explains our approach to estimating best performing sources' variability and addresses the following issues: (1) Considering the variability in each source's performance is necessary to identify the best performing sources and their level of performance; (2) EPA reasonably considered variability in ranking sources to identify the best performers and in considering the range of best performing sources' performance over time to identify an emission level that the average of those sources can achieve; (3) considering variability at the 99th percentile level is reasonable; (4) considering intersource variability by pooling run-to-run variability is appropriate; and (5) compliance test conditions do not fully reflect all of best performing sources' performance variability.

a. *Variability Must Be Considered.* Variability in each source's performance must be considered at the outset in identifying the best performing sources. This is simply another way of saying that best performers are those that perform best over time (i.e. day-in, day-out), a reasonable approach. This approach not only reasonably reflects the statutory language, but also furthers the ultimate objective of section 112 which is to reduce risk from exposure to HAP. Since most of the risk from exposure to emissions from this source category is associated with chronic exposure to HAP (see Part 1 section VI above), assessing a source's performance over time by accounting for variability is reasonable and appropriate.

For similar reasons, variability must be considered in ascertaining these sources' level of performance. Floors for existing sources must reflect ''the average emission limitation achieved by the best performing 12 percent'' of sources, and for new sources, must reflect ''the emission control that is achieved in practice by the best controlled source.'' Section 112 (d) (3). EPA construes these requirements as meaning achievable over time, since sources are required to achieve the standards at all times. This interpretation has strong support in the case law. See *Sierra Club* v. *EPA*, 167 F. 3d 658, 665 (D.C. Cir. 1999), stating that ''EPA would be justified in setting the floors at a level that is a reasonable estimate of the performance of the 'best controlled similar unit' under the worst reasonably foreseeable circumstances. It is reasonable to suppose that if an emissions standard is as stringent as 'the emissions control that is achieved in practice' by a particular unit, then that particular unit will not violate the standard. This only results if 'achieved in practice' is interpreted to mean 'achieved under the worst foreseeable circumstances'; see also *National Lime Ass'n* v. *EPA*, 627 F. 2d 416, 431 n. 46 (D.C. Cir. 1980) (where a statute requires that a standard be 'achievable,' it must be achievable under ''the most adverse circumstances which can reasonably be expected to recur'');

The court has further indicated that EPA is to account for variability in assessing sources' performance for purposes of establishing floors, and stated that this assessment may require EPA to make reasonable estimates of performance of best performing sources. *CKRC*, 255 F. 3d at 865–66; *Mossville Environmental Action Now* v. *EPA*, 370 F. 3d 1232, 1242 (D.C. Cir. 2004)(maximum daily variability must be accounted for when establishing MACT floors).[60] Indeed, EPA's error in *CKRC* was not in estimating best performing sources' variability, but in using an unreasonable means of doing so. *CKRC*, 255 F. 3d at 866; *Mossville*, 370 F. 3d at 1241.

Since the emission standards in today's rule must be met at all times, the standards need to account for performance variability that could occur on any single day of these sources' operation (assuming proper design and operation). See *Mossville*, 370 F. 3d at 1242 (upholding MACT floor because it was established at a level that took into account sources' long term performance, not just performance on individual days). Moreover, since EPA's database consists of single data points (because there are no continuous emission monitors for HAPs in stack emissions), EPA must of necessity estimate long-term performance, including daily maximum performance, from this limited set of short term data.

b. *EPA Reasonably Considered Variability in Ranking Sources to Identify the Best Performers and in Considering the Range of Best Performing Sources' Performance Over Time to Identify an Emission Level that the Average of Those Sources Can Achieve.* (1) *Selecting Best Performing Sources.* Each of the floor methodologies used in the rule considers various factors in ranking which sources are the best performing. For each methodology, we therefore consider the quantifiable variability of

[60] See also *Chemical Manufacturers Ass'n* v. *EPA*, 870 F. 2d 177, 228 (5th Cir. 1989) (''The same plant using the same treatment method to remove the same toxic does not always achieve the same result. Tests conducted one day may show a different concentration of the same toxic than are shown by the same test the next day. This variability may be due to the inherent inaccuracy of analytical testing, (i.e. 'analytical variability,' or to routine fluctuations in a plant's treatment performance.'')

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the ranking factors in determining which are the best performing sources. 69 FR at 21230–31. Specifically, we assess run-to-run variability (normally the only type of variability which we can quantify) of the factors used under each methodology to rank best performers. Where SRE/Feed is the ranking methodology, we thus assess run-to-run variability of hazardous waste HAP feedrate and of system removal efficiency. Where ranking is based on sources' emissions (the straight emissions methodology), we assess the run-to-run variability of emission levels. Where we use the air pollution control device methodology for ranking, we assess the run-to-run variability of emissions of the lowest-emitting sources (as we do for straight emissions) using the best air pollution control devices. For hydrochloric acid production furnaces, we assess the run-to-run variability of total chlorine system removal efficiency. *Id.*[61]

To account for run-to-run variability in these ranking factors, we rank sources by the 99th percentile upper prediction limit (UPL99). The UPL99 is an estimate of the value that the source would achieve in 99 of 100 future tests if it could replicate the operating conditions of the compliance test. *Id.* at 21231.

(2). *Assessing the Best Performers' Level of Performance Over Time*. Once we identify the best performing sources, we need to consider their emissions variability to establish a floor level that the average of the best performing sources can achieve day-in, day-out. There are two components of emissions variability that must be considered: run-to-run variability and test-to-test variability. Run-to-run emissions variability encompasses variability in individual runs comprising the compliance tests, and includes uncertainties in correlation of monitoring parameters and emissions, and imprecision of stack test methods and laboratory analyses. See 69 FR at 21232.[62] Test-to-test emissions variability is the variability that exists between multiple compliance tests conducted at different times and includes the variability in control device collection efficiency caused by testing at different points in the maintenance cycle of the emission control device[63], and the variability caused by other uncontrollable factors such as using a different stack testing crew or different analytical laboratory, and by different weather conditions (e.g., ambient moisture and temperature) that may affect measurements.

We are able to quantify run-to-run variability. We do so by applying a 99th percentile *modified* upper prediction limit to the averaged emissions of the best performing sources. *Id.* at 21233 and Technical Support Document Volume III section 7.2. The modified upper prediction limit accounts for run-to-run variability of the best performers by pooling their run variance (i.e., within-test condition variability).[64] See *Chemical Manufacturer's Ass'n* v *EPA*, 870 F. 2d 177, 228 (5th Cir. 1989) (upholding use of a variability factor derived, as here, by pooling the performance variability of the best performing plants). Using this approach, we ensure that the average of the best performing sources will be able to achieve the floor in 99 of 100 future performance tests, assuming these best performing sources could replicate their performance when attempting to operate under identical conditions to those used for the compliance test establishing the source as best performing. As just noted, we call this value the modified UPL 99.

The only instance in which we are able to quantify test-to-test variability (as noted above, the other significant component of total operating variability) is for fabric filters (baghouses) when used to control emissions of particulate matter. The modified UPL 99 in these instances reflects not only run-to-run variability, but test-to-test variability as well. That total variability is expressed by the Universal Variability Factor which is derived from analyzing long-term variability in particulate matter emissions for best performing sources across all of the source categories sources that are equipped with fabric filters. 69 FR at 21233. See also the discussion below in Section III.A.2.

Test-to-test variability must be accounted for in other instances as well, however. It follows that if the performance of most efficient fabric filters varies over time relative to particulate matter emissions, then so does their performance relative to the non-mercury metal HAP emissions. We also believe that particulate matter emissions variability from sources equipped with back-end controls other than fabric filters also exists, and is furthermore likely to be higher than what was calculated for fabric filters because there are more uncertainties associated with the correlations between operating parameter limits and control efficiency for these devices.[65] Again, it clearly follows that if the performance of these other control devices varies relative to particulate matter emissions (perhaps even more than what has already been quantified for fabric filters), then so does their performance relative to the non-mercury metal HAP emissions.

Although we cannot quantify this test-to-test variability, we can document its existence and its significance. We conducted two parallel analyses examining all situations where we had multiple test conditions for the sources ranked as best performing performing (examining separate pools for best performing sources under both the straight emissions and SRE/feed ranking methodologies). These analyses showed that these sources' emissions do in fact vary over time, sometimes significantly. In many instances sources had poorer system removal efficiencies and higher emission levels than those in the compliance test used to identify the source as best performing. We further projected that in many instances these best performing sources would not achieve their own UPL 99, the statistically determined prediction limit which captures 99 out of 100 future three-run test averages for the source, if they were to operate at the poorer system removal efficiency of its earlier test and used the federate of its later (best-performing) compliance test. This is significant because the UPL 99 reflects all of a source's run-to-run

[61] These ranking methodologies are discussed later in this section of the preamble, and in USEPA, ''Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 7.

[62] Analytic variability exists, and normally must be accounted for in establishing technology-based standards based on performance of the best-performing plants. *Chemical Manufacturers Ass'n* v. *EPA*, 870 F. 2d at 230.

[63] There are myriad factors that affect performance of an emissions control device. These factors change over time, including during the maintenance cycle of the device, such that it is virtually impossible to conduct future compliance tests under conditions that replicate the performance of the control device. See USEPA, ''Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 5.3.

[64] We note that the Agency used a statistical approach when proposing the NESHAP for Electric Utility Steam Generating Units. See memo from William Maxwell, EPA, to Utility MACT Project Files, entitled, ''Analysis of variability in determining MACT floor for coal-fired electric utility steam generating units,'' dated Nov. 26, 2003, Docket A–92–55.

[65] For example, sources equipped with electrostatic precipitators generally establish multiple operating limits to best assure compliance with the emission standard (feed control limits, power input limits, etc.). There is not an exact correlation between emission levels and operating levels because there are several factors that can affect the control efficiency of these air pollution control systems, such as variations in inlet loads, power inputs, spark rates, humidity, as well as particle resistivity. See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Sections 16 and 17.

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variability. Failure to meet the UPL 99 thus shows both that further variability exists, namely test-to-test variability, and that it is a significant component of total variability. We obtained similar results when we projected best performing sources' performance based on each of these sources' overall system removal efficiency obtained by pooling the removal efficiencies of all of its tests. In many instances, moreover, these projected levels exceeded floor levels calculated by using the straight emissions approach, which ranks best performers as those with the lowest emission levels. This point is discussed further in Section III.B below. EPA's analysis is set out in detail in chapters 16 and 17 of Volume III of the Technical Support Document.[66]

EPA's conclusion is that total variability includes both run-to-run and test-to-test variability, and that both must be accounted for in determining which are the best performing sources and what are their levels of performance over time. As explained in the following Sections B and C, EPA has accordingly adopted floor methodologies which account for this total variability either quantitatively or qualitatively. The approach advocated by the commenter simply ignores that variability exists. Since this approach is contrary to both fact and law, EPA is not adopting it.

c. *Quantifying Run-to-Run Variability at the 99th Percentile Level Is Reasonable.* We selected the 99% prediction limit to ensure a reasonable level '' namely the 99th percentile—of achievability for sources designed and operated to achieve emission levels equal to or better than the average of the best performing sources.[67] Because of the randomness of the emission values, there is an associated probability of the average of the best performing sources, and similarly designed and operated sources, not passing the performance test conducted under the same conditions.[68] At a 99% confidence level, the average of the best performing sources could expect to achieve the floor in 99 of 100 future performance tests conducted under the same conditions as its performance test.. The commenter thus sharply mischaracterizes a 99% confidence level as the worst performance of a best performing source.: the level in fact assumes identical operating conditions as those of the performance test.

EPA routinely establishes not-to-exceed standards (daily maximum values which cannot be exceeded in any compliance test) using the 99% confidence level. *National Wildlife Federation* v. *EPA*, 286 F. 3d 554, 572 (D.C. Cir. 2002).[69] At a confidence level of only 97% for example, the average of the best performing sources could expect to achieve the floor in only 97 of 100 future performance tests.

We note that the choice of a confidence level is *not* a choice regarding the stringency of the emission standard. Although the numerical value of the floor increases with the confidence level selected it only appears to become less stringent. If EPA selected a lower confidence interval, we would necessarily adjust the standard downward due to the expectation that a source would not be expected to achieve the standard for uncontrollable reasons a larger per cent of the time. We would then have to account in some manner for this inability to achieve the standard. See *Weyerhaeuser* v. *Costle*, 590 F. 2d 1011, 1056–57 (D.C. Cir. 1978) (also upholding standards established at 99 % confidence level). The governing issue is what level of confidence should the average of the best performing sources, and similarly designed and operated sources, have of passing the performance test demonstrating compliance with the standard. We believe that the 99% confidence level is a confidence level within the range of values we could have reasonably selected.[70]

d. *Considering Intersource Variability by Pooling Run-to-Run Variability is Appropriate.* The commenter believes that any attempt by EPA to add a variability factor to adjust for intersource variability is unlawful and arbitrary and capricious. We see no statutory prohibition in considering intersource run-to-run variability of the best performing sources (which is all our floor calculation does, by considering the pooled run-to-run variability of the best performing sources). Section 112(d)(3) states that MACT floors are to reflect the ''*average* emission limitation achieved'' but does not specify any single method of ascertaining an average. Considering the average run-to-run variability among the group of best performing sources is well within the language of the provision (and was upheld in *CMA*, as noted above; see 870 F. 2d at 228). The commenter's further argument that 'average' can only mean average of emission levels achieved in performance tests is inconsistent with the holding in *Mossville*, 370 F. 3d at 1242, that EPA must account for variability in developing MACT floors and that individual performance tests do not by themselves account for such variability.

We believe that it is reasonable and necessary to account for intersource variability of the best performing sources by taking the pooled average of the best performing sources' run-to-run variability. This is an aspect of identifying the average performance of those sources. Emissions data for each best performing source are random in nature, and this random nature is characterized by a stochastic distribution. The stochastic distribution is defined by its central tendency (average value) and the amount of dispersion from the point of central tendency (variance or standard deviation). Consequently, to define the performance of the average of the best performing sources, we must consider the average of the average emissions for the best performing sources as well as the pooled variance for those sources. Hence, we must consider intersource variability to identify the floor—the average performance of the best performing sources.

The commenter further states that EPA's attempt to adjust for intersource variability is unlawful, arbitrary, and capricious. EPA set floors at the 99th percentile worst emission level that it believed any source within the group of best performers could achieve, according to the commenter. The 99th percentile worst performance that could be expected from a source within the best performers is, simply put, not the average performance of the sources in that group, according to the commenter.

The commenter misunderstands our approach to calculate the floor—the floor is not the 99th percentile highest emission level that any best performing source could achieve. The floor for

[66] We explain in those sections that these projections assume that system removal efficiencies are constant across differing HAP federates and that the sources' historical (poorer) system removal efficiencies were not the primary result of operating at poorer ''controllable'' conditions relative to the most recent test condition. These are reasonable assumptions, as explained in section 17. 3 of Volume III of the Technical Support Document, although these assumptions also create a measure of uncertainty regarding the emissions projections.

[67] Note, again, that the variability we quantify by these analyses is within-test condition variability only. We cannot quantify test-to-test variability and thus cannot quantify sources' total variability.

[68] See Volume III of the Technical Support Document, Section 7.2 .

[69] The opinion notes further that percentiles for standards expressed as long-term average typically use a lower confidence level (usually 95 %c) due to the opportunity to lower the overall distribution with multiple measurements. 286 F. 3d at 573. The standards in this rule are necessarily daily maximum standards because continuous emissions monitors for HAP do not exist or have not been demonstrated on all types of Subpart EEE sources.

[70] See also *Chemical Mfrs. Ass'n* v. *EPA*, 870 F. 2d at 229 (99th percentile daily variability factor is reasonable); 227 (''the choice of statistical methods is committed to the sound discretion of the Administrator'').

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existing sources is calculated as the 99th percentile modified upper prediction limit of the average of the best performing sources. It represents the average of the best performing sources' emissions levels plus the pooled within-test condition variance of the best performing sources. The floor for existing sources is not the highest 99th percentile upper prediction limit for any best performing source as the commenter states.

e. *Why isn't Total Variability Already Accounted for by Compliance Test Conditions?*

Comment: One commenter states that EPA's use of variability factors along with worst-case data is unlawful and arbitrary and capricious. EPA has stated that its use of worst case ''compliance'' data accounts for variability. EPA admits that compliance data reflect special worst case conditions created artificially for the purpose of obtaining lenient permit limits, according to the commenter. EPA provides no reason whatsoever to believe that a source would continue to operate under such conditions even one percent of the time. Thus, the commenter concludes, by applying a 99 percent variability factor to compliance test data, EPA ensures that the adjusted data do not accurately reflect the performance of any source. Accordingly, EPA's use of a variability factor is unlawful.

The commenter also states that, to increase compliance data with the reality that sources will not be operating under the worst case conditions except during permit setting tests, the Agency's use of a variability factor with compliance data is arbitrary and capricious.

Response: All but two standards in the final rule are based on compliance test data—when sources maximized operating parameters that affect emissions to reflect variability of those parameters and to achieve emissions at the upper end of the range of normal operations. Use of these data is appropriate both because they are data in EPA's possession for purposes of section 112(d)(3) and because these data help account for best performing sources' operating variability. *CKRC,* 255 F. 3d at 867.

The main thrust of the comment is that total variability is accounted for by the conditions of the performance test, so that making further adjustments to allow for additional variability is improper. The commenter believes that the floor should be calculated simply as the average emissions of the best performing sources and that this floor would encompass the range of operations of the average of the best performing sources. We disagree.

The compliance test is designed to mirror the outer end of the *controllable* variability occurring in normal operations. These controllable factors include the amount of HAP fed to a source in hazardous waste, and controllable operating parameters on pollution control equipment (such as power input to ESPs, or pressure drop across wet scrubbers, factors which are reflected in the parametric operating limits written into the source's permit and which are based on the results of the compliance testing). However, this is plainly not all of the variability a source experiences. Other components of run-to-run variability, including variability relating to measuring (both stack measurements and measurements at analytic laboratories) are not reflected, for example. Nor is test-to-test variability reflected, notably the point in the maintenance cycle that testing is conducted and the variability associated with those inherently differing test conditions even though the source attempts to replicate the test conditions (e.g., measurement variability attributable to use of a different test crew and analytical laboratory and different weather conditions such as ambient temperature and moisture). Other changes that occur over time are due to a wide variety of factors related to process operation, fossil fuels, raw materials, air pollution control equipment operation and design, and weather. Sampling and analysis variations can also occur from test to test (above and beyond those accounted for when assessing within-test variability) due to differences in emissions testing equipment, sampling crews, weather, and analytical laboratories or laboratory technicians.

Thus, there is some need for a standard to account for this additional variability, and not simply expect for a single performance test to account for it. The analyses in Sections 16 and 17 of Volume III of the Technical Support Document confirm these points.

Moreover, the best performing sources (and the average of the best performers) must be able to replicate the compliance test if they are to be able to continue operating under their full range of normal operations. It is thus no answer to say that the best performing sources could operate under a more restricted set of conditions in subsequent performance tests and still demonstrate compliance, so that there is no need to assure that results of initial performance tests can be replicated. To do so would no longer allow the best performing sources (and thus the average of the best performing sources) to operate under their full range of normal operations, and thus impermissibly would fail to account for their total variability.

As discussed throughout this preamble, emissions variability—run-to-run and test-to-test variability—is real and must be accounted for if a best performing source is to be able to replicate the emissions achieved during the initial compliance test. We consequently conclude that we must account for variability in establishing floor levels, and that merely considering the average of compliance test data fails to do so. We have therefore quantified run-to-run variability using standard statistical methodologies, and accounted for test-to-test variability either by quantifying it (in the case of fabric filter particulate matter removal performance) or accounting for it qualitatively (in the case of the SRE/feed ranking methodology).

Comment: The commenter notes that if EPA believes that single performance test results do not accurately capture source's variability, the solution is to gather more data, not to avoid using a straight emissions methodology. EPA cannot use this as an excuse for basing floor levels on a chosen technology rather than the performance of the best performing sources.

Response: There is no obligation for EPA to gather more performance data, since the statute indicates that EPA is to base floor levels on performance of sources ''for which the Administrator has emissions information.'' Section 112(d)(3)(A); *CKRC,* 255 F. 3d at 867 (upholding EPA's decision to use the compliance test data in its possession in establishing MACT standards). Indeed, the already-tight statutory deadlines for issuing MACT standards would be even less feasible if EPA took further time in data gathering. EPA notes further that because particulate matter continuous emission monitors are not widely used, even further data gathering would be limited to snapshot, single performance test results, still leaving the problem of estimating variability from a limited data set.[71] See also *Sierra Club* v. *EPA*, 167 F. 3d at 662 (''EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem'').

Thus, EPA has no choice but to assess best performers and their level of performance on the basis of limited amounts of data per source. As explained in the previous response to

[71] Performance tests take an average of 5–8 days to conduct, and cost approximately from $200,000—$500,000 per test. The commenter's off-hand suggestion appears to have ignored these realities.

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comments, EPA has selected a methodology that reasonably do so.

EPA notes further that it has carefully examined those instances where there are multiple test conditions (usually compliance tests conducted at different times) for sources ranked as best performing. This analysis confirms EPA's engineering judgment that total variability is not fully encompassed in the single test condition results used to identify these sources as best performing, and that without taking this additional variability into account, best performing sources would be unable to achieve the floor standard reflecting their own performance in those single test conditions.[72]

2. Universal Variability Factor for Particulate Emissions Controlled with a Fabric Filter

Comment: One commenter states that, in calculating the universal variability factor (UVF) to account for total variability—test-to-test variability and within-test variability—for sources controlling particulate matter with a fabric filter, it appears that EPA considered the variability of sources that are not best performing sources. If so, EPA has contravened the law.

The commenter also states that EPA's attempt to use a variability factor derived from an analysis of variability of multiple sources is unlawful. If EPA considers variability at all, it must consider the relevant source's variability.

Response: We developed the particulate matter UVF for sources equipped with a fabric filter using data from best performing sources only.[73]

It is reasonable to aggregate particulate matter emissions data across source categories for all best performing sources equipped with a fabric filter because the relationship between standard deviation and emissions of particulate matter is not expected to be impacted by the source category type.[74] Rather, particulate emissions from fabric filters are a function of seepage (i.e., migration of particles through the filter cake) and leakage (i.e., particles leaking through pores, channels, or pinholes formed as the filter cake builds up). The effect of seepage and leakage on emissions variability should not vary across source categories.[75] Put another way, fabric filter particulate matter reduction is relatively independent of inlet loadings to the fabric filter. 69 FR 21233. This is confirmed by the fact that there are no operating parameters that can be readily changed to increase emissions from fabric filters, *id.,* so control efficiencies reflected in test conditions from different source types will still accurately reflect fabric filter control efficiency.

3. Test-to-Test Variability

Comment: Several commenters state that EPA seems to have ignored test-to-test variability resulting from changes that occur over time such as: normal and natural changes in a wide variety of factors related to process operation, fuels, raw materials, air pollution control equipment operation and design, and differences in emissions testing equipment, sampling crews, weather, analytical laboratories or laboratory technicians. All these sources of variation are expected in that they are typical and are not aberrations. In addition, there are unexpected sources of variability that occur in real-world operations, which also must be accommodated according to commenters.

Commenters state that using compliance test data and assessing within-test condition variability (i.e., run variance) do not fully account for test-to-test variability and thus understates total variability. Consequently, the average of the best performing sources may not be able to achieve the same emission level under a MACT performance test when attempting to operate under the same conditions as it did during the compliance test EPA used to establish the floor. Even though sources generally operated at the extreme high end of the range of normal operations during the compliance tests EPA uses to establish the standards, the average of the best performing sources would need to operate under those same compliance test conditions to establish the same operating envelope—the operating envelope needed to ensure the source can operate under the full range of normal emissions.

Response: We agree with commenters that we have not quantified test-to-test variability when establishing the floors for standards other than particulate matter where a best performing source uses a fabric filter. We are able to quantify only within-test variability (i.e., run-to-run variability) for the other floors, which is only one component of total variability. This is one reason we use the SRE/Feed approach wherever possible rather than a straight emissions approach to rank the best performing sources to calculate the floor—the SRE/Feed ranking approach derives floors that better estimate the levels of best performing sources' performance. See also discussion in Part Four, Section III.A, and the discussion below documenting that test-to-test variability can be substantial.

Comment: One commenter states that EPA should use the universal variability factor (UVF) that accounts for total variability for particulate matter controlled with a fabric filter to derive a correction factor to account for the missing test-to-test variability component of variability for semivolatile metals and low volatile metals. The commenter then suggests that the within-test variability for semivolatile and low volatile metals be adjusted upward by the correction factor to correct for the missing test-to-test variability component.

The commenter focused on cement kilns and compared the total variability imputed from the UVF for the three cement kiln facilities used to establish the UVF to the within-test variability (i.e., run variance) for each facility. The commenter determined that, on average for the three facilities, total variability was a factor of 4.2 higher than within-test variability. Because semivolatile and low volatile metals are also controlled with a fabric filter, the commenter suggested that the total variability of particulate matter could be used as an estimate of the total variability for semivolatile and low volatile metals. Thus, the commenter suggested that the within-test condition variability for semivolatile and low volatile metals be increased by a factor of 4.2 to account for total variability when calculating floors.

Response: As stated throughout this preamble, we believe that there is variability in addition to within-test condition (i.e., run-to-run) variability that we cannot quantify—that we refer to as test-to-test variability. We also do not believe this test-to-test variability is captured by compliance test operating conditions as discussed above, and thus establishing the floor using emissions data representing the extreme high end of the range of normal emissions does not account for test-to-test variability. We disagree, however, with the commenter's attempts to quantify the remaining test-to-test variability for floors other than particulate matter

[72] USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'', September 2005, Sections 16 and 17.

[73] USEPA, ''Draft Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'', March 2004, p. 5–4.

[74] In addition, emissions are not generally affected by particulate inlet loading.

[75] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 5.3.

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where all best performing sources are equipped with fabric filters.

We generally agree with the commenter's approach for extracting the test-to-test component of variability using the UVF curve for particulate matter controlled with a fabric filter.[76] The commenter has documented that for cement kilns, test-to-test variability of particulate emissions controlled with a fabric filter is on average a factor of 4.2 higher than within-test variability.

We believe the commenter's suggestion to adopt this correction factor to semivolatile and low volatile metals is technically flawed and for several reasons would present statistical difficulties. First, total variability for semivolatile metals and low volatile metals controlled with a fabric filter can be different from the total variability of particulate matter controlled with a fabric filter because: (1) The test methods are different (i.e., Method 5 for particulate matter and Method 29 for metals) and thus sample extraction and analysis methods differ; (2) the factors that affect partitioning of particulate matter to combustion gas (i.e., entrainment) are different from the factors that affect semivolatile metal partitioning to the combustion gas (i.e., metal volatility); and (3) the volatility of semivolatile metals is affected by chlorine feedrates.

Second, adopting a variability factor applicable to fabric filters for use on electrostatic precipitators[77] is problematic because both test-to-test and within-test variability of these emission control devices can be vastly different. Factors that affect emissions variability for sources equipped with a fabric filter include: (1) Bag wear and tear due to thermal degradation and chemical attack; and (2) variability in flue gas flowrate. Factors that affect emissions variability for sources equipped with an electrostatic precipitator are different (see discussion in Section III.B above) and include: variations in particle loading and particle size distribution, erosion of collection plates, and variation in fly ash resistivity due to changes atmospheric moisture and in sulfur feedrate (e.g. different type of coal).

Finally, the approach raises several difficult statistical questions including: (1) What is the appropriate number of runs to use to identify the degrees of freedom and the t-statistic in the floor calculations (e.g., should we use the number of runs available for metals emissions for the source or the number of runs available for particulate matter emissions from which the correction factor is derived); and (2) should we use a generic correction factor for all source categories or calculate source category-specific or source-specific correction factors.

For these reasons, we believe the approach we use for quantifying baghouse particulate matter collection variability is not readily transferable to other types of control devices and other HAP. We therefore are not applying a quantified correction factor in the final rule but rather are using a MACT ranking methodology that qualitatively accounts for total emission variability, notably test-to-test variability.

B. SRE/Feed Methdology

1. Description of the Methodology

As proposed, we are using the System Removal Efficiency (SRE)/Feed approach to determine the pool of best performing sources for those HAP whose emissions can be controlled in part by controlling the hazardous waste feed of the HAP—that is, controlling the amount of HAP in the hazardous waste fed to the source. These are HAP metals and chlorine. Our basic approach is to determine the sources in our database with the lowest hazardous waste feedrate of the HAP in question (semi-volatile metals, low volatile metals, mercury, or chlorine), and the sources with the best system removal efficiency for the same HAP. The system removal efficiency is a measure of the percentage of HAP that is removed prior to being emitted relative to the amount fed to the unit from all inputs (hazardous waste, fossil fuels, raw materials, and any other input). The pool of best performing sources are those with the best combination of hazardous waste feedrate and system removal efficiency as determined by our ranking procedure, separate best performer pools being determined for each HAP in question (SVM, LVM, mercury, and chlorine), reflecting the variability inherent in each of these ranking factors (see A.2.a.(1) above). We then use the emission levels from these sources to calculate the emission level achieved by the average of the best performing sources, as also explained in the previous section. This is the MACT floor for the HAP from the source type. For new sources, we use the same methodology but select the emission level (adjusted statistically to account for quantifiable variability) of the source with the best combined ranking. A more detailed description of the methodology is found in Volume III of the Technical Support Document, section 7.3.

This methodology provides a reasonable estimate of the best performing sources and their level of performance for HAP susceptible to hazardous waste feed control. As required by section 112(d)(2), EPA has considered measures that reduce the volume of emissions through process changes, or that prevent pollutant release through capture at the stack, and assessed how these control measures are used in combination. Section 112(d)(2)(A), (C) and (E). Hazardous waste feed control is clearly a process change that reduces HAP emissions; air pollution control systems collect pollutants at the stack. These are the best systems and measures for controlling HAP emissions from hazardous waste combustors. 69 FR at 21226. In considering these factors, EPA has necessarily considered such factors as design of different air pollution control devices, waste composition, pollution control operator training and behavior, and use of pollution control devices and methodologies in combination. *CKRC*, 255 F. 3d at 864–65 (noting these as factors, in addition to a particular type of air pollution control device, that can influence pollution control performance); 69 FR at 21223 n. 47 (system removal efficiency measures all internal control mechanisms as well as back-end emission control device performance).

EPA also believes that this methodology reasonably estimates the best performing sources' level of performance by accounting for these sources' total variability, including their performance over time. The methodology quantifies run-to-run variability. See 69 FR at 21232–33. It does not quantify test-to-test variability because we are unable to do so for these pollutants. (See sections A. 2.a.(2) and 3 above.) Although all variability must be accounted for when calculating floors, the only definitive way to accurately quantify this test-to-test emissions variability is through evaluation of long-term continuous emissions monitoring data, which do not presently exist. We believe, however, that SRE/Feed methodology provides some margin for estimating this additional, non-quantifiable variability. This is illustrated in the technical support document (volume III section 17), which clearly shows that the straight emissions approach underestimates (indeed, fails to account

[76] We note, however, that an argument could be made for using a source or condition-specific correction factor rather than averaging the correction factors for all sources within a source category.

[77] We infer that the commenter suggests that we use this correction factor for semivolatile and low volatile metals controlled by both electrostatic precipitators and fabric filters since the majority of cement kilns are equipped with electrostatic precipitators.

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for) lower emitting sources' long-term emissions variability. These lower emitting sources that would otherwise not meet the floor levels on individual days under the straight emission approach would be able (or otherwise are more capable) to do so under the SRE/feed approach.

EPA further believes that the SRE/Feed methodology appropriately accounts for design variability that exists across sources for categories, like those here, which consist of a diverse and heterogeneous mixture of sources. This is especially true of incinerators and boilers, for which there are smaller on-site units that are located at widely varying industrial sectors that essentially combust single, or multiple wastestreams that are specific to their industrial process, and off-site commercial units dealing with many different wastes of different origins and HAP metal and chlorine composition. EPA believes that these variations are best encompassed in the SRE/Feed approach, rather than with a subcategorization scheme that could result in anomalous floor levels because there are fewer sources in each source subcategory from which to assess relative performance.[78] See *Mossville*, 370 F. 3d at 1240 (upholding floor methodology involving reasonable estimation, rather than use of emissions data, when sources in the category have heterogeneous emission characteristics due to highly variable HAP concentrations in feedstocks).

Use of the SRE/Feed approach also avoids basing the floor standards on a combination of the lowest emitting low feeding sources and the lowest emitting high feeding sources. For example, the five lowest emitting incinerators for semivolatile metals that would comprise the MACT pool using a straight emissions methodology include three sources that are the first, second, and fourth lowest feeding sources among all the incinerators.[79] The other two best performing incinerators have the first and second best system removal efficiencies (and the highest two metal feedrates). It is noteworthy that the highest feed control level among these best performing sources is over three orders of magnitude higher than the feed control level of the lowest feeding best performing source.[80] Establishing limits dominated by both superior feed control sources and back-end controlled sources would result in floor levels that are not reflective of the range of emissions exhibited by either low feeding sources or high feeding sources and would more resemble new source standards for both of these different types of combustors. Such floors could lead to situations, for example, where commercial sources could find it impracticable to achieve the standards without reducing the overall scope of their operations (since the standard could operate as a direct constraint on the amount of hazardous waste that could be fed to the device, in effect depriving a combustion source of its raw material). Similarly, low feeding sources that cannot achieve this floor level may be required to add expensive back-end control equipment that would result in minimal emission reductions, likely forcing the smaller on-site source to cease hazardous waste treatment operations and to instead send the waste to a commercial treatment unit.

The inappropriateness of a straight emissions-based approach for feed controlled pollutants for commercial hazardous waste combustors is further highlighted by the fact that several commercial hazardous waste combustors that are achieving the design level of the particulate matter standard are not achieving the semivolatile and/or low volatile metals straight emissions based design level, and, in some instances, floor level.[81] This provides further evidence that low feeding sources are in fact biasing some of the straight emissions-based floors to the extent that even the sources with the most efficient back-end control devices would be incapable of achieving the emission standards calculated on a straight emission basis.

These results are inconsistent with the intent of the section 112 (d) (see 2 Legislative History at 3352 (House Report) stating that MACT is not intended to drive sources out of business). Standards that could force commercial sources to reduce the overall scope of their operations are also inconsistent with requirements and objectives of the Resource Conservation and Recovery Act to require treatment of hazardous wastes before the wastes can be land disposed, and to encourage hazardous waste treatment. RCRA sections 3004 (d), (e), (g) and 1003 (a) (6); see also section 112 (n) (7) of the CAA, stating that section 112 (d) MACT standards are to be consistent with RCRA subtitle C emission standards for the same sources to the maximum extent practicable (consistent with the requirements of section 112 (d)); moreover, EPA doubts that a standard which precludes effective treatment mandated by a sister environmental statute must be viewed as a type of best performance under section 112 (d). The SRE/Feed methodology avoids this result by always considering hazardous waste feed control in combination with system removal efficiency and according equal weight to both means of control in the ranking process.

It is also important to emphasize what the SRE/Feed methodology does not evaluate: Feed control of HAP in fossil fuel or raw material inputs to these devices. Emission reduction of these HAP are controllable by back-end pollution control devices which remove a given percentage of pollutants irrespective of their origin and is assured by the system removal efficiency portion of the methodology, as well as through the particulate matter standard (see section IV.A below). Feed control of these inputs is not a feasible means of control, however. HAP content in raw materials and fossil fuel can be highly variable, and so cannot even be replicated by a single source. Raw material and fossil fuel sources are also normally proprietary, so other sources would not have access to raw material and fossil fuel available (in its performance test) to a source with low HAP fossil fuel and raw material inputs. Such sources would thus be unable to duplicate these results. Moreover, there are no commercial-scale pretreatment processes available for removing or reducing HAP content in raw materials or fossil fuels to these units. See technical support document volume III section 17.5 and 25; see also 69 FR at 21224 and n. 48.

2. Why Aren't the Lowest Emitters the Best Performers?

Some commenters nonetheless argue that best performing sources can only mean sources with the lowest HAP

[78] At proposal, we conducted a technical analysis to determine potential subcategorization options. We then conducted an analysis to determine if these different types of sources exhibited statistically different emissions. Although EPA in the end determined that these source categories should not be subcategorized further, this decision was based in part because the SRE/Feed methodology better accounts for the range of emissions from the best performing sources for these diverse combustion types. See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 4, for an explanation of the subcategorization assessment, which includes examples of anomalous floor results for certain subcategorization approaches.

[79] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Appendix C, Table ''E_INC_SVMCT'' and, to determine relative feed control and SRE rankings for these sources, Appendix E Table ''SF_INC_SVMCT''.

[80] Source 340 had a semivolatile metal feed control MTEC of 892 μg/dscm, whereas source 327 had a semivolatile metal feed control MTEC of 3,080,571 μg/dscm.

[81] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 17.4

emissions, and that the SRE/Feed methodology is therefore flawed because it does not invariably select lowest emitters as best performers.[82] The statute does not compel this result. There is no language stating that lowest emitting sources are by definition the best performers. The floor for existing sources is to be based on the average emission limitation achieved by the ''best performing'' 12 per cent of sources. Section 112(d)(3)(A). This language does not specify how ''best performing'' is to be determined: by means of emission level, emission control efficiency, measured over what period of time, etc. See *Sierra Club* v. *EPA*, 167 F. 3d at 661 (language of floor requirement for existing sources ''on its own says nothing about how the performance of the best units is to be calculated''). Put another way, this language does not answer the question of which source is the better performing: one that emits 100 units of HAP but also feeds 100 units of that HAP, or one that emits 101 units of the HAP but feeds 10,000 units. See 69 FR at 21223. Moreover, new source floors are to be based on the performance of the ''best controlled'' similar source achieved in practice. Section 112(d)(3). ''Best controlled'' can naturally be read to refer to some means of control such as system removal efficiency as well as to emission level.

Use of a straight emissions approach to identify floor levels can lead to arbitrary results. Most important, as explained above, it leads to standards which cannot be achieved consistently even by the best performing sources because operating variability is not accounted for. This is shown in section 17 of volume III of the technical support document. These analyses show that (a) emissions from these sources do in fact vary from test-to-test, and that no two snapshot emission test results are identical; (b) our statistical approach that quantifies within test, run-to-run variability underestimates the best performing sources' long term, test-to-test variability;[83] (c) best performing sources under the straight emissions approach advocated by the commenter (i.e. the lowest emitting sources) had other test conditions that did not achieve straight emission floor levels; (d) best performing sources under the straight emissions approach are projected, based on two separate analyses using reasonable assumptions, not to achieve the straight emissions floor standard based on these sources' demonstrated variations in system removal efficiencies over time (i.e., from test-to-test); and (e) SRE/feed methodology yields floor levels (i.e. the floor standards in the rule) that better estimate the emission levels reflecting the performance over time of the best performing sources. See *Mossville,* 370 F. 3d at 1242 (floor standard is reasonable because it accommodated best performing source's highest level of performance (i.e. its total variability), even though the level of the standard was higher than any individual measurement from that source).

As noted earlier, the straight emissions methodology can also limit operation of commercial units because the standard reflects a level of hazardous waste feed control which could force commercial units to burn less hazardous waste because such standards more resemble new source standards. The straight emissions methodology also arbitrarily reflects HAP levels in raw materials and fossil fuels, an infeasible means of control for any source.

Another arbitrary, and indeed impermissible, result of the straight emissions methodology is that in some instances (noted in responses below) the methodology results in standards which would force sources identified as best performing to install upgraded air pollution control equipment. This result undermines section 112 (d) (2) of the statute, by imposing what amounts to a beyond the floor standard without consideration of the beyond the floor factors: the cost of achieving those reductions, as well as energy and nonair environmental impacts.

Comment: The commenter states that because MACT floors must reflect the ''actual performance'' of the relevant best performing hazardous waste combusters, this means that the lowest emitters must be the best performers. The commenter cites *CKRC* v. *EPA*, 255 F. 3d at 862 and other cases in support.

Response: As explained in the introduction above, the statute does not specify that lowest emitters are invariably best performers. Nor does the caselaw cited by the commenter support this position. The D.C. Circuit has held repeatedly that EPA may determine which sources are best performing and may ''reasonably estimate'' the performance of the top 12 percent of these sources by means other than use of actual data. *Mossville,* 370 F. 3d at 1240–41 (collecting cases). In *Mossville,* sources had varying levels of vinyl chloride emissions due to varying concentrations of vinyl chloride in their feedstock. Individual measurements consequently did not adequately represent these sources' performance over time. Not-to-exceed permit limits thus reasonably estimated sources' performance, corroboration being that individual sources with the lowest long-term average performance occasionally came close to exceeding those permit limits. *Id.* at 1241–42. The facts are similar here, since our examination of best performing sources with multiple test conditions likewise shows instances where these sources would be unable to meet floors established based solely on lowest emissions (including their own). As here, EPA was not compelled to base the floor levels on the lowest measured emission levels.

Comment: The same commenter maintains that it is clear from the caselaw that MACT floors must reflect the relevant best performing sources' ''actual performance'', and that this must refer to the emissions level it achieves.

Response: As just stated, the D.C. Circuit has repeatedly stated that EPA may make reasonable estimates of sources' performance in assessing both which sources are best performing and the level of their performance. The court has further indicated that EPA is to account for variability in assessing sources' performance for purposes of establishing floors, and this assessment may require that EPA make reasonable estimates of performance of best performing sources. *CKRC,* 255 F. 3d at 865–66; *Mossville,* 370 F. 3d at 1241–42. See discussion in A.1.a above.

Comment: The commenter generally maintains that EPA's floor approaches consider only the performance of back-end pollution control technology and so fail to capture other means of HAP emission control that otherwise would be captured if EPA were to assess performance based on the emission levels each source achieved.

Response: EPA agrees that factors other than end-of-stack pollution control can affect metal HAP and chlorine emissions. This is why EPA assesses performance for these HAP by considering combinations of system removal efficiency (which measures every element in a control system resulting in HAP reduction, not limited to efficiency of a control device), and hazardous waste HAP feed control. Standards for dioxins and other organic HAP (which have no hazardous waste feed control component) likewise assess every element of control.

[82] In fact, many of the sources identified as best performing under the SRE/Feed methodology are also the lowest emitting, although this is not invariably the case.

[83] Best performing sources pursuant to the straight emissions methodology are projected to be unable to achieve the levl of their of their performance test emissions even after they are adjusted upward to account for run-to-run variability.

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EPA also accounts for the variability of HAP levels in the (essential) use of raw materials and fossil fuels by assessing performance of back-end control but not evaluating fuel/raw material substitution, which, as discussed later in the response to comments section, are infeasible means of control. *Mossville,* 370 F. 3d at 1241–42, is instructive on this point. The court held that the constant change in raw materials justified EPA's use of a regulatory limit to estimate a floor level. The reasonableness of this level was confirmed by showing that the highest individual data point of a best performing source was nearly at the level of the regulatory limit. Under the commenter's approach, the court would have had no choice but to hold that the level the source achieved in a single test result using 'clean' raw materials—i.e. the 'level achieved' in the commenter's language—dictated the floor level.

See part four, section III.C for EPA's response to this comment as it relates to the methodologies for the particulate matter standard and total chlorine standard for hydrochloric acid production furnaces.

Comment: The commenter notes that the SRE/Feed methodology does not account for all HAP emissions, failing to account for metal and chlorine feedrates in raw materials and fossil fuels.

Response: The methodology does not assess the effect of feed ''control'' of HAP levels in raw materials or fossil fuels which may be inputs to the combustion units. This is because such control may not be replicable by an individual source, or duplicable by any other source. See 69 FR at 21224 and n. 48; *Sierra Club* v. *EPA*, 353 F. 3d 976, 988 (''substitution of cleaner ore stocks was not * * * a feasible basis on which to set emission standards. Metallic impurity levels are variable and unpredictable both from mine to mine and within specific ore deposits, thereby precluding ore-switching as a predictable and consistent control strategy'').[84] EPA's methodology does account for HAP control of all inputs by assessing system removal efficiency, which measures reductions of HAPs in all inputs (including fossil fuel and raw materials) to a hazardous waste combustion unit. Further, nonmercury metal HAP emissions attributable to raw materials and fossil fuels are effectively controlled with the particulate matter standard, a standard that is based on the sources with best back-end control devices. The only element which is not controlled is what cannot be: HAP levels in feeds for which fuel or raw material switching is simply not an available option.

Comment: The commenter further maintains, however, that the means by which sources may be achieving levels of performance are legally irrelevant (citing *National Lime Ass'n* v. *EPA*, 233 F. 3d 625 , 634 and 640 (D.C. Cir. 2000)). The fact that sources with ''cleaner'' raw material and fossil fuel inputs may not intend to have resulting lower HAP emissions is therefore without legal bearing.

Response: The issue here is not one of intent. The Court, in *National Lime,* rejected the argument that sources' lack of intent to control a HAP did not preclude EPA from establishing a section 112(d) standard for that HAP. See 233 F. 3d at 640, rejecting the argument that HAP metal control achieved by use of back-end control devices (baghouses) could not be assessed by EPA because the sources used the back-end control devices to control emissions of particulate matter. The case did not consider the facts present here, where the issue is not a source's intent, but rather a means of control which involves happenstance (composition of HAP in raw materials and fossil fuel used the day the test was conducted) and so is neither replicable nor duplicable.

National Lime also held that EPA must establish a section 112(d) emission standard for every HAP emitted by a major source. 233 F. 3d at 634. EPA is establishing emission standards for all HAP emitted by these sources. In establishing these standards, EPA is not evaluating emission reductions attributable to the type of fossil fuel and raw material used in the performance tests, because this is not a ''feasible basis on which to set emission standards.'' *Sierra Club,* 353 F. 3d at 988.

EPA thus does not agree with this comment because the issue is not a source's intent but rather whether or not to assess emission reductions from individual test results which reflect an infeasible means of control.

Comment: The commenter maintains, however, that even if individual sources (including those in the pool of best performing sources) cannot reduce HAP concentrations in raw materials and fossil fuels, they may achieve the same reductions by adding back-end pollution control. Nothing in section 112(d)(3) says that sources have to use the means of achieving a level of performance that other best performing sources used.

Response: The thrust of this comment is essentially to impermissibly bypass the beyond-the-floor factors set out in section 112(d)(2) under the guise of adopting a floor standard. Suppose that EPA were to adopt a floor standard dominated by emission levels reflecting HAP concentrations present in a few sources' raw materials and fossil fuels during their test conditions. Suppose further that some sources have to upgrade their back-end control equipment to operate at efficiencies better than the average level demonstrated by the best performing sources, because test results based on fossil fuel and raw material levels are neither replicable nor duplicable. In this situation, EPA believes that it would have improperly adopted a beyond-the-floor standard because EPA would have failed to consider the beyond-the-floor factors (cost, energy, and nonair environmental impacts) set out in section 112(d)(2).[85]

Comment: EPA has not substantiated its claim that sources cannot switch fossil fuels or raw materials.

Response: At proposal we evaluated fuel switching and raw material substitution as beyond-the-floor technologies for cement kilns and lightweight aggregate kilns and stated these technologies would not be cost effective.[86] We also discussed why fuel switching is not an appropriate floor control technology for solid fuel-fired boilers. 69 FR at 21273. Upon further evaluation, we again conclude that fuel switching and raw material substitution are not floor control technologies and are not cost effective beyond-the-floor technologies for cement kilns, lightweight aggregate kilns, and solid fuel-fired boilers.[87]

Comment: EPA has failed to document the basis for its SRE ranking.

[84] Although this language arose in the context of a potential beyond-the-floor standard, EPA believes that the principle stated is generally applicable. MACT standards, after all, are technology-based, and if there is no technology (i.e. no availalble means) to achieve a standard—i.e. for a soruce to achieve a standard whenever it is tested (as the rules require)—then the standard is not an achieveable one.

[85] Analysis of the levels of HAP in raw matrial and nonhazardous waste fuels suggests that this is a realistic outcome. Our analysis shows that emissions attributable to raw material and fossil fuel can be significant relative to the level of the straight emissions-based floor design level and floor (the methodology advocated by the commenter), and therefore could inappropriately impact a source's ability to comply with such a floor standard. See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 17.6.

[86] See, for example, 69 FR at 21252, where we discuss the use of fuel-switching or raw material substitution as a possible beyond-the-floor control for mercury at cement kilns.

[87] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards, September 2005, Sections 11 and 25, for further discussion.

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Specifically, EPA has not stated how it measured sources' SREs, or how it knows those rankings are accurate.

Response: System removal efficiency is a parameter that is included in our database that is calculated by the following formula:

$$\text{SRE} = 100 \times \frac{\left[\left(\text{total HAP mass feedrate}\right) - \left(\text{stack gas HAP mass emission rate}\right)\right]}{\text{total HAP mass feedrate}}$$

The HAP feedrate and emission data are components of the database that were extracted from emission test reports for each source. We use system removal efficiency for each relevant pollutant or pollutant group (e.g., semivolatile metals, low volatile metals, mercury, total chlorine) whenever the data allows us to calculate a reliable system removal efficiency. For example, we generally do not use system removal efficiencies that are based on normal emissions data because of the concern that normal feed data are too sensitive to sampling and measurement error. See 69 FR at 21224.[88]

The system removal efficiencies used in our ranking process are reliable and accurate because the feed and emissions data originate from compliance tests that demonstrate compliance with existing emission standards (primarily RCRA requirements). As such, the data are considered to have excellent accuracy and quality. RCRA trial burn and certification of compliance reports are typically reviewed in detail by the permitting authority. The compliance tests and test reports generally contain the use of various quality assurance procedures, including laboratory, method, and field blanks, spikes, and surrogate samples, all of which are designed to minimize sampling and analytical inaccuracies. EPA also noticed the data base for this rule for multiple rounds of comment and has made numerous changes in response to comment to assure accuracy of the underlying data. Thus, EPA concludes the calculated system removal efficiencies used in the ranking process are both reliable and accurate.

Comment: EPA's approach with regard to use of stack data is internally contradictory. EPA uses stack data in establishing floors, but does not use stack data to determine which performers are best. EPA has failed to explain this contradiction.

Response: Emission levels are used to calculate system removal efficiencies in order to assess each source's relative back-end control efficiency. Also, as explained in the introduction to this comment response section, the SRE/Feed methodology uses the stack emission levels of the sources using the best combinations of hazardous waste feed control and system-wide air pollution control (expressed as HAP percent removal over the entire system) to calculate the floors. The data are adjusted statistically to account for quantifiable forms of variability (run-to-run variability). This methodology reasonably selects best performing sources (for HAP amenable to these means of control), and reasonably estimates these sources' performance over time. As further stated in section B.2 above, using a straight emissions approach to identify best performers and their level of performance can lead to standards for these HAP that do not fully account for variability (including variability resulting from varying and/or uncontrollable amounts of HAP in raw materials and fossil fuels) and could force installation of *de facto* beyond-the-floor controls without consideration of the section 112(d)(2) beyond-the-floor factors.

EPA thus does not see the contradiction expressed by the commenter. Use of the straight emissions approach as advocated by the commenter would lead to standards that do not reasonably estimate sources' performance and which could not be achieved even by the best performers with individual test conditions below the average of the 12 percent of best performing sources. These problems would be compounded many-fold if the data were not normalized and adjusted to at least account for quantifiable variability, steps the commenter also opposes. EPA's use of emissions data (suitably adjusted) after identifying best performers through the ranking methodology avoids these problems and reasonably estimates best performers' level of performance.

Comment: The commenter rejects EPA's finding (69 FR at 21226) that individual test results in the data base do not fully express the best performing sources' performance. The commenter gives a number of reasons for its criticisms, which we answer in the following sequence of comments listed a though f.

a. *Comment:* The commenter states that EPA claims emission levels do not fully reflect variability in part because they are sometimes based on tests where the source was feeding low levels of HAP during the test. The commenter claims this is inconsistent with the fact that EPA preferentially uses worst-case emissions obtained from tests where the sources spiked their feedstreams with metals, and that the mere possibility that these emissions do not reflect test data from conditions where variability was not maximized does not mean those data fail to represent a source's actual performance. The commenter also states that ''EPA's apparent suggestion that the best performing sources could not replicate the average performance of the sources with the lowest emissions is unsubstantiated and unexplained. Assuming that EPA accurately assesses a source's actual performance, the source can replicate that performance.''

Response: HAPs in raw materials and fossil fuels contribute to a source's emissions. EPA has concerns that a straight emissions approach to setting floors may not be replicable by the best performing sources nor duplicable by other non-best performing sources because of varying concentration levels of HAP in raw material and nonhazardous waste fuels. The best performing sources operated under compliance test conditions as the commenter suggests. However, raw material and nonhazardous fuel HAP concentrations for the best performing sources will change over time, perhaps due to a different source of fuel or raw material quarry location, which could affect their ability to achieve the floor level that was based on emissions obtained while processing different fossil fuel or raw materials. EPA takes sharp issue with the commenter's statement that a single performance test result is automatically replicable so long as it is measured properly in the first instance. This statement is incorrect even disregarding HAP contributions in raw materials and fossil fuels since, as noted previously in section A.2.e, there are many other sources of variability

[88] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume II: Database,'' September 2005, Section 2, for further discussion on system removal efficiencies, which includes sample calculations and references to the database that contain the calculated system removal efficiencies for each source and each HAP or HAP group.

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which will influence sources' performance over time (i.e., in subsequent performance tests).

A straight emissions approach for establishing semivolatile and low volatile metal floors may result in instances where the best performing sources would not be capable of achieving the standards if their raw material and nonhazardous waste fuel HAP levels change over time. For each cement kiln and lightweight aggregate kiln, we estimated the emissions attributable to these raw materials and fossil fuels assuming each source was operating with hazardous waste HAP feed and back-end control levels equivalent to the average of the best performing sources (the difference in emissions across sources only being the result of the differing HAP levels in the nonhazardous waste feeds). The analysis shows that emissions attributable to these nonhazarous waste feedstreams (raw materials and fossil fuels) varies across sources, and can be significant relative to the level of the straight emissions-based floor design level and floor, and therefore could inappropriately impact a source's ability to comply with the floor standard.[89]

b. *Comment:* The commenter states that EPA must consider contributions to emissions from raw materials and fossil fuels, that it is irrelevant if sources from outside the pool of best performing sources can duplicate emission levels reflecting ''cleaner'' raw materials and fossil fuels used by the best performing sources, and that sources unable to obtain such ''cleaner'' inputs may always upgrade other parts of their systems to achieve that level of performance.

Response: As previously discussed, EPA's methodology does account for HAP control of all inputs by assessing system removal efficiency, which measures reductions of HAPs from all inputs. Further, nonmercury metal HAP emissions attributable to raw materials and fossil fuels are effectively controlled with the particulate matter standard, a standard that is based on the sources with lowest emissions from best back-end control devices. We are not basing any standards on performance of sources not ranked as among the best performing.

c. *Comment:* The commenter disputes EPA's conclusions that failure of sources to meet all of the standards based on a straight emissions methodology at once shows that the methodology is flawed. The standards are not mutually dependent, so the fact that they are not achieved simultaneously is irrelevant. There is no reason a best performer for one HAP should be a best performer for other HAP.

Response: EPA agrees with this comment. On reflection, EPA believes that because all our standards are not technically interdependent (i.e., implementation of one emission control technology does not prevent the source from implementing another control technology), the fact that sources are not achieving all the standards simultaneously does not indicate a flaw in a straight emissions approach. See *Chemical Manufacturers Ass'n*, 870 F. 2d at 239 (best performing sources can be determined on a pollutant-by-pollutant basis so that different plants can be best performers for different pollutants).

d. *Comment:* Several commenters took the opposite position that EPA must assure that all existing source standards must be achievable by at least 6 percent of the sources, and that all new source standards must be achievable by at least one existing source.

Response: As discussed above, we are not obligated to establish a suite of floors that are simultaneously achievable by at least six percent of the sources because the standards are not technically interdependent. Nonetheless, the SRE/Feed methodology does result in existing floor levels (when combined with the other floor levels for sources in the source category) that are simultaneously achievable by at least six percent of the sources (or, for source categories that have fewer than 30 sources, by at least two or three sources).[90] However, for the new source standards, three of the source categories do not include any sources that are simultaneously achieving all the standards (incinerators, cement kilns, and lightweight aggregate kilns). Again, similar to existing sources, EPA is not obligated to establish a suite of new source floors that are simultaneously achievable by at least one existing source because these standards are not technically interdependent. We conclude that a new source can be designed (from a back-end control perspective) to achieve all the new source standards.[91]

e. *Comment:* The commenter criticizes EPA's discussion at 69 FR 21227–228 indicating that both hazardous waste feed control and back-end pollution control are superior means of HAP emission control and treatment standards should be structured to allow either method to be the dominant control mechanism.

Response: EPA is not relying on this part of the proposed preamble discussion as justification for the final rule, with the one exception noted in the response to the following comment.

f. *Comment:* Considerations of proper waste disposal policy are not relevant to MACT floor determinations. In any case, the possibility that some commercial waste combustors may upgrade their back-end pollution control systems to meet standards reflecting low hazardous waste HAP feedrates, or divert wastes to better-controlled units, is positive, not negative.

Response: As discussed in section B.1 above, there are instances where standards derived by using a straight emissions approach are based on a combination of lowest emitting low feeding sources and lowest emitting higher feeding sources. Resulting floor standards would thus reflect these low hazardous waste feedrates and could put some well-controlled commercial incinerators in the untenable situation of having to reduce the amount of hazardous waste that is treated at their source. Our database verifies that such an outcome is in fact realistic.[92]

This type of standard would operate as a direct constraint on the amount of hazardous waste that could be fed to the device, in effect depriving a combustion source of its raw material. In this instance, hazardous wastes could not be readily diverted to other units because the low feeding hazardous waste sources tend not to be commercial units. In these circumstances, there would be a significant adverse nonair environmental impact. Hazardous waste is required to be treated by Best Demonstrated Available Technology (BDAT) before it can be land disposed. RCRA sections 3004 (d), (e), (g), and (m); *Hazardous Waste Treatment Council* v. *EPA*, 866 F. 2d 355, 361 (D.C.Cir. 1990) (upholding Best Demonstrated Available Technology treatment requirement). Most treatment standards for organic pollutants in hazardous waste can only be achieved by combustion. Leaving some hazardous wastes without a

[89] See USEPA, ''Final Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 17.6. .

[90] These achievability analyses did not account for the additional test-to-test variability that we cannot quantify.

[91] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume V: Emission Estimates and Engineering Costs,'' September 2005, Section 4.2.3 for a discussion that explains how such a new source could be designed to achieve the new source standards.

[92] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards'', September 2005, Section 17.4.

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treatment option is in derogation of these statutory requirements and goals, and calls into question whether a treatment standard that has significant adverse nonair environmental impacts must be viewed as best performing. See *Portland Cement Ass'n* v. *Ruckelshaus, 486 F. 2d 375 , 386 (D.C. Cir. 1973); Essex Chemical Co.* v. *EPAEPA*, 486 F. 2d 427, 439 (D.C. Cir. 1973). The commenter's statement that waste disposal policy is not relevant to the MACT standard-setting process is not completely correct, since section 112 (n)(7) of the Clean Air Act directs some accommodation between MACT and RCRA standards for sources combusting hazardous waste. Part of this accommodation is using a methodology to evaluate best performing sources that evaluates as best performers those using the best combination of hazardous waste feed control (among other things, an existing control measure under RCRA rules) and system-wide removal.

We assessed whether we could address this issue by subcategorizing commercial incinerators and on-site incinerators. Applying the straight emission approach to such a subcategorization scheme, however, yields anomalous results due to the scarcity of available and complete compliance test data from commercial incinerators. Calculated floor levels for semivolatile metals and low volatile metals for the commercial incinerator subcategory equate to 2,023 and 111 μg/dscm, respectively (both higher than the current interim standards).[93] We conclude that the SRE/Feed methodology better addresses this issue because it yields floor levels that better represent the performance of the best performing commercial incinerators and onsite incinerators alike by applying equal weights to hazardous waste feed control and back-end control in the ranking process.

EPA notes, however, that its choice of the SRE/Feed methodology is justified independent of considerations of adverse impact on hazardous waste treatment and disposal.

Comment: The commenter reiterates its comments with respect to floor levels for new sources.

Response: EPA's previous responses to comments apply to both new and existing source standards.

Comment: Two commenters recommend that EPA define the single best performing source as that source with the lowest aggregated SRE/Feed aggregated score (as proposed), as opposed to the source with the lowest emissions among the best performing existing sources (an approach on which we requested comment).

Response: We agree with the commenters because this is consistent with our methodology for defining best performers for existing sources and assessing their level of performance. We note, however, that with respect to the new source standards, we encountered two instances where the SRE/Feed methodology identified multiple sources with identical single best aggregated scores, resulting in a tie for the best performing source. This occurred for the mercury and low volatile metal new source standards for incinerators. In these instances, EPA applied a tie breaking procedure that resulted in selecting as the single best performing source as that source (of the tied sources) with the lowest emissions. We believe this is a reasonable interpretation of section112(d)(3), which states the new source standard shall not be less stringent than the emission control that is achieved in practice by the best controlled similar *source* (''source'' being singular, not plural). Moreover, we believe use of the emission level as the tie-breaking criteria is reasonable, not only because it is a measure of control, but because we have already fully accounted for hazardous waste feedrate control and system removal efficiency in the ranking methodology. To choose either of these factors to break the tie would give that factor disproportionate weight.

C. Air Pollution Control Technology Methodologies for the Particulate Matter Standard and for the Total Chlorine Standard for Hydrochloric Acid Production Furnaces

At proposal, EPA used what we termed ''air pollution control technology'' methodologies to estimate floor levels for particulate matter from all source categories as a surrogate for non-mercury HAP metals, and for total chlorine from hydrochloric acid furnace production furnaces. 69 FR at 21225–226. Under this approach, we do not estimate emission reductions attributable to feed control, but instead assess the performance of back-end control technologies.[94] We are adopting the same methodologies for these HAP in the final rule. Because the details of the approaches differ for particulate matter and for total chlorine, we discuss the approaches separately below.

1. Air Pollution Control Device Methodology for Particulate Matter

Our approach to establishing floor standards for particulate matter raises three major issues.

The first issue is whether particulate matter is an appropriate surrogate for non-enumerated HAP metals from all inputs, and for all non-mercury HAP metals in raw material and fossil fuel inputs. This issue is discussed at section IV.A of this part, where we conclude that particulate matter is indeed a reasonable surrogate for these metal HAP.

The second issue is why EPA is not evaluating some type of feed control for the particulate matter floor. There are two potential types of feed control at issue: hazardous waste feed control of nonenumerated metals, and feed control of non-mercury HAP metals in raw material and fossil fuel inputs. With respect to feed control of non-enumerated metals in hazardous waste, as discussed in more detail in section IV.A of this part, we lack sufficient reliable data on non-enumerated metals to assess their feedrates in hazardous waste. In addition, there are significant questions about whether feedrates of the non-enumerated metals can be optimized along with SVM and LVM feedrates. We also have explained elsewhere why control of hazardous waste ash feedrate would be technically inappropriate, since it would not properly assess feed control of nonenumerated metals in hazardous waste. See also 69 FR at 21225.

We have also explained why we are not evaluating control of feedrates of HAP metals in raw materials and fossil fuels to hazardous waste combusters: it is an infeasible means of control. See section B of this part. We consequently are not evaluating raw material and fossil fuel ash feed control in determining the level of the various floors for particulate matter.

a. *The methodology.* The final issue is the means by which EPA is evaluating back-end control. Essentially, after determining (as just explained) that back-end control is the means of controlling non-mercury metal HAP and that particulate matter is a proper surrogate for these metals, EPA is using its engineering judgment to determine what the best type of air pollution control device (i.e., back-end control) is to control particulate matter (and, of course, the contained HAP metals). We then ascertain the level of performance by taking the average of the requisite number of sources (either 12 % or five,

[93] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards'', September 2005, Section 4. and Appendix C, Table ''E–INC–SVM–CT–COM'' and Table ''E–INC–LVM–CT-COM''

[94] See generally USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards'', September 2005, Section 7.4 and 7.5.

depending on the size of the source category) equipped with the best back-end control with the lowest emissions.[95] These floor standards are therefore essentially established using a straight emissions methodology. We have determined that baghouses (also termed fabric filters) are generally the best air pollution control technology for control of particulate matter, and that electrostatic precipitators are the next best.

b. *Why not select the lowest emitters?* Although sources with baghouses tended to have the lowest emission levels for particulate matter, this was not invariably the case. There are certain instances when sources controlled with electrostatic precipitators (or, in one instance, a venturi scrubber) had lower emissions in individual test conditions than sources we identified as best performing which were equipped with baghouses.[96] Under the commenter's approach, we must always use these lowest emitting sources as the best performers.

We again disagree. We do not know if these sources equipped with control devices other than baghouses with lower emissions in single test conditions would actually have lower emissions over time than sources equipped with baghouses because we cannot assess their uncontrollable emissions variability over time. Our data suggests that they likely are not better performing sources. We further conclude that our statistical procedures that account for these sources' within test, run-to-run emissions variability underestimates these sources long-term emissions variability. This is not the case for sources equipped with baghouses, where we have completely assessed, quantified, and accounted for long-term, test-to-test emissions variability through application of the universal variability factor.[97] The sources equipped with control devices other than baghouses with lower snapshot emissions data could therefore have low emissions in part because they were operating at the low end of the ''uncontrollable'' emissions variability profile for that particular snapshot in time. The basis for these conclusions, all of which are supported by our data, are found in section 16 of volume III of the technical support document.

We therefore conclude sources equipped with baghouses are the best performers for particulate matter control not only based on engineering judgment, but because we are able to reliably quantify their likely performance over time. The straight emissions methodology ignores the presence of long-term emissions variability from sources not equipped with baghouses, and assumes without basis that these sources are always better performing sources in instances where they achieved lower snapshot emissions relative to the emissions from baghouses, emissions that have notably already been adjusted to account for long-term emissions variability.

A straight emissions approach also results in inappropriate floor levels for particulate matter because it improperly reflects/includes low ash feed when identifying best performing sources for particulate matter. 69 FR at 21228. For example, the MACT pool of best performing liquid fuel boilers for particulate matter under the straight emissions approach includes eight sources, only one of which is equipped with a back-end control device. These sources have low particulate matter emissions solely because they feed low levels of ash. The average ash inlet loadings for these sources are well over two orders of magnitude lower than the average ash inlet loading for the best performing sources that we identify with the Air Pollution Control Technology approach. (Of course, since ash loadings are not a proper surrogate for HAP metals, these sources' emissions are lowest for particulate matter but not necessarily for HAP metals.) The straight emissions approach would yield a particulate matter floor level of 0.0025 gr/dscf (with a corresponding design level of 0.0015 gr/dscf). There is not one liquid fuel boiler that is equipped with a back-end control that achieved this floor level, much less the design level. The best performing source under the air pollution control technology approach, which is equipped with both a fabric filter and HEPA filter, did not even make the pool of best performing sources for the straight emissions approach. Yet this unit has an excellent ash removal efficiency of 99.8% and the lower emitting devices' removal efficiencies are, for the most part, 0% because they do not have any back-end controls. EPA believes that it is arbitrary to say that these essentially uncontrolled devices must be regarded as ''best performing'' for purposes of section 112(d)(3). We therefore conclude that a straight emissions floor would not be achievable for any source feeding appreciable levels of ash, even if they all were to upgrade with baghouses, or baghouses in combination with HEPA filters, and that a rote selection of lowest emitters as best performers can lead to the nonsensical result of uncontrolled units being classified as best performers.

Comment: Commenter claims end-of-stack control technology is not the only factor affecting emissions of particulate matter, stating that EPA admits that particulate matter emission levels are affected by the feedrate of ash. Accordingly, the performance of a source's end-of-stack control technology is not a reasonable estimate of that source's total performance.

Response: The particulate matter standard serves as a surrogate control for the non-enumerated metals in the hazardous waste streams (for all source categories), and all nonmercury metal HAP in the nonhazardous waste process streams (essentially, raw materials and fossil fuels) for cement kilns, lightweight aggregate kilns, and liquid fuel boilers. The commenter suggests that the APCD approach inappropriately ignores HAP feed control in the assessment of best performing sources. We conclude that it would not be appropriate to use a methodology that directly assesses feed control, such as the SRE/Feed methodology, to determine particulate matter floors. First, direct assessment of total ash feed control would inappropriately assess and seek to control (even though variability of raw material and fossil fuel inputs are uncontrollable) raw material and fossil fuel HAP input, as well as raw material and fossil fuel input. Controlling raw material and fossil fuel HAP input is infeasible, as previously discussed. It also inappropriately limits theses sources' feedstocks that are necessary for their associated production process.

Second, we do not believe that developing a floor standard based on hazardous waste feed control of nonenumerated metals (as opposed to feed control of these metals in raw material and fossil fuels) is appropriate or feasible. In part four, section IV.A, we explain that we lack the data to reliably assess direct feedrate of these metals in hazardous waste. In addition, we also discuss that it is unclear (the lack of certainty resulting from the sparse available data) that hazardous waste feed control of the nonenumerated metals is feasible. The majority of these metals are not directly regulated under existing RCRA requirements, so sources have optimized control of the other HAP

[95] As explained in the responses below, the approach varies slightly if the requisite number of sources do not all use the best back-end pollution control technology. In that case, EPA includes in its pool of best performers the lowest emission levels from sources using the next best pollution control technology.

[96] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 22.

[97] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 5.3.

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metals, raising issues of whether simultaneous optimization of feed control of the remaining metals is feasible. Moreover, even if one were to conclude that hazardous waste feed control is feasible for the nonenumerated metal HAPs, hazardous waste ash feedrates are not reliable indicators of nonmercury metal HAP feed control levels and are therefore inappropriate parameters to assess in the MACT evaluation process. For example, a source could reduce its ash feed input by reducing the amount of silica in its feedstreams. This would not result in feed control or emission reductions of metal HAP.[98]

Finally, hazardous waste ash feed control levels do not significantly affect particulate matter emissions from cement kilns, lightweight aggregate kilns, and solid fuel-fired boilers because the majority of particulate matter that is emitted originates from the raw material and nonhazardous fuel. Hazardous waste ash feed control levels also do not significantly affect particulate matter emissions from sources equipped with baghouses because these control devices are not sensitive to particulate matter inlet loadings.[99]

Thus, even if one were to conclude that the nonenumerated metal HAPs are amenable to hazardous waste feed control, explicit use of ash feed control in a MACT methodology would not assure that each source's ability to control either nonmercury metal HAP or surrogate particulate matter emissions is assessed. The Air Pollution Control Device methodology identifies and assesses (with the surrogate particulate matter standard) the known technology that always assures metal HAP emissions are being controlled to MACT levels—that technology being back-end control.

Comment: Commenter claims the Air Pollution Control Device approach to calculate particulate matter floors is flawed because the performance of back-end control technology alone does not reflect the performance of the relevant best sources that otherwise would be reflected if EPA were to assess performance based on the emission levels each source achieved because, as EPA admits, it fails to account for the effect of ash feed rate.

Response: We explain above why the Air Pollution Control Technology approach properly identifies the relevant best performing sources for purposes of controlling non-mercury metal HAP (measured as particulate matter), irrespective of ash feed rates. Typically, this results in selecting the sources with the lowest particulate matter emission rates, the result the commenter advocates. This is because we evaluate sources with the best-performing (*e.g.* lowest emitting) baghouses, and particulate matter emissions from baghouses are not significantly affected by inlet particulate matter loadings. Where the pool of best performing sources includes sources operating some other type of back-end control device (because insufficient numbers of sources are equipped with baghouses to comprise 12% of sources, or five sources (depending on the size of the source category)), we again use the lowest particulate matter emission level from the sources equipped with second best technology. Although these data do not reflect test-to-test variability, they are the best remaining data in EPA's possession to estimate performance and EPA is therefore, as required by section 112 (d) (3) (A) and (B), using the data to fill out the requisite percentage of sources for calculating floors.

Comment: Commenter states that EPA has failed to demonstrate how it reasonably estimated the actual performance of each source's end-of-stack control technology because: (1) It failed to acknowledge that there can be substantial differences between the performance of different models of the same type of technology; and (2) it did not explain or support its rankings of pollution control devices.

Response: As discussed in sections 7.4 and 16.2 of volume III of the technical support document and C.1 of this comment response section, we rank associated back-end air pollution control device classes (e.g., baghouses, electrostatic precipitators, etc.), after assessing particulate matter control efficiencies from hazardous waste combustors that are equipped with the associated back-end control class. The data used to make this assessment are included in our database. We also evaluated particulate matter control efficiencies from other similar source categories that also use these types of control systems, such as municipal waste combustors, medical waste incinerators, sewage sludge combustors, coal-fired boilers, oil fired boilers, non-hazardous industrial waste combustors, and non-hazardous waste Portland cement kilns.[100]

After we assign a ranking score to each back-end control class, we determine the number of sources that are using each of these control technology classes. We then identify the MACT control technology or technologies to be those best ranked back-end controls that are being used by 12 percent of the sources (or used by five sources in instances where there are fewer than 30 sources). We then look only at those sources using MACT back-end control and rank order all these sources first by back-end control type, and second by emissions. For example, in instances where there is more than one MACT back-end control, we array the emissions from the sources equipped with the top ranked back-end controls from best to worst (i.e., lowest to highest), followed by the emissions from sources equipped with the second ranked back-end controls from best to worst, and so on. We then determine the appropriate number of sources to represent 12 percent of the source category (5 in instances where there are fewer than 30 sources). If 10 sources represented 12% of the sources in the source category, we would then select the emissions from best ranked 10 sources in accordance with this ranking procedure to calculate the MACT floor. This methodology results in selection of lowest emitters using best back-end air pollution control as pool of the best performing sources.

The commenter is correct that there can be differences between the performance of different models of the same type of technology. We are not capable of thoroughly assessing differences in designs of each air pollution control device in a manner that could be used in the MACT evaluation process, so that we would only select, for example, baghouses of a certain type. Each baghouse, for example, will be designed differently and thus will have different combinations of design aspects that may or may not make that baghouse better than other baghouses (e.g., bag types, air to cloth ratios, control mechanisms to collect accumulated filter cake and maintain optimum pressure drops). We also do not have detailed design information for each source's air pollution control system; such an assessment would therefore not be

[98] For the same reason, even if feed control of total inputs (i.e. raw material and fossil fuel as well as hazardous waste fuel) were feasible, it would be technically inappropriate to use ash feedrates as a surrogate: ash feed control allows sources to selectively reduce the ash feeds without reducing the metal HAP portion of that feed. Back-end control, in contrast, unselectively removes a percentage of everything that is fed to the combustor.

[99] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of Mact Standards,'' September 2005, Section 3.1.

[100] See USEPA, ''Technical Support Document for th HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 5.3 and 16.2, for further discussion.

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possible even if the information could be used to assess relative performance.

We instead account for this difference by selecting sources with the lowest emissions that are using the defined MACT back-end controls to differentiate the performance among those sources that are using that technology (the best performer being the source with the lowest emissions, as just explained). For example, in situations where more than 12% of the sources are using the single best control technology (e.g., more than 12% of incinerators use baghouses to control particulate matter), we use the emissions from the lowest emitting sources equipped with baghouses to calculate the MACT floor. In instances where there are two defined MACT technologies (i.e., 12% of sources do not use the single best control technology), we use all the emissions data from sources equipped with the best ranked control class, and then subsequently use only the lowest emissions from the sources equipped with the second ranked back-end controls.

Comment: EPA did not say how it picked the best performers if more than twelve percent used the chosen technologies. If EPA used emissions data to differentiate performance, the Agency is necessarily acknowledging that emissions data are a valid measure of sources' performance—in which case the Agency's claims to the contrary are arbitrary and capricious.

Response: We did use emissions data to select the pool of best performers where over 12% use the best type of emissions control technology, as explained in the previous response. Emissions data is obviously one means of measuring performance. EPA's position is that it need not be the exclusive means, in part because doing so leads to arbitrary results in certain situations. Our use of emission levels to rank sources that use the best particulate matter control (i.e., baghouses) does not lead to arbitrary results, however. First, we are assessing emission levels here as a means of differentiating sources using a known type of pollution control technology. More importantly, the adjusted emission levels from sources equipped with baghouses are the most accurate measures of performance because these emissions have been statistically adjusted to accurately account for long-term variability through application of the universal variability factor.

Comment: Commenter states that EPA, in its support for its Air Pollution Control Technology Approach used to calculate particulate matter floors, claims that an emissions-based approach would result in floor levels that ''could not necessarily be achieved by sources using the chosen end-of-stack technology,'' citing 69 FR at 21228. Commenter claims that it is settled law that standards do not have to be achievable through the use of any given control technology, and that it is also erroneous to establish floors at levels thought to be achievable rather than levels sources actually achieve.

Response: EPA is not establishing floor levels based on assuring the standards are achievable by a particular type of end-of-stack technology (or, for that matter, any end-of-stack technology). The floor levels in today's final rule reasonably estimate average performance of the requisite percent of best performing sources without regard for whether the levels themselves can be achieved by a particular means. Floor standards for particulate matter are based on the performance of those sources with the lowest emissions using the best back-end control technology (most often baghouses, and sometimes electrostatic precipitators). EPA uses this approach not to assure that the floors are achievable by sources using these control devices, but to best estimate performance of the best performing sources, including these sources' variability.

2. Total Chlorine Standard for Hydrochloric Acid Production Furnaces

We are adopting the methodology we proposed to estimate floor levels for total chlorine from hydrochloric acid production furnaces. 69 FR at 21225–226. As stated there, we are defining best performers as those sources with the best total chlorine system removal efficiency. We are not assessing a level of control attributable to control of chlorine in feedstocks because this would simply prevent these furnaces from producing their ultimate product. Further details are presented in responses below.

Comment: Basing the standard for hydrochloric acid production furnaces on the basis of system removal efficiency rather than chlorine emission reduction is impermissible. Even though these devices' purpose is to produce chlorinated product, the furnaces can use less chlorinated inputs. EPA's proposed approach is surreptitious, an impermissible attempt to assure that the standards are achievable by all sources using EPA's chosen technology, the approach already rejected in *CKRC*.

Response: EPA disagrees. There is nothing in the text of the statute that compels an approach that forces sources to produce less product to achieve a MACT floor standard. Yet this is the consequence of the comment. If standards were based on levels of chlorine in feedstock to these units, less product would be produced since there would be less chlorine to recover. EPA has instead reasonably chosen to evaluate best performing/best controlled sources for this source category by measuring the efficiency of the entire chlorine emission reduction system. Indeed, the situation here is similar to that in *Mossville*, where polyvinyl chloride production units fed raw materials containing varying amounts of vinyl chloride depending on the product being produced. This led to variable levels of vinyl chloride in plant emissions. Rather than holding that EPA must base a floor standard reflecting the lowest amount of vinyl chloride being fed to these units, the court upheld a standard estimating the amount of pollution control achievable with back-end control. 370 F. 3d at 1240, 1243. In the present case, as in *Mossville*, the standard is based on actual performance of back-end pollution control (although here EPA is assessing actual performance of the control technology rather than estimating performance by use of a regulatory limit, making the situation here *a fortiorari* from that in *Mossville*), and does not reflect ''emission variations not related to technological performance''. 370 F. 3d at 1240.

It also should be evident that EPA is not establishing a standard to assure its achievability by a type of pollution control technology, as the commenter mistakenly asserts. The standard for total chlorine is based on the average of the best five sources '' best meaning those sources with greatest (most efficient) system removal efficiencies. EPA did not, as in *CKRC*, establish the standard using the highest emission limit achieved by a source operating a particular type of control.

Comment: The commenter generally maintains that EPA's methodology to determine total chlorine floors for hydrochloric acid production furnaces fails to capture other means of HAP emission control that otherwise would be captured if EPA were assess performance based on the emission levels each source achieved.

Response: As discussed above, the standard for total chlorine is based on the sources with the best system removal efficiencies. System removal efficiency encompasses all means of MACT floor control when assessing relative performance because: (1) Chlorine feed control is not a MACT floor technology for these sources; and (2) the measure of system removal efficiency accounts for every other controllable factor that can affect

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emissions (e.g., operating practices, worker training, proper maintenance, pollution control device type, etc).

D. Format of Standards

1. Thermal Emissions

EPA proposed, and is finalizing standards for HAP metals and chlorine (the HAPs amenable to hazardous waste feed control) emitted by energy recovery units (cement kilns, lightweight aggregate kilns, and liquid fuel boilers) expressed in terms of pounds of HAP attributable to the hazardous waste fuel per million british thermal units (BTUs) of hazardous waste fired. 69 FR at 21219–20. EPA received many comments on this issue to which we respond below and in the Response to Comment Document. Some initial discussion of the issue is appropriate, however.

a. *Expressing Standards in Terms of a Normalizing Parameter is Reasonable.* First, using a thermal emissions form of a standard is an example of expressing standards in terms of a normalizing parameter. EPA routinely normalizes emission standards either by expressing them as stack HAP concentrations or by expressing the standards in units of allowable mass emissions per amount of production or raw material processed. Emission concentration-based standards normalize the size of each source by accounting for volumetric gas flowrate, which is directly tied to the amount of raw material each source processes (and subsequently the amount of product that is produced). Metal and particulate matter emission standards for commercial and industrial solid waste incinerators are expressed in emission concentration format. See § 60.2105. The particulate matter standard for Portland cement kilns is expressed as mass of allowable emissions per mass of raw material processed. See § 63.1342. The particulate matter, mercury, and hydrogen chloride standards for nonhazardous waste industrial boilers are expressed as pounds of allowable emissions per million British thermal units (BTUs). See § 63.7500.

Technology-based standards typically normalize emissions because such a format assures equal levels of control across sources per amount of raw material that is processed, and allows EPA to equally assess source categories that comprise units that differ in size. By normalizing the emissions standard we better ensure the same percentage of emission reduction per unit of raw material processed by each source.[101] See *Weyerhaeuser* v. *Costle,* 590 F. 2d 1011, 1059 (D.C. Cir. 1978) (technology-based standards are typically expressed in terms of volume of pollutants emitted per volume of some type of unit of production).

There is no legal bar to this approach since the statute does not directly address the question of whether a source emitting 100 units of HAP per unit of production but 100 units of HAP overall is a better performer (or, for new sources, better controlled) than a source emitting 10 units of HAP per unit of production but emitting 101 units overall.[102] One commenter appeared to suggest that we should assess performance on mass feedrates and mass emission rates, without normalizing. Such an approach would yield nonsensical results because the best performing sources would more likely be the smallest sources in the source category (smaller sources generally have lower mass emission rates because they process less hazardous waste). This would likely yield emission standards that would not be achievable by the larger sources that more likely are better controlled sources based on a HAP removal efficiency basis.[103] Normalization by unit of production is another way of expressing unit size, so that normalizing on this basis is a reasonable alternative to subcategorization on a plant size-by-plant size basis. See section 112(d)(1) (size is an enumerated basis for subcategorizing).

b. Using Hazardous Waste Thermal Input as the Normalizing Parameter is Permissible and Reasonable. Normalization of standards based on thermal input is analogous. For energy recovery units (in this rule, kilns and most liquid fuel boilers), normalizing on the basis of thermal input uses a key feed input as the normalizing parameter, allowing comparison of units with different inputs rather than separately evaluating these units by size and type (see section 112(d)(1)). Again, this approach is legally permissible. The statute does not answer the question of which source is better performing, the source emitting 100 pounds of HAP per million BTUs hazardous waste but 100 pounds of HAP overall or the source emitting 10 pounds of HAP per million BTUs hazardous waste but emitting 101 pounds overall.

The approach also is reasonable. First, as with other standards expressed in normalized terms, by normalizing the emissions standard we ensure the same percentage of emission reduction per unit of raw material processed by each source, thus allowing meaningful comparison among sources. For example, emission concentration-based standards normalize the size of each source by accounting for volumetric gas flowrate, which is directly tied to the amount of raw material each source processes (and subsequently to the amount of product that is produced), and assures equal levels of control per amount of product. Normalization on the basis of HAP amount in hazardous waste per BTU level in the hazardous waste similarly assures equal levels of control across sources per amount of raw material that is processed. Here, the raw material is the hazardous waste fuel, expressed as units of energy. It is reasonable to regard a hazardous waste fuel as a raw material to an energy recovery device. Indeed, fuels are the only input to boilers, so fuels are necessarily such units' sole raw material.[104] [105] Hazardous waste burning cement kilns and lightweight aggregate kilns produce a product in addition to recovered energy and so process other raw materials. However, the reason these units use hazardous waste as inputs is typically to recover usable energy from the wastes. Hence, the hazardous waste fuel is reasonably viewed as a raw material to these devices.

In this regard, we note that our choice of normalizing parameter essentially says that best performers with respect to hazardous waste fuel burned in energy recovery units are those using the lowest HAP feedrate (for metals and chlorine) per amount of energy

[101] A more familiar example of normalization is the Earned Run Average (ERA), which normalizes a baseball pitchers' earned runs on the basis of nine innings pitched in order to make comparisons among pitchers possible.

[102] Or, put another way, the statute does not directly address the question of whether a small source that emits 10 units of HAP is better than a much larger source with better back-end control (but feeding the same raw material at a higher mass feedrates) that emits 100 units of HAP.

[103] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 6.0.

[104] EPA thus has expressed the MACT standards for particulate matter, mercury, and hydrogen chloride standards for nonhazardous waste industrial boilers as pounds of allowable emissions per million BTUs. § See 63.7500. This normalization considers the total heat input into the combustion device. Normalizing by total heat input would not be appropriate for hazardous waste combustors for metals and chlorine because this would implicitly account for, and in turn require the use of, feed control of HAP in non hazardous waste fuels. This is inappropriate for the reasons discussed in Section III.B of this Part.

[105] We distinguish (i.e., subcategorize) liquid fuel boilers that process hazardous waste with heating values less than 10,000 BTU/lb from those processing hazardous wastes with heating content greater than 10,000 BTU/lb. Although boilers that process hazardous waste with heating values less than 10,000 BTU/lb are still considered to be energy recovery units, we conclude a thermal emissions normalization approach for these sources is not appropriate. See Part Four, Section VI.D.

recovered.[106] This approach accords well with the requirement in section 112(d)(2) that EPA take energy considerations into account in developing MACT, and also that the Agency consider front-end means of control such as input substitution (section 112(d)(2)(A)). In addition, our choice furthers the RCRA goal of encouraging properly conducted recycling and reuse (RCRA section 1003(b)(6)), which is of relevance here in that Congress directed EPA to consider the RCRA emission controls for hazardous waste combustion units in developing MACT standards for these units, and to ensure ''to the maximum extent possible, and consistent with [section 112]'' that section 112 standards are ''consistent'' with the RCRA scheme. CAA section 112(n)(7).[107] Conversely, emission concentration-based standards, the methodology that otherwise would be used to calculate emission concentration-based standards, may result in standards that are biased against sources that recover more energy from hazardous waste. This may discourage sources from recovering energy from hazardous waste because such standards do not normalize each source's allowable emissions based on the amount of hazardous waste it processes for energy recovery purposes. See 69 FR at 21219 and responses below.

Second, use of this normalizing parameter makes it much more likely that hazardous waste feed controls will be utilized by these devices as an aspect of emissions control. See section 112(d)(2)(A) (use of measures reducing the volume of pollutants emitted through ''substitution of materials''); *CKRC,* 255 F. 3d at 865 (EPA to consider means of control in addition to back-end pollution control technology when establishing MACT floors). As explained in our discussion of the SRE/Feed methodology, the MACT floor level for metals and chlorine reflects the best combination of hazardous waste feedrate, and total HAP removal efficiency. See section III.B. However, if standards for energy recovery units are expressed in terms of mass of HAP per volume of stack gas, then it would be relatively easy for these energy recovery devices to achieve a standard, without decreasing concentrations of HAP in their hazardous waste fuels, by diluting the HAP contribution of hazardous waste with emissions from fossil fuel. A thermal emissions format prevents this type of dilution from happening because it ignores additions of stack gases attributable to burning fossil fuels. *Weyerhaeuser,* 590 F. 2d at 1059 (use of production of a unit as a normalizing parameter serves ''the commendable purpose'' of preventing plants from achieving emission limitations via dilution).

For example, assume there are two identical energy recovery units with identical back-end control devices (that reflect the performance of the average of the best performing sources). Source A fulfills 25% of its energy demand from the combustion of hazardous waste; source B fulfills 50% of its energy demand from the combustion of hazardous waste. Also assume that the hazardous waste for these two sources have equivalent energy contents. If these sources were required to comply with an emission concentration based-standard (e.g., μg/dscm), source A would be allowed to feed hazardous waste containing twice the metal content (on a mass concentration basis, e.g., ppm), and would be allowed to emit metal HAP at the same mass emission rate relative to source B. This is because this source is effectively diluting its emissions with the emissions that are being generated by the fossil fuels.[108] A thermal emissions standard format does not allow sources to dilute their emissions with the emissions from fossil fuel inputs because it directly regulates the emissions and feeds associated with the hazardous waste fuel. Under a thermal emissions format both sources would be required to feed hazardous waste with the same thermal feed concentrations (on a lb HAP per million BTU hazardous waste basis), and source A would be required to process hazardous waste with an equivalent concentration of metal HAP (on a mass basis) and also be required to emit half as much metal HAP (on a mass emission rate basis) relative to source B, because source A is processing half as much hazardous waste fuel, thus vindicating the hazardous waste feed control aspect of the standard (see also note below regarding the likelihood of sources using hazardous waste feed control). Further, the thermal feed concentration with which these sources must comply reflects the feed control of the average performance of the best performing sources (on a mass of HAP per million BTU basis). Such a requirement assures that these sources are processing the cleanest hazardous waste fuels to recover energy and are reducing HAP emissions to MACT levels.

We note that it would not be appropriate to express the emission standards for incinerators, hydrochloric acid production furnaces, and solid fuel boilers in terms of thermal emissions. As just explained, the choice of a normalizing parameter is fitted to the nature of the device to which it is applied in order to allow the most meaningful comparisons between devices of like type. We therefore conclude that a thermal emissions format (i.e., normalizing parameter) for incinerators is not appropriate because the primary function of incinerators is to thermally treat hazardous waste (as opposed to recovering energy from the hazardous waste). See 67 FR at 17362 (April 19, 1996). Our database indicates that most incinerators processed hazardous waste during their emissions tests that had, on average, heating values below 10,000 BTU/lb.[109] We have emission test hazardous waste heating value information for 62 incinerators in our database. Of these 62 sources, 40 sources processed hazardous waste with an average heating value of less than 10,000 BTU/lb. The other 22 sources processed hazardous waste with heating values greater than 10,000 BTU/lb in at least one test condition, although we note that 14 of these 22 sources also processed hazardous waste in different test conditions with heating values lower than 10,000 BTU/lb.[110]

We assessed whether we should subcategorize incinerators, similar to how we subcategorize liquid fuel boilers, based on the BTU content of the hazardous waste. Incinerators do recover energy from processing high BTU wastes. Some incinerators are equipped with waste heat boilers, and high BTU hazardous waste can displace fossil fuels that otherwise would have to be burned to thermally treat low BTU wastestreams. However, such energy recovery is considered to be a secondary product because their primary function is to thermally treat hazardous waste. A

[106] As explained earlier, the ultimate ranking of best performers then further evaluates system removal efficiency, best performers then being defined in terms of the combination of hazardous waste thermal feed and system removal efficiency. See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards'', September 2005, Section 7.3.

[107] EPA would adopt the thermal format for the standards, however, whether or not the approach furthered RCRA objectives.

[108] This example assumes there are no HAP emissions attributable to the fossil fuels.

[109] As discussed later, the heating values of hazardous wastes processed at cement kiln and lightweight aggregate kilns are primarily 10,000 BTU/lb or greater.

[110] These data are based on a compilation of heating contents for every incinerator test condition in the database where the source reported such heating content, and include both the most recent test conditions as well as older test conditions. Incinerator test condition heating values range from a low of 790 to a high of 19,800 BTU/lb, with a median value of 7800 BTU/lb.

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thermal emissions normalization approach for incinerators that combust hazardous wastes with heating values greater than 10,000 BTU/lb would therefore not be appropriate because the normalized parameter would not be tied to the primary production output that results from the processing of hazardous waste (i.e., treated hazardous waste). In confirmation, no commenters suggested that we apply a thermal emissions format to incinerators.

We also conclude that a thermal emission format is inappropriate for hydrochloric acid production furnaces. These devices recover chlorine, an essential raw material in the process, from hazardous waste. The classic normalizing parameter of amount of product (HCl) produced is therefore the obvious normalizing parameter for these sources. It is true that some hydrochloric acid production furnaces recover energy from high BTU hazardous wastes. See 56 FR at 7141/1 and 7141–42 (Feb. 21, 1991). Some sources are equipped with waste heat boilers, and high BTU wastes help sustain the combustion process, which is necessary to liberate the chlorine from the wastestreams prior to recovering the chlorine in the scrubbing systems. Again, energy recovery is not the primary function of these types of sources.[111] Hydrochloric acid production furnace hazardous waste heating values range from 1,100 to 11,000 BTU/lb (the median energy content for these sources is slightly above 6,000 BTU/lb). The range of hazardous waste heating contents from these sources is much lower than the ranges for cement kilns, lightweight aggregate kilns, and liquid fuel boilers, supporting the premise that energy recovery is of secondary importance. In addition, and critically, the hazardous waste that is processed in these units contains high concentrations of chlorine, confirming that the wastes serve as feedstock for hydrochloric acid production, even if the wastes also have energy value.[112] No commenters suggested that we apply a thermal emissions format to hydrochloric acid production furnaces.

We consider the processing of hazardous waste in solid fuel boilers to be more reflective of energy recovery (relative to incinerators and hydrochloric acid production furnaces) because these sources directly recover the heat that is released from the combustion of the waste streams. However, as stated at proposal, not all these sources are processing hazardous wastes for energy recovery. 69 FR at 21220. These boilers are generally not commercial units, and so tend to burn whatever hazardous wastes are generated at the facility where they are located. Heating values for this source category range from 1,300 to 10,500 BTU/lb, with a median value of 8,000 BTU/lb. We therefore conclude that thermal emission standards for these sources are not appropriate because most of these sources are processing hazardous waste with energy content lower than 10,000 BTU/lb. As discussed in section VI.D, we conclude that 10,000 BTU/lb is an appropriate level that distinguishes whether thermal emission standards or mass emission concentration-based standards are appropriate. We also note that no commenters suggested that we apply a thermal emissions format to solid fuel boilers.

Comment: Commenters state that thermal emission standards are inappropriate because sources burning hazardous waste with a higher energy content or higher percent hazardous waste firing rate (i.e., one that fulfills a greater percentage of its total energy demand from the hazardous waste) would be allowed to emit more HAP.

Response: Part of this comment would apply regardless of what normalizing parameter is used. Technology-based standards (including MACT standards) are almost always expressed in terms of some type of normalizing parameter, i.e., ''X'' amount of HAP may be emitted per unit of normalizing parameter. This allows a meaningful comparison between units of different size and production capacity. A consequence is that the overall mass of HAP emissions varies, but the rate of control remains constant per the normalizing unit. As explained in the introduction to this section, this approach is both routine and permissible.

Cement kilns, lightweight aggregate kilns, and liquid fuel boilers combust hazardous waste to recover valuable energy. Recovering energy is an integral part of their production process. As discussed at proposal, emission concentration-based standards (and the methodology that otherwise would be used to calculate emission concentration-based standards) may result in standards that are biased against sources that recover more energy from hazardous waste. 69 FR at 21219. This may discourage sources from recovering energy from hazardous waste because such standards do not normalize each source's allowable emissions based on the amount of hazardous waste it processes for energy recovery purposes. A source that fulfills 100 percent of its energy demand from hazardous waste would be required to limit its mass HAP emissions to the same levels as an identical source that satisfies, for example, only 10 percent of its energy demand from hazardous waste and 90% from coal. This would inappropriately discourage the safe recovery of energy from hazardous waste, and could in turn result in greater consumption of valuable fossil fuels that otherwise would be consumed.

Sources which fulfill a greater percentage of their energy demand from hazardous waste (either by processing hazardous wastes that are higher in energy content, or by simply processing more hazardous waste) will be allowed to emit more HAP (on a mass emission rate basis) than an identical source that satisfies less of its total energy demand from hazardous waste. This is appropriate because: (1) The source fulfilling a greater percentage of its energy demand from hazardous waste is processing more raw material than the other source (the raw material being the energy content of the waste); and (2) The source fulfilling a lower percentage of its energy demand requirements from hazardous waste would not be allowed to dilute its emissions with nonhazardous waste fuels, and we would thus assure that all sources implement hazardous waste feed control to levels consistent with MACT.[113] This

[111] EPA notes that when first adopting RCRA air emission standards for hydrochloric acid recovery furnaces (then called 'halogen acid furnaces'), EPA indicated that those furnaces designed as boilers would be subject to the emission standards for boilers. 56 FR at 7040. This determination did not have regulatory consequence, since all hydrochloric acid production furnaces were subject to the same emission standards whether they were classified as boilers or as industrial furnaces. Thus, EPA was not concluding that some hydrochloric acid furnaces existed for the primary purpose of recovering energy in the 1991 rulemaking. 56 FR at 7139 (''[Hydrochloric acid recovery furnaces] are typically modified firetube boilers that process secondary waste streams containing 20 to 70 per cent chlorine or bromine to produce a halogen acid product by scrubbing acid from the combustion gases'').

[112] Hazardous waste chlorine feedrates that are included in our database (expressed as MTECs) range from a low of 46,000,000 μg/dscm to a high of 294,000,000 μg/dscm. On a mass chlorine percentage basis, these wastes range from 17% to 82%, noting that these percentages did not include the chlorine that was also spiked during the emissions tests). See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards'', September 2005, Section 15.

[113] Although the rule does not require use of feed control (or any particular means of control to achieve a standard), the rule assures that all sources' emissions will reflect the emissions of the sources with the best hazardous waste federates expressed in terms of amount of HAP per BTU of hazardous waste. Because this format eliminates

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was illustrated in the example provided in the introduction to this comment response section.

Similarly, two sources that combust hazardous waste with the same energy content and the same metal concentrations (on both a thermal concentration and mass-based concentration basis), but at different hazardous waste firing rates, would be required to achieve identical back-end control device operating efficiencies to comply with a thermal emissions-based standard. Holding these factors constant, thermal emission standards require sources to achieve identical percent reductions of the HAP that is processed within the combustor via removal with an air pollution control device. A thermal emission standard format is thus equally stringent for these sources on a percent HAP removal basis, irrespective of the amount of hazardous waste it processes for energy recovery, and better assures that sources burning smaller amounts of hazardous waste (from an energy recovery perspective) are also controlling emissions as well as the average of the best performing sources.

Sources processing higher energy content hazardous wastes would be allowed to feed hazardous wastes with higher metal and chlorine mass-based concentrations relative to other sources combusting lower energy content wastes. To illustrate this, assume there are two sources (named C and D) with identical back-end control systems and identical mass feedrates of hazardous waste. Also assume the hazardous waste of source C has twice the energy content as compared to the hazardous waste processed by source D. A thermal emission standard will allow Source C to feed a hazardous waste that has twice the metals concentration (as measured on a mass basis) as compared to source D, even though both sources would be required to comply with equivalent thermal feed rates limitations. Notably, however: (1) Source C is displacing (*i.e.*, not using) twice as much valuable fossil fuel as the source with the lower energy content hazardous waste, and is feeding twice as much raw material—the raw material being energy content contained in the hazardous waste; (2) source C cannot exceed the feed control levels (expressed on a lbs of HAP per million BTU basis) that was achieved by the average of the best performing sources (assuming its back-end control efficiency is equivalent to the average performance demonstrated by the best performing sources); and (3) source D is required to have lower mass concentrations of metals in its hazardous waste because it is firing poorer quality hazardous waste fuel (from an energy recovery perspective) and because it is feeding less of the same raw material (measured by energy content). Thus, the thermal emissions format appropriately encourages and promotes the processing of clean, high energy content hazardous waste fuels (consistent with evaluating hazardous waste feed control as an aspect of MACT, and not just relying on control solely through use of back end technology), and does so equally for all sources because it normalizes the allowable emissions based on the amount of energy each source recovers from the hazardous waste. Put another way, source C in the above example is controlling HAP emissions to the same extent as the average of the best performing sources per every BTU of hazardous waste fuel it processes (as is source D).

We note that this is a hypothetical example. In practice the average energy content of hazardous waste processed at cement kilns does not vary significantly across sources. Cement kilns burn hazardous wastes with relatively consistent energy contents because that is what their production process necessitates. This is supported by our database and by comments received from the Cement Kiln Recycling Coalition.[114] Heating values of hazardous wastes processed at cement kilns during compliance tests (information which is included in our database) range from 10,300 to 17,600 BTU/lb, with a median value of 12,400 BTU/lb. We note that these are snapshot representations of hazardous waste heating content from these sources that originate from compliance tests. We also have long term average hazardous waste heating measurements from cement kilns indicating that the heating content of the hazardous wastes on average range from 9,900 to 12,200 BTU/lb, with a median value of 11, 500 BTU/lb. We thus conclude that the commenter's concern regarding sources being allowed to emit more HAP if they process hazardous waste with higher energy content is overstated for these sources.

Energy content of hazardous wastes processed in liquid fuel boilers and lightweight aggregate kilns varies more than energy content of hazardous wastes processed by cement kilns, and sources with higher energy content wastes would be allowed to emit more metals than identical sources burning identical volumes of lower energy content wastes (although the degree of control is identical per BTU of hazardous waste fuel processed).[115] Again, these are hypothetical examples. Each energy recovery unit will have an upper bound on the amount of energy it can process from the hazardous waste. Sources that process higher energy content hazardous wastes would not necessarily feed the same volume of hazardous waste as compared to sources processing lower energy content hazardous wastes because they cannot exceed the thermal capacity of their combustion unit. Under a thermal emission standard format, the mass emission rates that would be allowed for identical sources that fulfill 100 percent of their energy demand from hazardous waste and that have differing hazardous waste energy contents would be identical. Although the source with the higher energy content hazardous waste would have a higher allowable mass-based hazardous waste feed concentration, this source would have to process less hazardous waste (on a mass basis) to remain within its thermal capacity. This helps to ensure that its mass HAP emission rate is similar to other sources that process lower energy content hazardous waste.

One commenter's apparent concern with thermal emissions seems to center on an assertion that sources will intentionally blend nonhazardous, high heating value wastes or fuels with low energy, high metal bearing hazardous wastes in order to increase the energy content of these metal bearing wastes so that they will be subject to higher allowable emissions via thermal emission standards. We specifically address that comment later as it relates to commercial energy recovery units (lightweight aggregate kilns and cement kilns). We note here, however, that we do not consider that comment to be of practical concern for liquid fuel boilers

consideration of stack gas attributable to fossil fuel emissions, and thus eliminates the dilutive effect of these emissions, the likelihood that sources will in fact use hazardous waste feed control as part of their control strategy is great.

[114] See comment submitted by the Cement Kiln Recycling Coalition, USEPA, ''Comment Response Document to the Proposed HWC MACT Standards, Volume 1: MACT Standards,'' September 2005, Section 3.3. Also see USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 23.

[115] The hazardous waste heating values of liquid fuel boilers range from 2,200 to 21,000 BTU/lb, with a median value of 14,800. Heating values of lightweight aggregate kilns range from 4,900 to 16,900 BTU/lb, with a median value of 14,800. We note that the low end heating value for lightweight aggregate kilns reflects one source and is not typical of heating values used by the other commercial lightweight aggregate kiln facilities, and are similar to the heating values of cement kilns.

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because they do not engage in commercial fuel blending practices.

Comment: A commenter states that EPA's assessment of thermal emissions to identify the relevant best sources is inappropriate because thermal emissions are not emission levels, but rather a ratio of emissions to the heat content in a source's hazardous waste.

Response: This comment challenges the basic idea of normalization, since the comment would be the same regardless of the normalizing parameter being used. Thermal emissions are emission levels that are normalized to account for the amount of energy (*i.e.*, raw material) these sources recover by processing hazardous waste. Similarly, a mass emission concentration (*i.e.*, μg/dscm) is a ratio of the emissions to the volume of combustion gas that is generated, which normalize emissions to account for differences in the size of the combustion units (as well as differences in production capacity). This rulemaking assesses performance and expresses emission standards in both of these formats; both formats normalize the emissions so that we may better assess emission control efficiencies equally across sources based on the percent of HAP in the feed (whether thermal feed or feed normalized based on combustor size) [116] that is controlled or removed from the stack gas prior to being emitted into the atmosphere. As discussed above, technology-based standards have historically assessed performance after normalizing emissions based on the amount of raw material processed by the given industry sector. Thermal emissions normalize each source's emissions based on the amount of raw material (hazardous waste fuel) it processes, and are therefore appropriate to assess and identify the relevant best performers. Finally, as previously explained, this approach is consistent with both the language of section 112 (d) (2) and (3), and the purpose of these provisions.

Comment: A commenter states that EPA's assessment of thermal emissions to identify the relevant best sources is inappropriate because it ignores HAP emissions attributable to the nonhazardous fuel and raw material.

Response: Thermal emission standards do not directly control HAP emissions attributable to the fossil fuels and raw material, in the sense that we did not assess feed control of fossil fuels or raw materials. However, this issue is not related to our choice to use thermal content of hazardous waste as a normalizing parameter. Rather, the issue is whether feed control of fossil fuels and raw materials is a feasible means of control at all. We have determined that it is not, and that only back-end control (expressed as system removal efficiency) is feasible. Moreover, today's rule controls emissions from HAP in raw material and fossil fuels. All non-mercury metal HAP emissions attributable to fossil fuels or raw material are effectively and efficiently controlled to the level of the average of the best performing sources with the surrogate particulate matter standard, as well as the system removal efficiency component of the SRE/Feed methodology.

Comment: EPA has failed to document sources' actual feedrates. Feedrates are presented either as MTECs (where hazardous waste HAP feedrates are divided by gas flow rates) or as thermal feedrates, (where feedrate is expressed as the mass of HAP per million BTUs of hazardous waste fired). This is impermissible, since it does not measure actual feed levels.

Response: This comment essentially takes the position that it is legally impermissible to normalize standards, *i.e.*, express standards on a common basis. EPA rejects this comment for the reasons stated in the introduction to this section.

Comment: A commenter states that an increasing number of fuel blenders are producing fuels with a minimum heating content and maximum metals content in order to maximize revenues because high metal bearing wastes command a higher revenue on the commercial waste market. The commenter states that thermal emission standards are not appropriate because they are based on the implicit assumption that energy recovery entails metals feed.

Response: Contrary to what the commenter suggests, the thermal emissions format will more likely discourage the alleged practice of fuel blenders producing fuels with a minimum heat content and maximum metals content because the standard limits the allowable metal emissions based on the amount of energy contained in the hazardous waste. Thus, a source with a lower energy waste would have to ensure that the mass concentration of metals is also lower to comply with the thermal emission formatted standard. The source would consequently emit less metals (on a mass basis) because of the lower metal mass concentration in the waste fuel. Thermal emission standards reflect the reality that the hazardous waste fuels that are currently processed safely and efficiently in energy recovery units to displace valuable fossil fuel do in fact contain metal HAP. From a feed control perspective, the thermal emissions format appropriately requires sources to process high energy content hazardous waste fuels that reflect the thermal feed control levels achieved by the average of the best performing sources, and does so equally for all sources because it normalizes the allowable emissions based on the amount of energy each source recovers from the hazardous waste.

Comment: A commenter states that EPA should be concerned that fuel blenders and kilns will use the thermal emission standard format to increase the allowable metals feedrates for their units. The commenter claims that sources could inappropriately convert non-hazardous waste fuel to hazardous waste fuel by simply putting coal in a bunker in which hazardous waste was once stored, or mixing nonhazardous waste fuel oil with hazardous waste. The commenter states that a facility with a low hazardous waste firing rate, and relatively low allowable emissions can become a facility with a high hazardous waste percent firing rate, with higher allowable emissions, simply by 'creative' use of the hazardous waste mixture rule. The commenter suggests that EPA clearly state that the hazardous waste thermal emission standards apply only to the hazardous waste portion of the fuel blend mixture. The commenter further suggests that EPA require fuel blenders to report the amount of nonhazardous waste fuel that is contained in the fuel blend, and that cement kilns use this to determine allowable metal feed rates based on the original hazardous waste energy content.

Response: We do not believe hazardous waste combustors will engage in the practice of redesignating their fossil fuels, *i.e.*, coal, as hazardous wastes with creative use of the mixture rule in order to increase their allowable metal HAP emission rate. That would require large quantities of coal to be newly classified as hazardous waste. The coal, and the unit where the coal is stored, would subsequently become subject to all applicable subtitle C requirements, which include storage and closure/post closure requirements. We believe this disincentive will discourage this hypothetical practice.

Moreover, as previously discussed, today's rule does not allow cement kiln or lightweight aggregate kiln emissions to exceed the interim standards. The fact that we are issuing emission

[116] For emission concentration-based standards we normalize hazardous waste feed control levels by calculating what we call maximum theoretical emission concentrations, which are equivalent to the HAP mass feed rate divided by gas flow rate.

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standards for some pollutants in the thermal emissions standard format will not encourage fuel blenders to send more metals to these commercial energy recovery sources because their allowable emission concentrations are, by definition, either equivalent to or more stringent than the current limitations with which they are complying. Thus, even if the fuel blenders and energy recovery units engaged in this practice, they could not emit more metals than they are currently allowed to emit. We therefore conclude that it is not necessary to promulgate complicated regulatory provisions that would increase the reporting and recordkeeping requirements of fuel blenders and energy recovery units in order to address a hypothetical scenario that likely would never occur.

Finally, we note that combustion of certain high HAP metal content wastes is already prohibited under RCRA rules. See 40 CFR 268.3. Such wastes remain prohibited from combustion even if they are mixed with fossil fuel so that the mixture has a higher energy content. *U.S.* v. *Marine Shale Processors*, 81 F. 3d 1361, 1366 (5th Cir. 1996) (an unrecyclable hazardous waste is not recycled when it is mixed with a usable non-waste and the mixture is processed). Thus, the dilution prohibition in § 268.3 serves as a further guard against the commenter's concern.

Comment: A commenter states that the thermal emissions format may be problematic because it is based on a flawed assumption that metal HAP from the cement kiln raw material and hazardous waste partition in equal proportions to the total stack gas emissions. The commenter believes that metal retention in the raw materials is higher than the hazardous waste, suggesting that thermal emission standards allow an arbitrary increase in allowable hazardous waste metals emissions. The commenter suggests that EPA require that compliance demonstrations be conducted only under conditions where the metals content in the hazardous waste is significantly higher than the metal content in the raw material to minimize this bias.

Response: The commenter has not provided any emissions data to support this claim, nor does the EPA know of data available that reaches this conclusion. We do not believe there is a significant difference in the partitioning rates of these metals in a cement kiln.[117] Even if there is a difference, this would not result in an arbitrary increase of allowable hazardous waste metals emissions. The thermal emission standards were calculated using thermal emissions data that are based on each source's compliance test. These tests were conducted at hazardous waste feed control levels that represented the upper bound of feed control levels these sources see on a day-to-day basis. To accomplish this, sources spiked metals into the hazardous waste prior to combusting the wastes. The amount of metals that were contained in the hazardous waste streams, after accounting for these spiked metals, far exceeded the metal levels that were contained in the raw material. Thus the differences in partitioning, if any, would likely be overshadowed by the fact that the majority of the metals were contained in the hazardous waste.

Notably, any partitioning bias that that may be present would also have been present during these compliance tests. As a result, this potential bias would be built into the emission standard and thus would not result in an arbitrary increase in allowable hazardous waste metals emissions because these sources will again demonstrate compliance under testing conditions similar to those used to generate the data used to calculate the MACT floors. We conclude that it is not necessary to provide additional prescriptive regulatory language that would require sources to demonstrate system removal efficiencies under testing conditions that exhibit a high ratio of hazardous waste metal content to raw material metal content because the regulations implicitly require sources to demonstrate hazardous waste metal feed control levels that represent the upper range of their allowable feed control levels.[118]

Comment: A commenter states that compliance with standards expressed in a thermal emissions format is problematic because the measurement of energy content of hazardous waste fuel blends is subject to significant variability due to the nature of the test. The commenter also claims that heating value measurements of waste streams that are mixtures of solids and liquids tend be biased high, which would inappropriately give these sources higher allowable metal emission limitation.

Response: There are standard ASTM procedures that reliably measure the energy content of the hazardous waste. Any parameter that is measured for compliance purposes is subject to method imprecision and variability. We do not believe that hazardous waste energy content measurements result in imprecision and variability above and beyond the measurement methods that are currently used to assure compliance with emission concentration-based standards.

The commenter did not provide evidence that supports the claim that energy content measurement and/or sampling methods consistently result in a positive bias. If a bias were consistently present for these types of wastes, then one would expect it to be also reflected in the measured data for which we based the emission standards, which would fully address the commenter's concern. Nonetheless, we note that all hazardous waste sampling and analysis procedures must be prescribed in each source's feedstream analysis plan, which can be reviewed by the permitting authority upon request. These feedstream analysis plans must ensure that sampling and analysis procedures are unbiased, precise, and that the results are representative of the feedstream. See § 63.1208(b)(8). More information on obtaining a representative samples can be found in EPA's SW–846 publication.[119] These procedures involve acquiring several sub-samples that provide integration over the breadth, depth and surface area of the waste container and obtaining replicate samples (see Ch. 13.3.1 of SW–846).

Comment: A commenter states that BTU measurements can be reported as either a higher heating value or a lower heating value, and suggests that EPA require sources to use the lower heating value calculation when determining allowable hazardous waste feed control levels. The commenter seems to imply that use of higher heating values will inappropriately result in higher allowable metal feed rates for fuel blends that contain aqueous waste.

Response: The BTU data in our database that we use to calculate the emission standards reflect higher heating values. It is standard practice in the incineration/combustion industry to report the gross heat of combustion (or

[117] We reference comments submitted by the cement kiln recycling coalition that address this very point. See USEPA, ''Comment Response Document to the Proposed HWC MACT Standards, Volume 1: MACT Standards,'' September 2005, Section 3.3. We have evaluated these comments and find them persuasive on this issue.

[118] Although today's final rule allows sources to extrapolate their allowable hazardous waste feed control levels to levels that are higher than the level demonstrated in the comprehensive performance test, sources must still spike metals into the hazardous waste during the test in order to assure that the system removal efficiency used for the extrapolation procedure is reliable and accurate.

[119] SW–846, ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.''

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higher heating value). We conclude that sources should use the higher heating value rather than the lower heating value for all compliance determinations because these are method-based emission standards. Fuel blends that contain aqueous wastes will not be inappropriately rewarded with higher allowable feed rates because any fuel mixture that contain aqueous mixtures will have lower reported heating values, irrespective of whether they are reported as higher heating values or lower heating values.[120]

E. Standards Can Be No Less Stringent Than the Interim Standards

Comment: Several commenters oppose EPA's position in the proposed rule that the replacement standards can be promulgated at a level no less stringent than the interim standards for incinerators, cement kilns, and lightweight aggregate kilns. In instances where the calculated replacement standard is less stringent than the interim standard, the commenters oppose EPA's position of ''capping'' the replacement standard at the level of the interim standard to prevent backsliding from those levels. Instead, commenters recommend that EPA calculate and finalize the existing and new source floor levels without regard to the interim standards. One commenter also notes that the interim standards are simply a placeholder without the necessary statutory basis to qualify as emission limitations for purposes of establishing MACT floors. Another commenter, however, supports EPA's position to prevent backsliding to levels less stringent than the interim standards.

Response: We maintain that the replacement standards can be no less stringent than existing standards, including the interim standards under §§ 63.1203–1205, for incinerators, cement kilns, and lightweight aggregate kilns. These standards were promulgated on February 13, 2002, and sources were required to comply with them no later than September 30, 2003, unless granted a one-year extension (see § 63.1206(a)). Thus, all hazardous waste combustors are currently complying with the interim standards. The comment that the standards lack some type of requisite statutory pedigree misses the central point of our interpretation of the statute: motivation for achieving a standard (be it regulatory compulsion, statutory requirement, or some other reason) is irrelevant in determining levels of MACT floors. *National Lime* v. *EPA,* 233 F. 3d at 640. What matters is the level of performance, not what motivated that level.

As a result, the replacement standards promulgated today ensure that sources will emit HAP at levels no higher than levels achieved under current regulations. We do this in this rule, when necessary, by either capping a calculated floor level by the interim standard (when both the calculated floor level and interim standard are expressed in the same format of the standard) or by adopting dual standards in cases where formats of the standard vary (so that comparison of stringency cannot be uniformly determined (as for cement kilns and lightweight aggregate kilns, as explained in the preceding section above and in the following response). In this case, the sources are subject to both the replacement and interim standards.

Comment: One commenter states that some proposed standards expressed in a thermal emissions format would allow some sources to emit semivolatile metals at levels higher than the interim standard. The commenter states that EPA reached incorrect conclusions when making relative stringency comparisons between standards expressed in a thermal emissions and mass concentrations format because, in part, EPA assumed an average F-factor (e.g., semivolatile metals for cement kilns).[121] In addition, the commenter notes that the actual relationship between standards expressed in terms of thermal emissions and mass concentrations is complex and depends on a number of factors. As a result, the commenter urges EPA to adopt dual standards (*i.e.*, promulgate the MACT standard as both the standard expressed in a thermal emissions format and also the interim standard expressed in a mass concentration format) to prevent backsliding.

Response: Even though a source may operate in compliance with a standard expressed in a thermal emission format, a source may or may not also be in compliance with the corresponding mass concentration interim standard (e.g., the semi- and low volatile metal emission standards for cement and lightweight aggregate kilns of §§ 63.1204 and 63.1205, respectively). As reflected in the comment, making a judgment as to whether a replacement standard is more stringent than the interim standard for the HAP is not always a straight-forward calculation. As we discussed in the proposed rule[122] and echoed by the commenter, comparing standards in the thermal emissions format to those in a mass concentration format involves assumptions that vary on a site-specific basis and can vary over time, including the hazardous waste fuel replacement rate, contributions to emissions from nonhazardous waste inputs such as raw materials and nonhazardous waste fuels such as coal, how close to the standard a source elects to comply, the system removal efficiency demonstrated during testing, and the type and composition, including heating value, of fuels burned.

To ensure that sources operating under standards expressed in a thermal emissions format will not emit HAP metals at levels higher than currently achieved under the interim standards, we adopt a dual standard to prevent emissions increasing to levels higher than the interim standards. The dual standard structure includes both the standard expressed in a thermal emissions format and the interim standard, which is expressed in a mass concentration format. We apply this concept to several standards including semivolatile metals, low volatile metals, and mercury[123] for cement kilns and semivolatile metals and low volatile metals for lightweight aggregate kilns. This approach ensures that sources are not emitting HAP metals above the levels of the interim standards because we cannot reliably determine that emissions under a standard expressed in a thermal emissions format would not exceed the interim standard for all sources in the category. See §§ 63.1220(a)(2)–(a)(4), and (b)(2)–(b)(4) and 63.1221(a)(3)–(a)(4) and (b)(3)–(b)(4).

We evaluated the relative stringency of the standards expressed in the thermal emissions format compared to the interim standards for the entire source category in order to determine if the dual standard scheme could be avoided. We determined that we could not. For some HAP groups we found that many sources in the category would have the potential to exceed the interim

[120] The difference between the higher heating value and lower heating value of an aqueous waste is insignificant relative to the difference in heating value between an aqueous waste and an organic liquid waste fuel.

[121] An F-factor is an estimate of the amount of combustion gas volume that is generated per fuel heat input for a given type of fuel, expressed in units, for example, cubic feet of combustion gas per million British thermal units (BTU) of fuel burned. In the proposal, EPA used F-factors to convert the emission standards expressed on a thermal basis to mass concentrations in order to make a judgment as to the relative stringency of the proposed MACT standards relative to the interim standards.

[122] For example, see 69 FR at 21255–258, 267–271.

[123] Although the mercury standard promulgated for cement kilns is not expressed using a thermal emission format basis, the same concept applies because the mercury standard is a hazardous waste feed concentration standard, which is a different format than the interim standard.

standards for that HAP.[124] In this case, we considered simply ''capping'' the standard expressed in the thermal emission format by the interim standard (*i.e.*, the promulgated standard would only be expressed in a mass concentration format). However, we conclude that this approach would not be appropriate because the standard expressed in a thermal emission format would likely be more stringent than the mass concentration for some sources, and the statute requires that MACT floors reflect this superior level of performance.

In other cases we found that the standards expressed in the thermal emissions format would not likely exceed the interim standards by the majority of sources operating under typical conditions.[125] While our analysis (based on information in our data base) shows in these cases that the emission standard expressed in a thermal emission format would not likely result in an exceedance of the interim standard, this conclusion may not be true because the assumptions may not be valid for a particular source or site-specific factors may change in future operations. For example, HAP metal emissions could increase over time due to increases in HAP contributions from raw materials or alternative raw materials. Given this potential, we adopt dual standards for the HAP metal standards in order to ensure that standards expressed in a thermal emissions format will not exceed emission levels achieved under the interim standards.[126]

Comment: Several commenters state that the interim standards do not reflect the average performance of the best sources, and so cannot be the basis for floor levels.

Response: In those few situations where we have established floor levels at the level of the interim standards, we have done so as the best means of estimating performance of the best performing sources. Based on the available data to us, the average of the best performing sources exceeds the level of the interim standards in a few instances. Under these circumstances, the binding regulatory limit becomes the best means available to us to estimate performance. See *Mossville,* 370 F. 3d at 1241–42 (accepting regulatory level as a floor standard where sources' measured performance is not a valid means of determining floor levels, and where such data contains results as high as those regulatory levels).

F. How Can EPA's Approach to Assessing Variability and its Ranking Methodologies Be Reasonable When They Result in Standards Higher Than the Interim Standards?

A commenter argued that EPA's floor methodologies, in particular its consideration of variability beyond that demonstrated in single test conditions, the SRE/feed and Air Pollution Control Device methodologies, must be arbitrary because in a few instances projected standards using these approaches were higher than the current interim standards, a level every source (not just the best performers) are achieving. Commenters also noted that one of the new source standards calculated under these approaches was higher than an existing source standard, another arbitrary result.

EPA believes that these seeming anomalies (which are infrequent) result from the database used to calculate performance and standards, rather than from the approaches to assessing variability or the two questioned floor methodologies. The data base is from test results which preceded EPA's adoption of the interim standards. Thus, the level of performance required by the later rule is not necessarily reflected in pre-rule test data. In confirmation, some of the standards computed using straight emission approaches also are higher than the interim standards. Other anomalies arise simply due to scarcity of data (floor levels for certain HAP emitted by lightweight aggregate kilns especially, where there are only nine sources total). In these situations there is a greater likelihood that one or more of the best performing sources will have relatively high emissions because we are required to use data from five sources to comprise the MACT pool whenever we have data from fewer than 30 sources, and a small amount of data can skew the result. See § 112(d)(3)(B).[127]

For example, many of the calculated new source chlorine floors were slightly higher than the calculated existing source standards because we assumed all sources with measured emissions below 20 ppmv were in fact emitting at 20 ppmv (see part four, section I.C). We generally are unable to differentiate a single best performing source among these best performers because many/all of the best performing sources emissions are adjusted to the same emission level. The calculated new source floor can be slightly higher than the existing source floor because the variability factor that is applied to the single best performing source is based on only one test condition (with three emission test runs). This results in a higher level of uncertainty relative to the existing source standard, which is based on a compilation of emissions data from several sources that have essentially the same projected emissions as a result of the method bias correction factor. The variability factor that is applied to the emissions of the single best performing source is therefore higher than the variability factor for the existing source floor because there are fewer degrees of freedom in the statistical analysis.[128] Likewise, many of the calculated solid fuel boiler new source standards were slightly higher than the calculated existing source standards because, as discussed above, there are fewer degrees of freedom when assessing the variability from a single best performing source. The solid fuel boiler ''anomalies'' also occur using a straight emissions methodology. See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September, 2005, Section 19, for further discussion that summarizes and explains these so-called anomalies.

[124] An example for each category is semivolatile metals thermal emissions standard for existing cement and lightweight aggregate kilns. See USEPA, ''Final Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' Section 23.1, September 2005.

[125] An example is the emission standards for low volatile metals for existing and new cement kilns and new lightweight aggregate kilns. See USEPA, ''Final Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' Section 23.1, September 2005.

[126] In response to a comment regarding the implementation of dual standards, we note the promulgation of a new provision allowing sources to petition the Administrator to waive the HAP metal feedrate operating parameter limits for either the emissions standards expressed in a thermal emissions format (or the mercury feed concentration standard for cement kilns) or the interim standards based on documentation that the feedrate operating parameter limit is not needed to ensure compliance with the relevant standard on a continuous basis. See new § 63.1209(g)(1)(iv) and Comment Response Document, Volume I, Section 3.5.

[127] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 19, for further discussion.

[128] For a single test condition the t factor used in variability factor calculation has n–1 degrees of freedom where n is the number of runs for that condition. For the MACT floor calculation the t factor has X–N degrees of freedom where X is the total number of runs from all sources in the MACT pool and N is the number of sources in the pool. See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September, 2005, Section 7.1 for more information on the floor calculation procedure.

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IV. Use of Surrogates

A. Particulate Matter as Surrogate for Metal HAP

Comment: A commenter states that EPA's use of particulate matter as a surrogate for nonenumerated metals is unlawful and arbitrary and capricious because although particulate matter emissions may provide some indication of how good a source's end-of stack control of such metals is, it does not indicate what its actual metal emission levels are.[129] The commenter states that emissions of these metals can vary based on metal feed rate without having any appreciable effect on particulate matter emission levels. Thus a particulate matter standard does not necessarily ensure that metal emissions are reduced to the metal emission levels achieved by the relevant best performing sources. To support this assertion, the commenter states that EPA is on record saying ''low particulate matter emissions do not necessarily guarantee low metal HAP emissions, especially in instances where the hazardous waste feeds are highly concentrated with metal HAP.'' 69 FR at 21221.

Response: The final rule uses a particulate matter standard as a surrogate to control: (1) Emissions of nonenumerated metals that are attributable to all feedstreams (both hazardous waste and remaining inputs); and (2) all nonmercury metal HAP emissions (both enumerated and nonenumerated metal HAP) from the nonhazardous waste process feeds at cement kilns, lightweight aggregate kilns, and liquid fuel boilers (e.g., emissions attributable to coal and raw material at a cement kiln, and emissions attributable to fuel oil for liquid fuel boilers). Incinerators, liquid and solid fuel boilers may elect to comply with an alternative to the particulate matter standard that would limit emissions of all the semivolatile metal HAPs and low volatile metal HAPs. See § 63.1219(e).

The particulate matter standard is a necessary, effective, and appropriate surrogate to control nonmercury metal HAPs. The record demonstrates overwhelmingly that when a hazardous waste combustor emits particulate matter, it also emits nonmercury HAP metals as part of that particulate matter, and that when particulate matter is removed from emissions the nonmercury HAP metals are removed with it.[130] Nonmercury metal HAP emissions are therefore reduced whenever particulate matter emissions are reduced. The particulate matter standard thus is an effective and appropriate surrogate that assures sources are controlling these metal HAP with an appropriate back-end control technology. *National Lime* v. *EPA*, 233 F. 3d at 639. The nonenumerated metal HAP are no different than other semivolatile or low volatile metals in that they also will be effectively controlled with a back-end particulate matter air pollution control device.

We also considered the possibility of developing a standard for nonenumerated HAP metals instead of a PM standard (*i.e.*, regulating these metals directly, rather than through use of a surrogate). We conclude for several reasons, however, that issuing emission standards for these nonenumerated metals in lieu of a particulate matter standard would not adequately control nonmercury metal HAPs to levels achieved by the relevant best performing sources.

We generally lack sufficient compliance test emissions data for the noneneumerated metals to assess the relevant best performing sources, because, as discussed below, most of these metals were not directly regulated pursuant to RCRA air emission standards.[131] Although we have more emissions data for these metals that are based on (so called) normal operations, we still lack sufficient emissions data to establish nonenumerated metal standards for all the source categories. Use of normal data may also be problematic because of the concern raised by the cement kiln and lightweight aggregate kiln stakeholders that our normal metals emissions data obtained from compliance tests are not representative of the range of actual emissions at their sources. Cement kiln and lightweight aggregate kiln stakeholders submitted long-term hazardous waste mercury feed control data that support their assertion. Although these stakeholders did not submit long-term normal hazardous waste feed control data for the nonenumerated metals, we can still see that use of the normal nonenumerated metal snapshot emissions in our database to determine MACT floors could raise similar concerns with respect to whether the normal data in fact represents average emissions at these sources, and their level of performance.

Use of particulate matter emissions data to assess the relevant best performers for nonenumerated metal HAP is therefore more appropriate for two reasons. Compliance test data better account for emissions variability and avoid the normal emissions bias discussed above. We also have much more particulate matter emissions data from more sources, which better allows us to evaluate the true range of emissions from all the sources within the source category and to assess and identify the relevant top performing 12 percent of the sources.

It would be inappropriate to assess total stack gas emissions of nonenumerated metals for cement kiln and lightweight aggregate kilns when determining the relevant best performers because these emissions would, in part, reflect the metal feed levels in these sources' nonhazardous waste process feedstreams. This is not appropriate because nonhazardous process feedstream control is not a feasible means of control. See part four, section III.B.1. A potential solution to this problem would be to identify the relevant best performers by assessing each source's hazardous waste thermal emissions for these nonenumerated metals (given that hazardous waste thermal emissions exclude by definition emissions attributable to inputs other than hazardous waste, *i.e.* raw materials and fossil fuels). This, however, would be problematic because, aside from the data limitation issues, the majority of the nonenumerated metals data reflect normal emissions which often do not contain the highest feed rates used by the source. As a result, we cannot assess performance on a thermal emissions basis because of the uncertainty associated with system removal efficiencies at such low metal feedrates. Furthermore, even if we could issue hazardous waste thermal emissions standards for these metals, a particulate matter emission standard would still be necessary to control nonmercury metal HAP emissions from the nonhazardous waste process feedstreams.

[129] ''Enumerated'' metals are those HAP metals directly controlled with an emission limit, *i.e.*, lead, cadmium, chromium, arsenic and beryllium. The remaining nonmercury metal HAP (*i.e.*, antimony, cobalt, manganese, nickel, and selenium) are called ''nonenumerated'' metal HAP (note that arsenic and berrylium are nonenumerated metals for liquid fuel boilers because the low volatile metal emission standard applies only to chrome).

[130] This statement is equally true for any emitting source, not just hazardous waste combustors. It is well established that semivolatile and low volatile metals exist in solid particulate form at typical air pollution control device operating temperatures. This is supported by (1) known operating temperature ranges of air pollution control devices used by hazardous waste combustors; (2) known metal volatility equilibrium relationships; and (3) extensive technical literature. See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 3.1.

[131] At best, we may have enough compliance test data for antimony and selenium to adequately assess relevant best performers for only incinerators and lightweight aggregate kilns.

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Emission standards for these nonenumerated metals could require sources to implement hazardous waste feed control (for these metals) to comply with the standard.[132] We are less assured that these sources were implementing hazardous waste feed control for these nonenumerated metals at the time they conducted the emissions tests (which serve as the basis for floor calculations) because most of these metals were never directly regulated pursuant to the RCRA emission standards.[133] This means that sources tended to optimize (or at least concentrate their efforts on) control of the metals that are regulated. Although these metals were being controlled with each source's back-end control device, sources may not have been controlling these metal feedrates because they probably were not subject to specific feedrate limitations (feed control of the enumerated metal HAP does not ensure feed control of these nonenumerated metal HAP). Furthermore, simultaneous feed control of all these metals, when combined with enumerated semivolatile and low volatile metals, may not be possible because the best performing sources for all these metals may collectively represent a hazardous waste feedstream that does not exist in practice (from a combined metal concentration perspective) because there likely would be different best performers for each of the metal HAP or metal HAP groups.[134] We thus conclude that back-end control as measured and assessed by each source's particulate matter emissions is the appropriate floor technology to assess when identifying the relevant best performers for nonenumerated HAP metals and estimating these sources' level of performance.

Comment: A commenter states that EPA's rationale for use of particulate matter as a surrogate for nonenumerated metals is flawed because EPA has provided no data in the proposal to justify its hypothesis that particulate matter is an appropriate surrogate for non-enumerated metal HAP. The commenter also states that the proposed emission standards for particulate matter for existing sources discriminate against boilers and process heaters that burn clean (*i.e.*, little or very low concentrations of HAP metals) hazardous waste fuels. The commenter suggests that if there are sufficient data, EPA should consider developing an alternative emission standard for total HAP metals for new and existing liquid fuel boilers, as was done for the Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters.

Response: As previously discussed in this section, particulate matter reflects emissions of nonmercury metal HAPs because these compounds comprise a percentage of the particulate matter (provided these metals are fed into the combustion unit). The technologies that have been developed and implemented to control particulate matter also control nonmercury metal HAP. Since non-mercury metal HAP is a component of particulate matter, we can use particulate matter as a surrogate for these metals. Further justification for the use of particulate matter as a surrogate to control metal HAP is included in the technical support document.[135]

We conclude that we do not have enough nonenumerated metal emissions data to calculate alternative total metal emission floors for liquid fuel boilers. The most problematic of these metals are manganese and cobalt, where we have emission data from only three sources. We have much more compliance test particulate matter emissions data from liquid fuel boilers, and thus conclude that the particulate matter standard best reflects the emission levels achieved by the relevant best performers.

Similar to the above discussion, calculating an alternative total metal emissions floor raises questions regarding the method used to calculate such floors. Hazardous waste combustor metal emissions have traditionally been regulated in volatility groupings because the volatility of the metal affects the efficiency of back-end control (*i.e.*, semivolatile metals are more difficult to control than low volatile metals because they volatilize in the combustor and then condense as small particulates prior to or in the emission control device). When identifying the best performing sources, we previously have, in general, only evaluated sources that have metal emissions information for every metal in the volatility grouping. This approach could prove to be problematic since it is not likely many sources will have emissions data for all the metals.

Although we could not calculate alternative total metal emission floor standards based on the available emissions data we have, we agree with the commenters' view that sources that burn hazardous waste fuels with low levels of nonenumerated metals should be allowed to comply with a metals standard rather than the particulate matter standard. We proposed an alternative to the particulate matter standard (see 69 FR at 21331) for incinerators, liquid, and solid fuel boilers that was a simplified version of the alternative particulate matter standard that is currently in effect for incinerators pursuant to the interim standards (see § 63.1206(b)(14)). We received no adverse comment and are promulgating this alternative as proposed. The alternative metal standards apply to both enumerated and nonenumerated metal HAP, excluding mercury. For purposes of these alternative requirements, each nonenumerated metal is classified as either a semivolatile or a low volatile metal and subsequently grouped with the associated semivolatile and low volatile enumerated metals. The semivolatile and low volatile metals standards under this alternative are the same as those that apply to other liquid fuel boilers, but the standard would apply to all metal HAP, not just those enumerated in the generic low volatile metal and semivolatile metal standards. See §§ § 63.1216(e), 63.1217(e) and 63.1219(e).

B. Carbon Monoxide/Hydrocarbons and DRE as Surrogates for Dioxin/Furan

Comment: One commenter states that the dioxin/furan floors for new and existing solid fuel boilers is unlawful and arbitrary and capricious. EPA established the floor for dioxin/furan for these sources as compliance with the carbon monoxide or hydrocarbon standard and the destruction and removal efficiency (DRE) standard. The

[132] Sources that otherwise would be equipped with what is considered to be a MACT back-end control devices (*i.e.*, a control device achieving the final rule particulate matter standard) may not be able to achieve these metal emissions standards due to varying metal feed levels (both within sources and across sources). Such an outcome may require a source to limit the amount of metal that is fed into the combustion unit to achieve the standard.

[133] Antimony is the only nonenumerated metal that is directly regulated pursuant to the boilers and industrial furnace regulations. See § 266.106.

[134] We generally cannot combine these nonenumerated metals into the associated semivoltile or low volatile metal volatility groupings promulgated in this final rule for purposes of establishing ''grouped'' emission standards because we cannot mix compliance test data with normal emissions data when calculating floors (the majority of the standards included in this final rule are based on compliance test data, and the majority of the data we have for nonenumerated metals being normal). Furthermore, if we were to separately group the normal nonenumerated metal emission data into their associated semivolatile or low volatile metal group, we may encounter data limitation issues because each source would need to have measured each of the nonenumerated metals in that associated metal volatility group in order for us to conclude that the emission data adequately represents the sources combined emissions of semivolatile or low volatile metals.

[135] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 3.1.

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commenter states that EPA has not shown that carbon monoxide or hydrocarbon emissions correlate to dioxin/furan emissions, and, accordingly, has not shown that the carbon monoxide or hydrocarbon standard, together with the DRE standard, are valid surrogates.

This commenter also states that it is inappropriate for EPA to use carbon monoxide or hydrocarbons and DRE as surrogates to establish dioxin/furan floors for liquid fuel boilers with wet or no air pollution control devices and for hydrochloric acid production furnaces. The commenter believes EPA inappropriately justifies these surrogates by claiming that a numerical dioxin/furan floor would not be replicable by the best sources or duplicable by the others. The commenter states that EPA has no discretion to avoid setting floors for a HAP just because it believes that HAP is not controlled with a technology. Rather, EPA must set floors reflecting the relevant best sources' actual performance. Such floors necessarily will be duplicable by the relevant best sources themselves. That they cannot be replicated by other sources is irrelevant according to the commenter.

In addition, the commenter states that EPA does not claim or demonstrate that the carbon monoxide and hydrocarbon floors for solid fuel boilers reflect the average emission levels achieved by the relevant best sources.

Finally, the commenter also notes that EPA appears to argue that its carbon monoxide or hydrocarbon standard and DRE standard could be viewed as work practice standards under section 112(h) which allows EPA to establish work practice standards in lieu of emission standards only if it is not be feasible to set the former. Because EPA has made no such demonstration, setting work practice standards to control dioxin/furan emissions from boilers would be unlawful according to the commenter.

Response: The commenter raises four issues: (1) Are the carbon monoxide/hydrocarbon standard and the DRE standard adequate surrogate floors to control dioxin/furan; (2) floors for existing sources must be established as the average emission limitation achieved by the best performing sources irrespective of whether the limitation is duplicable by the best performing sources or replicable by other sources; (3) EPA has not explained how the carbon monoxide and hydrocarbon floors reflect the average emission limitation achieved by the relevant best sources; and (4) EPA cannot establish work practice standards for dioxin/furan under section 112(h) because it has not demonstrated that setting an emission standard is infeasible under section 112(h)(1).

Carbon Monoxide and Hydrocarbons Are Adequate Surrogates to Control Dioxin/Furan when Other Controls Are Not Effective or Achievable. Carbon monoxide and hydrocarbons (coupled with the DRE standard) are the best available surrogates to control dioxin/furan emissions when a numerical floor would not be achievable and when other indirect controls, such as control of the gas temperature at the inlet of a dry particulate matter control device to 400F, are not applicable or effective.[136]

As we explained at proposal, operating under good combustion conditions to minimize emissions of organic compounds such as polychlorinated biphenyls, benzene, and phenol that can be precursors to dioxin/furan formation is an important requisite to control dioxin/furan emissions.[137] See 69 FR at 21274. Minimizing dioxin/furan precursors by operating under good combustion practices plays a part in controlling dioxin/furan emissions, and that role is substantially enhanced when there are no other dominant factors that relate to dioxin/furan formation and emission (e.g., operating a dry particulate matter control device at temperatures above 400F).

Carbon monoxide and hydrocarbons are widely accepted indicators of combustion conditions. The current RCRA regulations for boilers and hydrochloric acid production furnaces use emissions limits on carbon monoxide and hydrocarbons to control emissions of toxic organic compounds. See 56 FR 7150 (February 21, 1991) documenting the relationship between carbon monoxide, combustion efficiency, and emissions of organic compounds. In addition, carbon monoxide and hydrocarbons are used by many CAA standards for combustion sources to control emissions of organic HAP, including: MACT standards for hazardous waste burning incinerators, hazardous waste burning cement kilns, hazardous waste burning lightweight aggregate kilns, Portland cement plants, and industrial boilers; and section 129 standards for commercial and industrial waste incinerators, municipal waste combustors, and medical waste incinerators. Finally, hydrocarbon emissions are an indicator of organic hazardous air pollutants because hydrocarbons are a direct measure of organic compounds.

Commenters on our proposed MACT standards for hazardous waste incinerators, cement kilns, and lightweight aggregate kilns stated that EPA's own surrogate evaluation[138] did not demonstrate a relationship between carbon monoxide or hydrocarbons and organic HAP at the carbon monoxide and hydrocarbon levels evaluated. See 64 FR at 52847 (September 30, 1999). Several commenters on that proposed rule noted that this should not have been a surprise given that the carbon monoxide and hydrocarbon emissions data evaluated were generally from hazardous waste combustors operating under good combustion conditions (and thus, relatively low carbon monoxide and hydrocarbon levels). Under these conditions, emissions of HAP were generally low, which made the demonstration of a relationship more difficult. These commenters noted that there may be a correlation between carbon monoxide and hydrocarbons and organic HAP, but it would be evident primarily when actual carbon monoxide and hydrocarbon levels are higher than the regulatory levels. We agreed with those commenters, and concluded that carbon monoxide and hydrocarbon levels higher than those we established as emission standards for hazardous waste burning incinerators, cement kilns, and lightweight aggregate kilns are indicative of poor combustion conditions and the potential for increased emissions organic HAP. We continue to believe that carbon monoxide and hydrocarbons are adequate surrogates for organic HAP which may be precursors for dioxin/furan formation and note that the commenter did not explain why our technical analysis is problematic.

Emissions that Are Not Replicable or Duplicable Are Not Being ''Achieved''. The commenter believes that floors must be established as the average emission limitation of the best performing sources irrespective of whether they are replicable by the best performing sources or duplicable by other sources. To the contrary, emission

[136] As discussed in Part Two, Section V, we view the carbon monoxide, hydrocarbon, and destruction removal efficiency standards as unaffected by the Court's vacature of the September 1999 challenged regulations for incinerators, cement kilns, and lightweight aggregate kilns. We are therefore not re-promulgating and reopening consideration of these standards in today's final rule for these source categories.

[137] Operating under good combustion conditions also helps minimize soot formation on boiler tubes. Research has shown that operating under conditions that can form soot followed by operating under good combustion conditions can lead to dioxin/furan formation. See Section 2.4 of Volume III of the Technical Support Document.

[138] See Energy and Environmental Research Corporation, '''Surrogate Evaluation of Thermal Treatment Systems,''' Draft Report, October 17, 1994.

levels that are not replicable by the best performing sources are not being ''achieved'' by those sources and cannot be used to establish the floor.

For solid fuel boilers, we explained at proposal why dioxin/furan emissions are not replicable by the best performing sources (or duplicable by other sources): there is no dominant, controllable means that sources are using that can control dioxin/furan emissions to a particular level. See 69 FR at 21274–75. We explained that data and information lead us to conclude that rapid quench of post-combustion gas temperatures to below 400 °F—the control technique that is the basis for the MACT standards for dioxin/furan for hazardous waste burning incinerators, and cement and lightweight aggregate kilns—is not the dominant dioxin/furan control mechanism for coal-fired boilers. We believe that sulfur contributed by the coal fuel is a dominant control mechanism by inhibiting formation of dioxin/furan. Nonetheless, we do not know what minimum level of sulfur provides significant control. Moreover, sulfur in coal causes emissions of sulfur oxides, a criteria pollutant, and particulate sulfates. For this reason, as well as reasons stated at 69 FR 21275, we are not specifying a level of sulfur in coal for these sources as a means of dioxin/furan control.

The same rationale applies to liquid fuel boilers with no air pollution controls or wet air pollution control systems and to hydrochloric acid production furnaces—there is no dominant, controllable means that sources are using that can control dioxin/furan emissions to a particular emission level.[139] Thus, best performer dioxin/furan emissions are not replicable by the best performing sources (or duplicable by other sources). For these sources, the predominant dioxin/furan formation mechanism for other source categories—operating a fabric filter or electrostatic precipitator above 400F—is not a factor.

Given that these sources are not using controllable means to control dioxin/furan to a particular emission level, there is no assurance that the best performers can achieve in the future the emission level reported in the compliance test in our data base. Put another way, the test data do not reflect these sources' variability, and the variability is largely unquantifiable given the uncertainties regarding control mechanisms plus the environmental counter-productiveness of encouraging use of higher sulfur coal. Hence, that reported emission level is not being ''achieved'' for the purpose of establishing a floor.

Finally, we note that beyond-the-floor controls such as activated carbon can control dioxin/furan to a particular emission level. If a source were to install activated carbon, it could achieve the level demonstrated in a compliance test, after adjusting the level to account for emissions variability to ensure the measurement was replicable. The commenter argues that such a result is mandatory under the straight emissions approach (the only way the commenter believes best performers can be determined). Doing so, however, would amount to a surreptitious beyond-the-floor standard (forcing adoption of a control technology not used by any existing source), without considering the beyond-the-floor factors set out in section 112(d)(2). In fact, we considered beyond-the-floor standards based on use of activated carbon for these sources—solid fuel boilers, liquid fuel boilers with wet or no emission control device, and hydrochloric acid production furnaces—but rejected them for reasons of cost. The cost-effectiveness ranged from $2.5 million to $4.9 million per gram TEQ of dioxin/furan removed. In contrast, the cost-effectiveness of the beyond-the-floor standard we promulgate for liquid fuel boilers equipped with dry emission control devices is $0.63 million per gram TEQ of dioxin/furan removed.[140]

Consequently, we are not promulgating a beyond-the-floor standard for dioxin/furan for these sources, and do not believe we should adopt such a standard under the guise of determining floor levels.

The Carbon Monoxide and Hydrocarbon Floors Are Appropriate MACT Floors. We explained at proposal why the carbon monoxide standard of 100 ppmv and the hydrocarbon standard of 10 ppmv are appropriate floors. See 69 FR at 21282. The floor level for carbon monoxide of 100 ppmv is a currently enforceable Federal standard. Although some sources are achieving carbon monoxide levels below 100 ppmv, it is not appropriate to establish a lower floor level because carbon monoxide is a conservative surrogate for organic HAP. Organic HAP emissions may or may not be substantial at carbon monoxide levels greater than 100 ppmv, and are extremely low when sources operate under the good combustion conditions required to achieve carbon monoxide levels in the range of zero to 100 ppmv.[141] (See also the discussion below regarding the progression of hydrocarbon oxidation to carbon dioxide and water). As such, lowering the carbon monoxide floor below 100 ppmv may not provide significant reductions in organic HAP emissions. Moreover, it would be inappropriate to establish the floor blindly using a mathematical approach—the average emissions for the best performing sources—because the best performing sources may not be able to replicate their emission levels (and other sources may not be able to duplicate those emission levels) using the exact types of good combustion practices they used during the compliance test documented in our data base. This is because there are myriad factors that affect combustion efficiency and, subsequently, carbon monoxide emissions. Extremely low carbon monoxide emissions cannot be assured by controlling only one or two operating parameters.

We proposed a floor level for hydrocarbons of 10 ppmv even though the currently enforceable standard for boilers and hydrochloric acid production furnaces is 20 ppmv because: (1) Although very few sources elect to comply with the RCRA standard for hydrocarbons rather than the standard for carbon monoxide, those that comply with the hydrocarbon standard have hydrocarbon levels well below 10 ppmv; and (2) reducing hydrocarbon emissions within the range of 20 ppmv to 10 ppmv may reduce emissions of organic HAP.

Although all sources are likely to be achieving hydrocarbon levels below 10 ppmv, it is not appropriate to establish a lower floor level because hydrocarbons are a surrogate for organic HAP. Although total hydrocarbons would be reduced at a floor level below 10 ppmv, we do not know whether

[139] We note that the same rationale also applies to incinerators with wet or no air pollution control equipment and that are not equipped with a waste heat boiler.

[140] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Sections 12, 13, and 15.

[141] We note, however, that this general principle may not always apply. There are data that indicate that even though carbon monoxide levels are below 100 ppmv, hydrocarbon levels may not always be below 10 ppmv. See 64 FR at 52851 and Part Four, Section IV B. and C. of this preamble. An example of how this might occur, although not a likely practical scenario, is if combustion is quenched before substantial carbon monoxide can be generated, leaving unburned hydrocarbons in the stack gas. Because of this potential (although unlikely) concern, the rule requires sources that elect to monitor carbon monoxide rather than hydrocarbons to conduct a one-time test to document that hydrocarbons are below 10 ppmv and to establish operating limits on parameters that affect combustion conditions (i.e., the same operating parameters that we use for compliance assurance with the DRE standard). See § 63.1206(b)(6).

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organic HAP would be reduced substantially. As combustion conditions improve and hydrocarbon levels decrease, the larger and easier to combust compounds are oxidized to form smaller compounds that are, in turn, oxidized to form carbon monoxide and water. As combustion continues, carbon monoxide is then oxidized to form carbon dioxide and water. Because carbon monoxide is a difficult-to-destroy refractory compound (*i.e.*, oxidation of carbon monoxide to carbon dioxide is the slowest and last step in the oxidation of hydrocarbons), it is a conservative surrogate for destruction of hydrocarbons, including organic HAP, as discussed above. As oxidation progresses and hydrocarbon levels decrease, the larger, heavier compounds are destroyed to form smaller, lighter compounds until ideally all hydrocarbons are oxidized to carbon monoxide (and then carbon dioxide) and water. Consequently, the relationship between total hydrocarbons and organic HAP becomes weaker as total hydrocarbon levels decrease to form compounds that are not organic HAP, such as methane and acetylene.[142]

Moreover, as discussed above for carbon monoxide, it would be inappropriate to establish the floor blindly using a mathematical approach—the average emissions for the best performing sources—because the best performing sources may not be able to replicate their emission levels (and other sources may not be able to duplicate those emission levels) using the exact types of good combustion practices they used during the compliance test documented in our data base. This is because there are myriad factors that affect combustion efficiency and, subsequently, hydrocarbon (and carbon monoxide) emissions. Extremely low hydrocarbon emissions cannot be assured by controlling only one or two operating parameters.

The Standards for CO and HC Are Not Work Practice Standards. The floor standards for CO or HC for boilers and hydrochloric acid production furnaces are quantified emission limits. The standards consequently are not work practice standards (even though they represent levels showing good combustion control). CAA section 302(k). EPA's reference to section 112(h)(1) at proposal (69 FR at 21275) was consequently erroneous.

[142] USEPA, Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards and Technologies, July 1999, Section 12.1.2.

C. Use of Carbon Monoxide and Total Hydrocarbons as Surrogate for Non-Dioxin Organic HAP [143]

Comment: A commenter states that neither the total hydrocarbon nor carbon monoxide standard alone provides adequate surrogate control for organic HAP. Accordingly, EPA must include standards for both. Hazardous waste combustors could have total hydrocarbon levels below the standard during the carbon monoxide compliance tests, but higher total hydrocarbon levels at other times during normal operation because there are many variables that can affect total hydrocarbon emissions, and these will not all be represented during the carbon monoxide compliance test. The commenter states that EPA is on record stating that carbon monoxide limits alone may not by itself minimize organic emissions because products of incomplete combustion can result from small pockets within the combustion zone where adequate time, temperature, turbulence and oxygen have not been provided to completely oxidize these organics. The commenter also states that EPA is on record stating that total hydrocarbon levels can exceed good combustion condition levels when carbon monoxide levels are below 100 ppmv.

Response: The final rule requires compliance with destruction and removal efficiency and carbon monoxide or hydrocarbon standards as surrogates to control non-dioxin organic HAP emissions [144] from liquid fuel boilers, solid fuel boilers, and hydrochloric acid production furnaces. These are effective and reliable surrogates to control organic HAP. We conclude that simultaneous measurement of both total hydrocarbons and carbon monoxide with continuous emission monitors is not necessary because each serves as a reliable surrogate to control organic HAP emissions. The commenter has cited EPA preamble language that was included in the April 19, 1996 proposed rule for hazardous waste incinerators, cement kilns, and lightweight aggregate kilns. In that rule we proposed to require compliance with both the total hydrocarbon standard and the carbon monoxide standard. We requested comment on whether these requirements were redundant, and we later requested comment on whether we should allow sources to comply with either the carbon monoxide standard or the total hydrocarbon standard. We clarified, however, that allowing sources to comply with the carbon monoxide standard would be contingent on the source demonstrating compliance with the hydrocarbon standard during the compliance test. We believed this was necessary because we had limited data that showed a source could have total hydrocarbon levels exceeding 10 ppmv even though their carbon monoxide emission levels were below 100 ppmv. EPA subsequently promulgated this approach in the September 1999 Final Rule. 62 FR 52829.

Today's rule adopts the same approach for liquid and solid fuel boilers and hydrochloric acid production furnaces. We again conclude that it is not necessary to require sources to verify compliance with both of these standards on a continuous basis with two separate continuous emission monitors, given the redundancy of these measurement techniques. Total hydrocarbon emission measurements are a more direct indicator of organic HAP emissions than carbon monoxide. Hence, continuous compliance with this standard always assures that organic HAP are well controlled. Carbon monoxide is a conservative indicator of combustion efficiency because it is a product of incomplete combustion and because it is a refractory compound that is more thermally stable than hydrocarbons. The hydrocarbon products of incomplete combustion that are simultaneously formed during incomplete, or inefficient, combustion conditions can be subsequently oxidized later in the combustion process. In such instances carbon monoxide will likely still be prevalent in the exhaust gas even though the products of incomplete combustion were later oxidized. The conservative nature of carbon monoxide as an indicator of good combustion practices is supported by our data. At carbon monoxide levels less than 100 ppmv, our data indicates that there is no apparent relationship between carbon monoxide and hydrocarbons (other than that hydrocarbon levels are generally below 10 ppm when carbon monoxide levels are below 100 ppm). For example, a source with a carbon monoxide level of 1 ppm is no more likely to have lower

[143] As discussed in part two, section V, we view carbon monoxide, hydrocarbon, and destruction removal efficiency standards as unaffected by the Court's vacature of the September 1999 challenged regulations for incinerators, cement kilns, and lightweight aggregate kilns. We are therefore not re-promulgating and did not reconsider these standards in today's final rule for these source categories.

[144] As discussed in the previous section, these standards are also used as surrogates to control dioxin/furans for hydrochloric acid production furnaces, solid fuel-fired boilers, and liquid fuel-fired boilers that are not equipped with dry air pollution control devices.

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measured hydrocarbons than a source achieving a carbon monoxide emission level of 100 ppm. [145]

We consider the few instances where the data showed total hydrocarbon levels above 10 ppmv while carbon monoxide levels are below 100 ppmv to be anomalies. Even so, we have accounted for this by requiring compliance with the hydrocarbon standard during the compliance test if a source elects to comply with the carbon monoxide standard. See §§ § 63.1216(a)(5)(i), 1217(a)(5)(i), and 1218(a)(5)(i).

We disagree with the commenter's assertion that the total hydrocarbon compliance demonstration during the compliance test is insufficient. Sources are required to establish numerous operating requirements based on operating levels that were demonstrated during the test, including minimum operating temperature, maximum feed rates, minimum combustion zone residence time, and operating requirements on the hazardous waste firing system that control liquid waste atomization efficiency. Sources must comply with these operating requirements on a continuous basis. Compliance with these requirements, in addition to the requirements to comply with the carbon monoxide and destruction and removal standards, adequately assure sources are controlling organic HAP emissions to MACT levels.

Comment: A commenter states that EPA's proposed use of surrogates for organic HAP do not ensure that each of the organic HAP (e.g., polychlorinated biphenyls and polyaromatic hydrocarbons) are reduced to the level of the HAP emitted by the relevant best performing sources. EPA has not shown the necessary correlation between either the total hydrocarbon or carbon monoxide standards and organic HAP, and neither is a reasonable surrogate according to the commenter.

Response: Carbon monoxide and total hydrocarbon monitoring are widely used and accepted indicators of combustion efficiency, and hence control organic HAP, which are destroyed by combustion.[146] Sources that are achieving carbon monoxide of emission levels of 100 ppm or a hydrocarbon emission levels of 10 ppm are known to be operating pursuant to good combustion practices. This is supported by an extensive data analysis we used to support identical standards for incinerators, cement kilns, and lightweight kilns which were promulgated in the September 1999 Final Rule. We are applying the same rationale to support these standards for boilers and hydrochloric acid production furnaces.

Today's rule requires continuous compliance with either a carbon monoxide and hydrocarbon standard, in combination with a destruction and removal efficiency standard, as surrogates to control organic HAP. We conclude that sources which comply with these standards are operating under efficient combustion conditions, assuring non-dioxin organic HAP are being oxidized, thus limiting emissions to levels reflecting MACT. Efficient combustion of hazardous waste minimizes emissions of organic HAP that are fed to the combustion chamber as well as emissions attributable to products of incomplete combustion that may form within the combustion chamber or post combustion. We are not capable of issuing emission standards for each organic HAP because of data limitations and because such emission standards may not be replicable by individual sources or duplicable by the other best performing sources because of the complex nature of combustion and post combustion formation of products of incomplete combustion.

V. Additional Issues Relating to Variability and Statistics

Many commenters raised issues relating to emissions variability and statistics other than those discussed above in Section III.A: (1) Variability dampening for data sets containing nondetects; (2) imputation of variability to address variability dampening for data sets containing nondetects; and (3) our analysis of variance procedures to identify subcategories. We present comments and responses on the remaining topics below.

A. Data Sets Containing Nondetects

Comment: One commenter states that EPA's approach of assuming measurements that are below detection limits are present at the detection limit dampens the variability of the data set. Thus, the variability of ranking parameters is understated when ranking sources to identify the best performers and emissions variability is understated when calculating the floor.

Response: We agree with the commenter. For the final rule, we use an approach to address nondetects whereby a value is assigned to each nondetect within its possible range such that the 99th percentile upper prediction limit for the data set (i.e., test condition runs for each source) is maximized. Although this approach maximizes the deviation among runs containing nondetect measurements, the test condition average is lower because we no longer assume the nondetect analyte is present at the level of detection. See response to comments discussion below for more information on this statistical approach to address variability of nondetects.

We use this measurement imputation approach to address variability of feedrate data sets containing nondetects for source ranking purposes and to address variability of emissions data sets containing nondetects when calculating floors. We do not apply the measurement implementation approach to system removal efficiency (SRE) data sets where feedrates or emissions contain nondetects, however. Statistical imputation of nondetect SREs is complicated given that SRE is derived from feedrate and emissions data, both of which could contain nondetect measurements.[147] Our inability to apply the imputation approach to SREs is not a major concern, however, because system removal efficiency is used as a source ranking criterion only (i.e., it is not used as the standard, except for hydrochloric acid production furnaces where there are no nondetect feedrate or emissions measurements), and there are few instances where system removal efficiencies are derived from nondetect feedrate or emissions data.

B. Using Statistical Imputation To Address Variability of Nondetect Values

On February 4, 2005, EPA distributed by email to major commenters on the proposed rule a direct request for comments on a limited number of issues that were raised by the public comments on the proposed rule. The nondetect measurement imputation approach discussed above was one of the issues for which we requested comment. We discuss below the major comments on the approach.

Comment: Most commenters state that they agree with either the concept or the approach in principle but cannot

[145] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 3.2 and USEPA, ''Final Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards and Technologies,'' July 1999, Section 5.1.

[146] This is why almost all of the RCRA Land Disposal Restiction treatment standards for organic waste, which standards are for the most part established at an analytic detection level for the organic HAP in question plus a variability factor, are based on the performance of combustion technology. See 40 CFR Part 268.40–43.

[147] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005 Section 7.3.

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provide substantive comments. These commenters indicate they cannot provide substantive comments because they cannot determine the implications of using the approach given that we did not provide the resulting floor calculations. One commenter suggests that, before blindly applying this arbitrary estimate of a nondetect value, a reality check should be done to validate that this is reasonable by consulting what is published on the method variability, as well as by checking variability factors derived for other data in the database that are above the detection limit.

Another commenter voiced significant concerns with the approach. The commenter states that EPA contradicts its assumption at proposal that all data that are reported as nondetect are present at the detection limits by now admitting that the true value is between zero and the level of detection. The commenter concludes that EPA now proposes to retreat from its assumption that undetected pollutants are always present at the detection limits not because that assumption is false but because it does not generate sufficiently lenient floors. The commenter believes that this underscores that EPA's statistical analysis approach cannot possibly give an accurate picture of *any* source's actual emission levels. Accordingly, it cannot possibly satisfy EPA's obligation to ensure that its floors reflect the average emission levels achieved by the relevant best performing sources.

The commenter also states that EPA's imputation approach is independently flawed because it assumes—again inaccurately—that the value for a nondetect is always either the highest value or lowest value in the allowable range. In reality the undetected values will necessarily fall in a range between the highest and lowest, and thus yield less variability than EPA would assume.

Response: We agree in theory with the commenter who suggests that the results of the imputation approach should be checked to see if it overstates variability for nondetect data by comparing the results of the imputation approach with the actual variability for detected measurements in the data set. We considered comparing the relative standard deviation derived from the imputation approach for data sets with nondetects, to the relative standard deviation for the data set using a regression analysis. Under the regression analysis approach, we considered relating the relative standard deviation of detected data sets to the average measurement. We would determine this relationship for each standard for which we have nondetect data, and use the relationship to impute the standard deviation for a data set containing nondetects.[148]

We could not perform this analysis, however, because: (1) We have very few detected measurements for the data sets for several standards and could not establish the relationship between relative standard deviation and emission concentration for those data sets; and (2) moreover, for many data sets where detected measurements would have been adequate to establish the relationship, it would have been problematic statistically to extrapolate the relationship to the very low values assigned to the nondetect measurements (e.g., 100% of the detection limit; the value assigned by our statistical imputation approach).[149]

This commenter also suggests that we check the resultant standard deviation after imputation by consulting what is published on the method variability. The commenter did not explain, however, how method variability relates to the variability of nondetect data.

Moreover, we believe that the imputation approach is one approach we could have reasonably used to estimate variability of nondetect data. We first attempted to apply standard statistical techniques to address the nondetect issue. We investigated standard interval censoring techniques to calculate maximum likelihood estimates (MLE) of the average and standard deviation that provide the best fit for a normal distribution for the data containing nondetect values, taking into account that each nondetect data point can be anywhere within its allowable interval. These techniques are not applicable, however, to data sets where all data are nondetects, as is the case for many of our data sets. In that situation, we approximated the mean as the average of the midpoints of the nondetect intervals, and the standard deviation as one half of the possible range of the data.

After working with this MLE/Approximation approach for some time and iteratively developing complicated algorithms to address problems as they arose, we concluded that we needed a simpler approach that could be applied to all data sets. Accordingly, we developed the statistical imputation approach discussed in Section IV.A above.

For 22 separate floors, we compared the results of the approaches we considered for nondetects: (1) Nondetects present at the detection limit (i.e., full detection limit approach); (2) MLE; (3) MLE combined with an approximation approach (i.e., MLE/Approximation approach; and (4) statistical imputation.[150] The MLE approach was only applicable to 2 of the 22 floor data sets, and the numerical algorithm failed to converge on an answer for one of those. The MLE/Approximation approach sometimes results in floors that are unrealistically high (i.e., it calculated 5 of 22 floors that were higher than the statistical imputation approach, which always produces floors that are equal to or higher than assuming nondetects are present at the full detection limit), and sometimes fails to converge on an answer. Because of these limitations, we do not use either the MLE or MLE/Approximation approach.

We believe the statistical imputation approach is preferable to the full detection limit approach because it: (1) Accounts for variability of data sets containing nondetects; (2) can be applied to all data sets containing nondetects; and (3) results in reasonable floor levels. In most cases, floors calculated using statistical imputation are close to those calculated by the full detection limit approach. The statistical imputation approach can produce substantially higher floors than the full detection limit approach, however, when a relatively high nondetect is reported because of a high detection limit. Nonetheless, the statistical imputation approach calculated floors that were 30% higher than the full detection limit approach for only 2 of the 22 floors.

We reject the comment that our approach to handling nondetect data is a mere manipulation to raise the floor. The commenter observes that EPA appears to determine that its initial approach of assuming the worst-case for nondetect data—that the data are present at the detection limit—did not produce floors that were high enough, and consequently applies another manipulation—statistical imputation of nondetect measurements—that assumes the nondetect data are present at lower levels but nonetheless generates floors that are even higher than before. Although the commenter is correct

[148] Note that, under this approach, we would continue to assume that the nondetect analyte is present at the detection limit.

[149] Note that this was not the case where we use a regression analysis of relative standard deviation versus total chlorine measurements to impute a standard deviation for values below 20 ppmv that we corrected to 20 ppmv to address the low bias of Method 0050. In that situation, we have several total chlorine measurements very close to 20 ppmv.

[150] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 5.4.

about the outcome of our handling of nondetect data'the floors are generally higher after statistically imputing nondetect measurements than if nondetects are simply assumed to be present at the detection limit—our rationale for handling nondetects is sound. At proposal, we assumed that nondetects are present at the detection limit. We do not know (nor does anyone else) whether a nondetect value is actually present at 1% or 99% of the detection limit. We thought that assuming that all values were at the limit of detection would reasonably estimate the range of performance a source could experience for these nondetect measurements. This approach inherently maximizes the average emissions but minimizes emissions variability.

Commenters on the proposed rule state that assuming nondetects are present at the detection limit dampens emissions variability—a consideration necessary to ensure that a source's performance over time is estimated reasonably. *Mossville*, 370 F. 3d at 1242 (daily maximum variability must be accounted for in MACT standards [including floors] which must be achieved continuously). See also *CMA*, 870 F. 2d at 232 (EPA not even obligated to use data from plants that consistently reported nondetected values in calculating variability factors for best performing plants). We agree with these commenters, and are using the statistical imputation approach to address the concern. Relative to our proposed approach of assuming nondetect measurements are present at the detection limit, the statistical imputation approach reduces the average of the data set for a source while maximizing the deviation of the data set. These are competing and somewhat offsetting factors when calculating the floor for existing sources given that we use a modified 99th percentile upper prediction limit to calculate the floor—the floor is the average of the test condition averages for the best performers plus the pooled variance of their runs. See *CMA*, 870 F. 2d at 232 (upholding approach to variability for datasets with nondetect values where various conservative assumptions in methodology offset less conservative assumptions).

We further disagree with this commenter's view that the statistical imputation approach is independently flawed because it assumes that the value for a nondetect is always either the highest value or lowest value in the allowable range. The commenter states that, in reality, the undetected values will necessarily fall in a range between the highest and lowest, and thus yield less variability than EPA would assume. Although the commenter is correct that the true value of a nondetect measurement is likely to be in the range between the highest or lowest value possible rather than at either extreme, we do not know where the true value is within that range. To ensure that variability is adequately considered in establishing a floor, the statistical imputation approach, by design, maximizes the deviation by assuming the nondetect value is at one end of the range or the other, whichever results in a higher average for the data set.

C. Analysis of Variance Procedures To Assess Subcategorization

We use analysis of variance (ANOVA) to determine whether subcategories of sources have significantly different emissions. For two subsets of emissions, the variance of the data between the two subsets is compared to the variance within the subsets. The ratio of these two variances is called the F-statistic. The larger the F-statistic the more likely the underlying data distributions are different. To make a decision regarding the difference between the two subsets, we compare this calculated F-statistic to an F-value associated with a particular confidence level.

One commenter has raised several concerns with our use of the ANOVA procedure in the selection of incinerator subcategories.

Comment: The ANOVA procedure is based upon the assumption that the underlying distribution of both data sets has a normal shape. For incinerator emissions data this assumption is not valid. A log-probability plot shows that particulate emission data is better described by a lognormal distribution. Prior to conducting the ANOVA procedure, the data should be log-transformed.

Response: We use probability plots, Skewness Coefficients, and Correlation Coefficient/Shapiro-Wilks testing to evaluate whether it is more appropriate to analyze emissions data for ANOVA and floor calculations assuming the data represent a normal or lognormal distribution. We believe it is reasonable to assume the data represent a normal distribution for several reasons.

The purpose of the ANOVA subcategorization analysis is to determine if there is a significant difference in emission levels between potential subcategories to warrant establishing separate floors for the subcategories. Although in some cases it may appear that a data set in its entirety may be better represented by a lognormal distribution, the high emissions data causing the right-hand skew will be truncated when we identify the best performing sources—those with the lowest emissions—to calculate floors. This moves the appearance of a skewed distribution toward one that is more symmetric and thus, more representative of a normal distribution.

In addition, our analyses showed: (1) The probability plots do not suggest that either assumed distribution is significantly or consistently better; (2) the data set arithmetic averages tend to be in the neighborhood of the medians, indicating the data sets are not significantly skewed and more closely normal than lognormal; and (3) in some cases, neither assumed distribution could be statistically rejected.[151]

Comment: Some of the data sets used for comparison have very few members. This means that the within-group variance for a small data set would have to be very low for the two groups to be judged as separate.

Response: We agree, but note that as the sample sizes change, the critical values are also changing depending on the degrees of freedom.

Comment: Only emissions data were considered in the ANOVA tests. Feed rate and removal efficiency should have been considered as well.

Response: Differences between subcategories in feedrates or system removal efficiency are irrelevant if there is no significant difference in emissions between the subcategories. The purpose of considering subcategorization is to determine if there are design, operation, or maintenance differences between subcategories that could affect the type or concentration of HAP emissions and thus sources' ability to achieve the floor absent subcategorization. Consequently, it is appropriate to consider emissions only when evaluating subcategorization.

Comment: The confidence level used by EPA for the F-statistic in all cases was 95 percent. If the calculated F-statistic were equal to this 95 percent confidence value, it would mean that there is only a 5 percent chance that data for the two subsets were drawn from the same parent distribution. A less stringent (lower) confidence level would be more appropriate for this analysis.

The commenter evaluated particulate emissions for specialty incinerators (i.e., munitions, chemical weapons and mixed waste incinerators) and non-specialty incinerators (all others). The commenter log-transformed the data and

[151] USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 8.2.

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determined that there was only a 30 percent chance that the two data sets could come from the same parent distribution. This result, together with the vastly different operating characteristics for the two types of incinerators, argues for their being treated as separate categories, according to the commenter.

Response: A confidence level of 95% assigns a probability of 0.95 of accepting the hypothesis when there is no difference between subcategories and hence a probability of 0.05 of rejecting a true hypothesis. This reduces the probability to 5% of rejecting a true hypothesis. A less stringent confidence level would increase the chances of rejecting a true hypothesis. The farther apart the averages of the two potential subcategories are, the more likely they are to be statistically different and the more likely you are to be wrong if you hypothesize that they are not different.

A 95% confidence level is most often used for ANOVA because it is generally believed that being wrong one time out of 20 is an acceptable risk for purposes of ANOVA. In addition, statisticians are comfortable with a 95% confidence level because, in a normal distribution, 95% of the data fall within 2 (actually 1.96) standard deviations of the mean.

Other confidence levels could be used for ANOVA—99% or 90%—if there is a good reason to deviate from the general default of 95%. A 99% confidence level is the second most commonly used confidence level and is generally used when it is very important that you be sure that you are right (i.e., where you can only accept the risk of being wrong 1 time out of 100) before you classify the populations (in this case subcategories) as different. Occasionally, but much less frequently, confidence levels of 90% or less are used. But, we note that these situations are so infrequent that some statistics books provide tables for the ANOVA F-statistic only at the 95% and 99% confidence levels.

For these reasons, we believe that the 95% confidence level is an appropriate level among those we could have reasonably selected.

VI. Emission Standards

A. Incinerators

Comment: A commenter states that EPA's subcategorization (and assignment of differing dioxin/furan standards as a result) between incinerators with wet or no air pollution control device and incinerators equipped with dry air pollution control devices or waste heat boilers is unlawful because incinerators equipped with a given type of pollution control equipment are not different ''classes,'' ''types,'' or ''sizes'' of source. The commenter implies that EPA justifies this subcategorization by stating that these sources have different emission characteristics, which is no less unlawful and arbitrary than subcategorizing based on the pollution control devices they use.

Response: We agree that it would not be appropriate to subcategorize source categories based on a given air pollution control technique. See 69 FR at 403 (Jan. 4, 2004). As stated at proposal, we do not subcategorize incinerators with respect to dioxin/furans based on the type of air pollution control device used. 69 FR at 21214. For example, with respect to dioxin/furans, it would not be appropriate subcategorize based on whether a source is using: (1) Good combustion practices; (2) a carbon bed; (3) an activated carbon injection system; or (4) temperature control at the inlet to its dry air pollution control device. These devices and practices are what control dioxin/furan emissions. Today's final rule does not subcategorize based on these control devices and practices. Instead, our subcategorization approach recognizes the potential of some emission control equipment to create pollutant emissions that subsequently must be addressed.[152]

Dioxin/furans are unique in that these pollutants are not typically present in the process inputs, but rather are formed in the combustor or in post combustion equipment. The primary cause of dioxin/furan emissions from incinerators not equipped with waste heat boilers is post combustion formation by surface-catalyzed reactions that occur within the dry air pollution system.[153] This is evidenced by the statistically significant higher dioxin furan emissions for incinerators with dry air pollution control systems compared to those without dry systems.

Incinerators with dry air pollution systems are designed to effectively control metal and particulate matter emissions through use of baghouses, electrostatic precipitators, etc. Incinerators that are designed in this manner have the potential for elevated dioxin/furan emissions because dry air pollution control systems provide locations where surface-catalyzed reactions can occur (e.g., on particles on fabric filter bags or electrostatic precipitator plates). Thus, for purposes of dioxin/furan formation and control, incinerators equipped with dry air pollution systems are in fact different ''types'' of incinerators because of their unique pollutant generation characteristics.

On the other hand, incinerators with wet air pollution control systems are generally designed to effectively reduce total chlorine emissions (with the use of wet scrubbers) and metals and particulate matter emissions. There generally is a tradeoff, however, in that these types of incinerators may not be as efficient in reducing particulate matter and metal emissions compared to incinerators that are equipped with baghouses and dry electrostatic precipitators. These types of incinerators generally do not have the potential to have elevated dioxin/furan emissions because they do not provide locations where surface catalyzed reactions can occur. For purposes of dioxin/furan emission formation and control, sources with wet air pollution control systems are thus likewise different types of incinerators.[154]

Subcategorizing dry air pollution systems and wet air pollution control systems for purposes of establishing a dioxin/furan standard is no different than subcategorizing incinerators equipped with waste heat boilers. The waste heat boiler is the origin of the dioxin/furan that is generated. These incinerators are designed to efficiently recover heat from the flue gas to produce useful energy. A result of this type of incinerator design, however, is that it also provides a location where surface catalyzed reactions can occur (i.e., the boiler tubes), potentially resulting in elevated dioxin/furan formation (and emissions if not properly controlled).

An alternative approach that does not subcategorize these sources, but rather identifies best performing sources as those sources with the lowest emissions irrespective of whether they have a wet

[152] Although we subcategorize between incinerators with wet or no air pollution control device and incinerators equipped with dry air pollution control devices or waste heat boilers for the floor analysis, the calculated dioxin furan floors for both subcategories for existing sources were determined to be less stringent than the current interim standard. Subsequently, the final rule emission limitations for both subcategories are, for the most part, identical, and equivalent to the interim standard. See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 10.1, for further discussion.

[153] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume IV: Selection of MACT Standards,'' September 2005, Section 3, for further discussion.

[154] A similar analogy applies to incinerators that are not equipped with air pollution systems. These incinerators are not designed to control emissions of metals, chlorine, and particulate matter (perhaps because emission levels are low due to low HAP feed levels). Similar to incinerator types with wet systems, this design does not provide the locations for surface catalyzed reactions to occur, which leads us to conclude that these are different types of incinerator with respect to dioxin/furan control.

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or dry air pollution control device, would yield floors that would not be achievable unless all the sources, including the best performers, adopted beyond-the-floor technology. The calculated dioxin/furan floor for existing incinerators and liquid fuel boilers using such an approach would be 0.008 and 0.009 ng TEQ/dscm, respectively.[155] All of the best performing sources for these calculated floors had either wet air pollution systems or no air pollution control systems. The floor technology used by these sources is good combustion practices. As a result, these floor levels would not be replicable by these best performing sources nor duplicable by other sources through use of the same good combustion practices because of the uncertainties associated with dioxin/furan generation mechanisms and rates that can vary both within sources and across sources, potentially leading to significant variability in emission levels.[156] Sources equipped with wet or no air pollution systems would thus likely be required to install carbon systems to comply with these standards, a technology used by only four incinerators (none of which were best performers in the above discussed floor analysis). Such an outcome should be viewed as a beyond-the-floor technology and therefore assessed pursuant to the factors enumerated in section 112(d)(2). Furthermore, it is unclear, and perhaps doubtful, that these floors would be achievable by these sources even if they were to install beyond-the-floor controls such as activated carbon systems because no sources using activated carbon are currently achieving those floor levels. We therefore conclude that it is appropriate, and necessary, to subcategorize these types of incinerators for purposes of calculating dioxin/furan floor standards.

B. Cement Kilns

1. Hg Standard

Comment: Several commenters recommend that EPA use a commenter-submitted dataset, which includes three years of data documenting day-to-day levels of mercury in hazardous waste fuels fired to all hazardous waste burning cement kilns, to identify a MACT floor for existing and new cement kilns. Several commenters state that *existing* cement kilns should have the option to comply with either of the following mercury standards: (1) A hazardous waste feed concentration limit, expressed in ppmw, based on an evaluation of the five best performing sources within the commenter-submitted dataset (documenting day-to-day levels of mercury in the hazardous waste over a three year period); or (2) a hazardous waste maximum theoretical emissions concentration (MTEC), expressed in units of µg/dscm, developed by projecting emissions of the best performing sources assuming mercury concentrations in the hazardous waste were at the source's 99th percentile level in the commenter-submitted dataset. To identify the best performing sources, the commenter suggests selecting the five sources with the lowest median mercury concentrations in the dataset. For existing sources, the commenters' evaluation yields a hazardous waste feed concentration limit of 3.3 ppmw and a stack concentration emission limit of 150 µg/dscm (rounded to two significant figures and considering mercury contributions only from the hazardous waste). For *new* cement kilns, the commenters recommend a mercury standard in the format of a hazardous waste feed concentration limit only, expressed in ppmw, based on the single source with the lowest 99th percentile level of mercury in hazardous waste. The commenters recommend a mercury standard of 1.9 ppmw for new sources.

Response: We agree with commenters that the commenter-submitted dataset documenting the day-to-day levels of mercury in hazardous waste fuels fired to all hazardous waste burning cement kilns is the best available data to identify floor levels for existing and new cement kilns. See discussion in Part Four, Section I.D. However, we disagree with the commenters' suggested format of the mercury standard for existing sources. Establishing the mercury standard as the commenters' suggest (i.e., 3.3 ppmw in the hazardous waste feed *or* 150 µg/dscm as a hazardous waste MTEC) fails to consider the interim mercury standards. As discussed in Part Four, Section III.E, there can be no backsliding from the levels of performance established in the interim standards. While not every source feeding hazardous waste with a maximum mercury concentration of 3.3 ppmw would exceed the interim standard, most sources using more than 50 percent hazardous waste as fuel (i.e., replacing at least half its fossil fuel with hazardous waste) would exceed the interim standard, emitting mercury higher than the levels allowed under §§ 63.1204(a)(2) and 63.1206(b)(15) of the interim standards.[157] The hazardous waste MTEC of 150 µg/dscm calculated by the commenters is also higher than the level currently allowed under § 63.1206(b)(15) of the interim standards. Since sources cannot backslide from the levels of the interim standards, if we were to accept the commenters' floor analysis results as presented (which we are not), then we would ''cap'' each calculated standard (i.e., 3.3 ppmw hazardous waste feed concentration and 150 µg/dscm in stack emissions) at the interim standard level. This would result in a mercury standard for existing sources of 3.3 ppmw hazardous waste feed *and* a hazardous waste feed MTEC of 120 µg/dscm *or* 120 µg/dscm as a stack gas concentration limit. We note this is similar to the mercury standard adopted today: a hazardous waste feed concentration limit of 3.0 ppmw *and* a hazardous waste feed MTEC of 120 µg/dscm or 120 µg/dscm as a stack gas concentration limit. For an explanation of why we derived a level of 3.0 ppmw from the data, see Section 7.5.3 of Volume III of the Technical Support Document.

The commenters' suggested new source mercury standard of 1.9 ppmw in the hazardous waste has the same deficiency. New sources with a hazardous waste fuel replacement rate of approximately 75% could emit mercury at levels higher than currently allowed under the interim standards. After capping the calculated standard at the interim standard level, we would identify the mercury standard for new sources as a hazardous waste concentration limit of 1.9 ppmw in the hazardous waste and a hazardous waste feed MTEC of 120 µg/dscm *or* 120 µg/dscm as a stack gas concentration limit. For reasons discussed in Section 7.5.3 of Volume III of the Technical Support Document, this is indeed the mercury standard we are promulgating for new cement kilns.

The commenters also suggest that the best performing sources should be identified as those with the lowest three-year median concentration of mercury in hazardous waste. Although this approach would be permissible, we conclude that it is more appropriate to identify the best performers (or single best performer for new sources) by

[155] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Section 20 and Appendix C, tables labeled ''E-INC-all-DF'' and ''E-LFB-all-DF''.

[156] Dioxin/furan formation mechanisms are complex. Sources equipped with wet or no air pollution control systems cannot rely on good combustion practices alone to achieve these floor levels because they cannot ''dial in'' to a specific emission level, as is the case with typical back-end control systems that control particulate matter and metals, for example. See Part Four, Section IV.B.

[157] USEPA, ''Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'' Section 23.4, September 2005.

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selecting those with the lowest 99th percentile upper level mercury concentrations. (This is not a statistically determined upper prediction limit; there is sufficient data for an arithmetically calculated 99th percentile to reliably reflect sources' performance.) We believe that this approach best accounts for the variability experienced by best performing sources over time.

A detailed discussion of the MACT floor analysis for existing and new cement kilns is presented in Section 7.5.3 of Volume III of the Technical Support Document. In summary, the mercury standard for existing cement kilns is 3.0 ppmw in the hazardous waste feed *and* 120 µg/dscm as a hazardous waste maximum theoretical emission concentration feed limit or 120 µg/dscm as a stack gas concentration limit. For new sources the mercury standard is 1.9 ppmw in the hazardous waste feed and 120 µg/dscm as a hazardous waste maximum theoretical emission concentration feed limit or 120 µg/dscm as a stack gas concentration limit.[158]

Comment: Two commenters oppose EPA's proposed approach to base compliance with the mercury standard on averaged annual emissions. The commenters state an annual average would allow mercury emissions to exceed the interim standard because a source could burn high concentrations of mercury waste over a short period and still comply with an annual limit by burning low concentration wastes at other times. These commenters support the concept of a 12-hour rolling average feedrate limit (i.e., the current requirement under the interim standards) in conjunction with an emission standard no less stringent than the interim standard.

Response: We agree with these comments. Cement kilns must establish a 12-hour rolling average feedrate limit of mercury to comply with these standards. The mercury standards for cement kilns are ''capped'' at the interim standard level to prevent backsliding from the current level of performance. This is accomplished by expressing the standard as a limit on the mercury concentration in the hazardous waste (with the rolling average) and either an emission concentration limit or hazardous waste maximum theoretical emission concentration feed limit. See § 63.1209(l)(1)(iii).

2. Total Chlorine

Comment: One commenter states that the proposed MACT floor approach is inconsistent with the statutory definition of MACT because EPA's selection of a routinely achievable system removal efficiency (SRE) was arbitrary and not representative of the best performing sources. Instead, the commenter suggests EPA identify a MACT SRE based on the five sources with the best SREs and apply that SRE to the MACT chlorine feed level. Later, in supplemental comments, the same commenter suggests two alternative approaches to identify a floor level. One approach applies a ranking methodology based on emissions and chlorine feed, and the second suggested approach applies a triple ranking method based on emissions, feed, and chlorine SRE. Other commenters, however, supported EPA's proposed approach.

Response: We are adopting the same approach we proposed at 69 FR at 21259. As we explained, this is a variant of the SRE/Feed approach, the variant involving the degree of system removal efficiency achieved by the best performing sources. In summary, to determine the floor level we first identify the best performing sources according to their hazardous waste chlorine feedrate. The best performing sources are those that have the lowest maximum theoretical emissions concentration (MTEC), considering variability. We then apply an SRE of 90 percent (the specific point in contention) to the best performing sources' total MTEC (i.e., thus evaluating removal of total chlorine across the entire system, including chlorine contributions to emissions from all feedstreams such as raw materials and fossil fuels) to identify the MACT floor, which is expressed as a stack gas emissions concentration in parts per million by volume. This approach defines the MACT floor as an emission level that the best performing sources could achieve if the source limits the feedrate of chlorine in the hazardous waste to the MACT level (i.e., the level achieved by the average of the best performing five sources) while also achieving an SRE that accounts for the inherent variability in raw material alkalinity and (to a lesser degree) cement kiln dust recycle rates, and production requirements. 69 FR at 21259.

Under this approach, we are evaluating hazardous waste feed control as we do for other sources. One commenter objects to our determination that an SRE of 90 percent is representative of the best performing sources because we have not established a MACT SRE—the average SRE achieved by the best performing sources.

There is no doubt that the cement manufacturing process is capable of capturing significant quantities of chlorine when favorable conditions exist within the kiln system. Our usual approach of establishing an SRE by ranking the most efficient SREs taken from individual compliance tests, however, would result in a standard that would not be achievable because it may not be duplicable by the best performers or certainly would not be replicable by others, given that it is a function of various highly variable parameters, especially levels of alkali metals (e.g., sodium and potassium) and volatile compounds (e.g., chlorine and sulfur) in the raw materials. Alkalis and volatiles vary at a given best performer facility (in fact, at all facilities) as different strata are mined in the quarry, and across facilities due to different sources of raw materials. Raw material substitution is infeasible and counter to the objective of producing quality product (i.e., a product with low alkali content).

Cement kilns thus are not able to design or operate to achieve a specific SRE at the high (most efficient) end of the range of test conditions. This is demonstrated by our calculations of system removal efficiency data, which is essentially a collection of performance ''snapshots.'' See SRE data summarized in Table 1 at the end of this response; see also *Mossville*, 370 F. 3d at 1242 (maximum emission variability associated with raw material variability needs to be accounted for in MACT floor determination since the standard must be met at all times under all operating conditions). The performance data of the ''apparent'' best performers—upwards of 99 percent—identified by the commenter are simply a snapshot in the possible range of performance and are not replicable in the future due to factors which are uncontrollable by the source, as just explained. In confirmation, cement kilns achieving this level of removal in one test proved incapable of replicating their own result in other tests even though individual sources each have their own proprietary source of raw materials. See results in table for Giant (SC), Essroc (IN), Holcim (MO), Giant (PA), and LaFarge (KS) all

[158] Please note that we do not regard this standard as a work practice standard under section 112(h)(1) of the Act, because part of the standard includes an emission limit which is measured at the stack. EPA believes the special requirements of section 112(h)(1) apply when a work practice is the exclusive standard.

of whom would violate a 99 + percent standard based on their own operating results.

TABLE 1.—SUMMARY OF SYSTEM REMOVAL EFFICIENCY DATA FOR WET PROCESS CEMENT KILNS [159]

Facility	Number Runs in Data Base	Low SRE Run (%)	High SRE Run (%)	Average SRE of All Runs (%)
LaFarge (OH)	3	99.1	99.4	99.3
Giant (SC)	24	95.5	99.8	99.0
Essroc (IN)	13	97.3	99.9	98.7
Holcim (MO)	6	96.4	99.9	98.4
LaFarge (KS)	12	95.7	99.3	98.1
Giant (PA)	17	87.7	99.4	97.1
Continental (MO)	3	95.7	97.0	96.5
Ash Grove (AR)	37	85.1	98.8	95.1
Texas Industries (TX)	6	88.8	97.0	93.6
Holcim (MS)	9	76.5	99.2	90.0

[159] See Section 3.6 of Volume II (Specific MACT Standards) of Comment Response Document, September 2005.

However, the data indicate that SRE is reasonably quantifiable to a point. Based on our data base of system removal efficiency information from 130 test conditions where total chlorine was evaluated, we conclude that a system removal efficiency of 90 percent is a reasonable estimate of MACT SRE.[160]

We also reject the commenter's three suggested alternative approaches to identify a MACT SRE to apply to the MACT feed level. The commenter's methods all suffer a common flaw: They fail to recognize and take into account the limitations of the total chlorine SRE data. For example, as just demonstrated, available data show that considering the SRE data associated with the most recent compliance test as a ranking factor will result in unachievable standards due to the varying effectiveness of chlorine capture (which impacts emissions) depending on the raw material mix characteristics. Considering only the most recent compliance test data as suggested yields results that are unachievable because the best performer's SRE data are likely biased high (e.g., sources that happen to test under favorable conditions are likely to be identified as best performers), which would not be replicable by even that source on a day-to-day basis.

3. Semivolatile and Low Volatile Metals

Comment: Commenters oppose EPA's proposed approach to treat each kiln as a separate and unique source in the SRE/Feed MACT floor analysis for cement kilns.[161] Commenters state that the approach is an improper way to perform a statistical analysis and reduces the variability in emissions that otherwise would be observed in a MACT pool of five unique sources. Variability is reduced because co-located kilns at the same plant share many of the factors that comprise front-end and back-end controls. As a result, the calculated MACT floors for SVMs and LVMs for cement kilns are too stringent. The commenters' recommended solution (in instances where co-located kilns are among the top five performers) is to use only the data from the best performing co-located kiln, exclude any lesser performing kilns at the plant site, and then include the next-best performing non-co-located kiln in the MACT pool. Implementing their recommendation, the commenters state that the MACT floor for SVMs increases from 4.0×10^{-4} to 7.4×10^{-4} lbs/MMBtu and the floor for LVMs increases from 1.4×10^{-5} to 1.8×10^{-5} lbs/MMBtu. Another commenter generally supports EPA's approach noting that the variability factor applied to the emissions data already accounts for variability.

Response: We consider sources that are not identical as unique sources and emissions data and information from unique sources are considered separate sources in the floor analyses. An example of an ''identical'' source in our data base is compliance test data from a similar on-site combustion unit used in place of a compliance test for another unit (*i.e.*, emissions testing of an identical unit was not conducted). These sources and their associated data are called ''data in lieu of'' sources in our data based on the RCRA provisions under § 266.103(c)(3)(i). We acknowledge that co-located sources may in fact share certain similar operation features (e.g., use of raw material from the same quarry, use of the same coal and hazardous waste burn tank to fire the kilns); however, given that the co-located sources (except those designated as data in lieu of) are not designed identically, and given their hazardous waste feed control levels were not identical during testing, we conclude we must consider each source as a unique source in the floor analyses.[162]

Comment: Commenter states that EPA's proposed standards for new cement kilns are unachievable due to problems with its accounting for variability, in part because EPA did not consider geographic differences when assessing feed control levels. The concentrations of hazardous constituents in the waste in a particular region are likely to be different than in the waste from another geographical region due to types of industrial sectors located within each region. Sources cannot reasonably arrange for transportation of lower HAP wastes generated across the country and cannot treat the hazardous waste to remove or reduce HAP concentrations. The commenter cites several court decisions that support their assertions. Commenter believes that while this represents a problem for developing both the new and existing source floors, it is a greater predicament for the new

[160] As discussed a number of times earlier, we are not basing any standards on feed control of HAP in raw material and fossil fuel input. We instead are controlling HAP attributable to those inputs by means of end-of-stack emission standards which reflect removal of HAP by some type of control device. This approach is consistent with the discussion above, since we are not basing the cement kiln chlorine standard on control of any raw material input, but rather on some type of back-end removal efficiency.

[161] It is common for cement manufacturing plants to operate multiple cement kilns at the same plant.

[162] Nonetheless, we analyzed the SVM and LVM floors for cement kilns as suggested by the commenter. Results of the analysis are presented in ''Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'' Section 8.8, September 2005.

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source floor because this floor level is based on test data for only one source.

Response: We are not obligated to account for varying hazardous waste feed control levels occurring because of differing HAP generation rates in different locations (for commercial sources), or because different production process types generate higher or lower levels HAP concentration wastes. Hazardous waste feed control is a legitimate control technology. The commenter seems to suggest that we should subcategorize low feeding sources and high feeding sources based on their hazardous waste feed control level. This would inappropriately subcategorize sources based on differing levels of controls, which we do not do. See 69 FR at 403 (January 5, 2004). Nonetheless, as previously discussed, the SRE/Feed methodology lessens the impact of feed control variations across commercial units because it results in fewer situations where best performing back-end controlled sources (from a particulate matter emissions perspective) cannot achieve the semivolatile and low volatile metal design levels and floors.

For new source standards, the single best performing cement kiln sources for semivolatile metals and low volatile metals were not the lowest hazardous waste feed controlled source (both floors were based on sources with the fourth best, (i.e., lowest, hazardous waste feed control level). We therefore do not believe these sources are atypically low hazardous waste feeders relative to the other best performing sources in the existing source MACT pools.

C. Lightweight Aggregate Kilns

1. Mercury Standard

Comment: One commenter, an operator of lightweight aggregate kilns subject to this rule, recommends that EPA establish the mercury standard for lightweight aggregate kilns at a hazardous waste feed concentration limit of 3.3 ppmw for existing sources and 1.9 ppmw for new sources, which is the same standard suggested in public comments by a trade organization representing hazardous waste burning cement kilns. The commenter notes that these mercury limits are appropriate for lightweight aggregate kilns because the commenter's two lightweight aggregate manufacturing facilities participate in the same hazardous waste fuel market as the majority of cement kilns. Moreover, the commenter maintains that its parent company also owns and operates two cement kilns and that its lightweight aggregate kilns receive hazardous waste from many of the same generators that provide hazardous waste fuel to the cement kilns. Consequently, the commenter states that the cement industry's data set of actual mercury feed concentrations in the hazardous waste best represents the full range of hazardous waste fuel concentrations that exist in the waste fuel market (see also Part Four, Sections I.D and E).

Response: We disagree with the commenter. Although the cement industry's set of mercury feed concentration data in the hazardous waste may represent the full range of concentrations for the cement kiln source category, we cannot conclude the same for lightweight aggregate kilns because the commenter states that the mercury dataset are only applicable to its kilns.[163] Further, the commenter provides no specific information or data to support the conclusion that its suggested approach is justified for the other lightweight aggregate kiln facility.

We also disagree with the commenter as to the appropriateness of establishing the mercury standard in the format of a hazardous waste feed concentration (i.e., 3.3 ppmw for existing sources and 1.9 ppmw for new sources) for lightweight aggregate kilns. A hazardous waste feed concentration standard is improper for this source category because one lightweight aggregate kiln facility's sources (although not the commenter's) controls mercury emissions using wet scrubbing. Thus, a hazardous waste feed concentration standard would inappropriately limit the mercury concentration in hazardous waste for sources that use control equipment capable of capturing mercury. A source with control equipment should not be restricted to a hazardous waste feed concentration standard that is based on sources that can only control mercury emissions through limiting the amount of mercury in the hazardous waste.

In any case, as explained earlier in our discussion of cement kiln mercury standard, we believe that it is preferable to establish an emission standard to assure that the actual amount of mercury emitted by these sources is controlled by means of a numerical standard for stack emissions.

Comment: One commenter agrees that a source may not be able to achieve the mercury standard due to raw material contributions that might cause an exceedance of the emission standard in spite of a source using properly designed and operated MACT floor control technologies, including controlling the levels of metals in the hazardous waste. The commenter opposes the proposed alternative standard of 42 μg/dscm, which is expressed as a hazardous waste maximum theoretical emissions concentration. Instead, the commenter suggests that EPA maintain the alternative standard options of §§ 63.1206(b)(15) or 63.1206(b)(9).

Response: We agree with the commenter that the mercury standard should address the concern of raw material contributions causing an exceedance of the emission standard. We also agree that the proposed alternative standard of a hazardous waste maximum theoretical emissions concentration of 42 μg/dscm is an improper standard because the underlying data are unrepresentative. See discussion in Part Four, Section I.E. We note that the mercury standard promulgated today is 120 μg/dscm as a stack gas concentration limit or 120 μg/dscm as a hazardous waste maximum theoretical emission concentration feed limit. The alternative mercury standard sought by the commenter under § 63.1206(b)(15) is a limit of 120 μg/dscm as a hazardous waste maximum theoretical emission concentration, which is included in the mercury standard promulgated today. This should address the commenter's concern.

Comment: One commenter supports a mercury standard with short-term compliance limits (e.g., 12-hour rolling average feedrate limits) as opposed to the annual limit proposed.

Response: For reasons discussed in Part Four, Section I.E, we are using a different mercury dataset than at proposal. We solicited comment on a floor approach using these data in a notice [164] sent directly to certain commenters. We are adopting that approach today. The monitoring requirements of the mercury standard for lightweight aggregate kilns includes short-term averaging periods (*i.e.*, not to exceed a 12-hour rolling average), as recommended by the commenter.

2. Total Chlorine Standard

Comment: One commenter supports excluding from the floor analysis all lightweight aggregate kiln sources that lack air pollution control devices for chlorine, such as scrubbing technology. The floor analysis should simply exclude sources without back-end controls according to the commenter.

[163] We note that the commenter-submitted dataset is not amenable for use in establishing standards expressed in a thermal emission format because sufficient information on the characteristics of the hazardous waste (*e.g.*, heating value of hazardous waste) were not provided.

[164] See docket item OAR–2004–0022–0370.

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Response: We disagree. For the final rule, we are using the SRE/Feed MACT floor approach which defines best performers as those sources with the best combined front-end hazardous waste feed control and back-end air pollution control efficiency. The commenter's suggestion would exclude emissions data from two of the three facilities in this source category even though valid emissions data from these sources are available (and therefore ordinarily to be used, see *CKRC,* 255 F. 3d at 867), and these sources achieved the best front-end hazardous waste feed control in the category. We note that the best feedrate controlled sources have hazardous waste thermal feed levels that are approximately one-fifth the level of the source's with back-end controls. These data describe the level of performance of sources in the category and must be evaluated in the MACT floor analysis. We also note that even if we were to implement the commenter's suggestion, the MACT floor results would not change for existing and new lightweight aggregate kilns because the total chlorine emissions data of the source with back-end air pollution controls (after considering variability) are higher than the standards promulgated today. Thus, the commenter's suggestion also would result in a standard that would be capped by the interim standard.

3. Beyond-the-Floor Standards

Comment: One commenter opposes EPA's proposed decision to promulgate a beyond-the-floor standard for dioxin/furans for existing and new lightweight aggregate kilns based on performance of activated carbon injection.

Response: For the final rule, we conclude that a beyond-the-floor standard for lightweight aggregate kilns is not warranted. The Clean Air Act requires us to consider costs and non-air quality impacts and energy requirements when considering more stringent requirements than the MACT floor. In the proposed rule, we estimated that the incremental annualized compliance costs for lightweight aggregate kilns to achieve the beyond-the-floor standard would be approximately $1.8 million and would provide an incremental reduction in dioxin/furan emissions of 1.9 grams TEQ per year (see 69 FR at 21262). At proposal we judged costs of approximately $950,000 per additional gram of dioxin/furan TEQ removed as justified, and, therefore, we proposed a beyond-the-floor standard. Since proposal, we made several changes to the dioxin/furan data base as the result of public comments. One implication of these changes is a lower national emissions estimate for dioxin/furans for lightweight aggregate kilns. We now estimate an incremental reduction in dioxin/furan emissions of 1.06 grams TEQ per year with costs ranging between $1.6 and $2.2 million per additional gram of dioxin/furan TEQ removed. Based on these costs and consideration of the non-air quality impacts and energy requirements (including more waste generated in the form of spent activated carbon, and more energy consumed), we conclude that a beyond-the-floor standard for existing and new lightweight aggregate kilns is no longer justified. For an explanation of the beyond-the-floor analysis, see Section 12.1.2 of Volume III of the Technical Support Document. We note that EPA also retains its authority under RCRA section 3005(c) (the so-called omnibus permitting authority) by which permit writers can adopt more stringent emission standards in RCRA permits if they determine that today's standards are not protective of human health and the environment.

D. Liquid Fuel Boilers

1. Mercury Standard Not Achievable When Burning Legacy Mixed Waste

Comment: One commenter states that the proposed liquid fuel boiler mercury standard is not achievable by a commercial boiler, DSSI (Diversified Scientific Services, Inc.) that burns mercury-bearing low level radioactive waste that is also a hazardous waste (so-called 'mixed waste') that was generated years ago (so-called, legacy waste). The waste is an organic liquid containing high concentrations of mercury. The boiler is equipped with a wet scrubber which provides good mercury control—93%, system removal efficiency according to the commenter.

The commenter states that the proposed liquid fuel boiler mercury standard is not achievable using feedrate control and/or additional back-end control. Waste minimization is not an option because the waste has already been generated. Further, available national treatment capacity for mercury-bearing, low-level radioactive organic hazardous waste is very limited. The only other hazardous waste combustion facility authorized to treat such waste is the Department of Energy incinerator at Oak Ridge, Tennessee. Waste treatment volumes at that facility are restricted by the mercury feed rate limitation for the incinerator. In addition, the feedrate of the waste cannot be practicably reduced because of the large back-log of waste that must be treated.

The commenter suggests that their boiler be subject to the incinerator mercury standard because the mixed waste has far higher concentrations of mercury than wastes burned by other boilers and, as a consequence, the boiler is more incinerator-like with respect to the feedrate of mercury.

Response. We agree with the commenter's suggestion. The final rule subjects this commercial liquid fuel boiler to the mercury standard for incinerators. We are classifying this source as a separate type of source for purposes of the mercury standard, because the type of mercury-containing waste it processes is dramatically different from that processed by other liquid fuel boilers, effectively making this a different type of source for purposes of a mercury standard [165]. The source thus feeds mercury at concentrations exceeding that of any boiler but at concentrations within the range processed by hazardous waste incinerators. The maximum test condition average MTEC [166] for mercury for the remaining liquid fuel boilers is 20 μg/dscm. All the liquid fuel boiler mercury data represent ''normal'' data, i.e., data that were not spiked. (The lack of spiked data in the liquid fuel boiler data base, in and of itself, indicates that these sources do not process mercury-bearing waste and do not need the operational flexibility gained by spiking to account for occasional higher concentration mercury wastes.) DSSI's 2002 mercury test condition average MTEC was spiked to 3500 μg/dscm. In other words, DSSI needs the operational flexibility to feed 175 times more mercury than any other liquid fuel boiler. Incinerators, on the other hand, had mercury MTECs that ranged to 110,000 μg/dscm in 2002. In fact, DSSI's mercury feed rate is the eighth highest of the 40 incinerators, including DSSI, for which we have 2002 mercury feed rate data. DSSI's process feed is thus within the upper range of mercury feed found at incinerators.

We believe it is well within the broad discretion accorded us in section 112(d)(1) to subcategorize among ''types'' and ''classes'' of sources within a category. See also *Weyerhaeuser* v. *Costle,* 590 F. 2d at 254, n. 70 (D.C. Cir. 1978) (similar raw waste characteristics justify common classification) and *Chemical Manufacturers Ass'n* v. *EPA,* 870 F. 2d 177, 253–54 and n. 340 (5th

[165] See CAA section 112 (d) (1)), authorizing EPA to distinguish among different ''types * * * of sources within a category or subcategory'' in developing MACT standards.

[166] Maximum theoretical emission concentration is the feedrate normalized by gas flowrate assuming zero system removal efficiency.

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Cir. 1989) (same). We note that this boiler will be subject to the liquid fuel boiler standards for all HAP other than mercury (the only HAP where the issue of appropriate classification arises).

Not surprisingly, given the disparity in waste concentration levels, the DSSI boiler, even though equipped with back end control comparable to best performing commercial incinerators, achieves mercury emission levels less than an order of magnitude higher than the other hazardous waste-burning liquid fuel boilers, few of which use back end control that is effective for mercury.[167] This emission disparity likewise indicates that DSSI is treating a different type of waste than other liquid fuel boilers.

The nature of the mercury-bearing waste further confirms that it is of a different type than that processed by other hazardous waste burning liquid fuel boilers. The waste is a remediation waste, a type of waste burned routinely by commercial hazardous waste incinerators but almost never by a liquid fuel boiler.

Moreover, the waste is a legacy, mixed waste generated decades ago in support of the United States' strategic nuclear arsenal. It is not amenable to the types of control all other liquid fuel boilers use to reduce mercury emissions—some type of feed control or other minimization technique. We investigated whether any waste minimization options are feasible for this waste, and find that they are not. Normally, waste minimization is accomplished by one of three means: eliminating the use of mercury in the process to prevent it from being in the waste; pretreating the waste before burning to remove the mercury; or sending it to another facility better suited to handle the waste. Changing the production process to eliminate or reduce the mercury content of the waste is not an option because this waste has already been generated. Pretreatment is already practiced to the maximum extent feasible by settling out and separating the heavier mercury from the liquid components after thermal desorbtion. The remaining organic liquid that is burned by the mixed waste boiler contains concentrations of mercury (in organo-mercury and other organic soluble forms) that are orders of magnitude higher than burned by other liquid fuel boilers. Much of the waste cannot be feasibly pretreated to remove mercury because this legacy, mixed waste comes from many highly diverse sources. It is not practical or feasible to investigate how to remove the mercury from wastes of such varied and unique origins.

Only one other facility could potentially treat this mixed waste, DOE's incinerator at Oak Ridge, Tennessee, whose permit allows the incinerator to manage mixed waste. However, waste treatment volumes for mercury-bearing wastes at that facility are restricted by the mercury feed rate limitation in the incinerator's permit. The DOE incinerator alone cannot assure national capacity for mercury-bearing, low-level radioactive organic hazardous waste. In addition, the back-end emission controls of the mixed waste boiler are superior to those used by most incinerators, including the Oak Ridge incinerator. This boiler uses a highly effective wet scrubbing system—the principal MACT floor back-end control for mercury used by incinerators—that achieves over 93% system removal efficiency. This is superior control compared to most incinerators, including the one at Oak Ridge which achieves 75 to 85% removal.[168]

Thus, this mixed waste boiler is reasonably classified a different type of source with respect to mercury waste than other hazardous waste-burning liquid fuel boilers, based on the nature of the waste burned and confirmed by the source's mercury emissions. We note that, although the final rule subjects only the DSSI mixed waste boiler to the incinerator mercury standard, we would conclude that any other liquid fuel boiler with the same fact pattern (i.e., that met the same criteria as the DSSI boiler as discussed above) should also be subject to the incinerator mercury standard rather than the liquid fuel boiler mercury standard.

Comment. One commenter states that EPA's standards for all sources must reflect the actual emission levels achieved by the relevant best sources. If EPA wishes to subject the boiler source and incinerators to the same emission standards, however, it is entirely within the Agency's power to do so.

Response. We agree. There is no functional difference between this boiler and incinerators with respect to mercury feed rate and the type of waste processed (incinerators often treat remediation wastes). Therefore, the most relevant sources for the purposes of clarification in this case are incinerators, not liquid fuel boilers.

Accordingly, we have classified DSSI as an incinerator for purposes of a mercury standard (*i.e.*, made it subject to the mercury standard for incinerators), and have included the DSSI mercury data with the incinerator data when assessing mercury standards for incinerators.

Comment. In something of a contradiction, the same commenter argues that the mixed waste boiler source (DSSI) does not claim that it cannot meet the relevant mercury standard for liquid fuel boilers, but only that it cannot do so ''using either feedrate control or MACT floor back end emission control.'' Floors must reflect the emission levels that the relevant best sources actually achieve, not what is achievable through the use of a chosen emission control technology. It is flatly unlawful—and essentially contemptuous of court—for EPA even to entertain the source's argument that the source should be subject to a less stringent emission standard based on the levels they believe would be achievable through the use of one chosen control technology.

The commenter also states that the source acknowledges that it could achieve a better emission level, and apparently meet the relevant standards, by using activated carbon. Their argument that doing so would generate large quantities of spent radioactive carbon does not support its attempt to avoid Clean Air Act requirements; the alternative to the source accumulating large quantities of radioactive carbon is releasing large quantities of radioactive and toxic pollution into the environment.

Response. DSSI cannot meet the liquid boiler mercury standard because it burns a unique waste that resembles wastes processed by hazardous waste incinerators (in terms of mercury concentration and provenance) and is unlike any mercury-containing waste burned by the remaining liquid fuel boilers. See the earlier discussion showing that DSSI needs the operational flexibility to feed 175 times more mercury than any other liquid fuel boiler, but that DSSI's process feed is within the upper range of mercury feed found at incinerators.

We agree that DSSI is processing different types of mercury-bearing wastes than those combusted by all other liquid fuel boilers. We believe that establishing a different mercury standard for DSSI is warranted, as it would for any source with demonstrably unique, unalterable feedstock which is

[167] USEPA, ''Technical Support Document for HWC MACT Standards, Volume I: Description of Source Categories,'' September 2004, Section 2.4.4.

[168] For more explanation concerning mixed waste sources, limitations on the concentrations of mercury fed to these sources, and the system removal efficiency achieved, see USEPA, ''Technical Support Document for HWC MACT Standards, Volume III: Selection of Standards,'' September 2005, Section 8.7.

more difficult to treat than that processed by other sources otherwise in the same category.

How DSSI chooses to comply with the incinerator mercury standard (for example, whether it must use some other type of emissions control technology) is not germane to this decision. We note that today's mercury standard for incinerators will force this source to lower its mercury emissions, since it is unlikely that it can meet today's 120 μg/dscm standard at all times without some changes in operations.

Comment. The source argues that waste minimization is not feasible for legacy mixed waste that has already been generated. It is not possible to travel back in time and unmake mixed legacy waste that already has been created. That obvious fact, however, lends no support to their argument that it should be allowed to burn mixed legacy waste with less stringent emission standards, according to one commenter.

Response. As discussed above, the mercury standard for liquid fuel boilers is not achievable for this source because it is a different type and class of boiler, based on the type of mercury-containing hazardous waste it processes. Because this boiler has mercury feed rates that resemble those of incinerators—not liquid fuel boilers—and waste minimization is not possible, subjecting the boiler to the mercury incinerator standard is a reasonable means of sub-categorization pursuant to the discretionary authority provided us by section 112(d)(1) of the Clean Air Act.

Comment. The commenter states that it is entirely possible to dispose of mixed legacy waste without burning it. Specifically, currently available technologies such as chemical oxidation and precipitation can be used to treat mixed legacy waste without burning it—and without releasing mercury into the air. Therefore, mixed legacy waste should not be burned at all; it should be disposed of safely through the application of one of these more advanced technologies.

Response. First, these wastes must be treated before they can be land disposed. RCRA sections 3004(d), (g)(5), and (m). They also must meet a standard of 0.025 mg/l measured by the Toxicity Characteristic Leaching Procedure before land disposal is permissible. 40 CFR 268.40 (standard for ''all other nonwastewaters that exhibit the characteristic of toxicity for mercury'').[169] EPA's technical judgment is that it would be very difficult to meet this standard by any means other than combustion. Moreover, as an organic liquid, the waste is readily amenable to treatment by combustion. In addition, combustion is a legal form of treatment for the waste. EPA did not propose to change or otherwise reconsider these treatment standards in this rulemaking, and is not doing so here. We note, however, that 40 CFR 268.42 and 268.44 provide means by which generators and treatment facilities can petition the Agency to seek different treatment standards from those specified by rule, and set out requirements for evaluating such petitions.

We note further that, because this waste is radioactive, exceptional precautions need to be taken in its handling. The nonthermal treatment alternatives mentioned by the commenter ignore the potential for radiation exposure if nonthermal treatment is used. Concerns (some of which are mentioned in DSSI's comment) include: Nonthermal treatment would (or could) increase worker exposure; desire to reduce handling of radioactive materials in general; need to avoid contaminating equipment that subsequently requires decontamination or handling as radioactive material; minimizing the generation of additional radioactive waste residues; reducing the amount of analysis of radioactive materials, which causes potential exposure, generation of radioactive wastes and equipment; wastes are varied and often of small volumes, which makes it difficult to develop routine procedures. Nonthermal treatment alternatives are also not currently available to DOE to manage the diversity and volume of DOE mixed waste. It is thus our belief that the commenter has not fully explored the implications of its position, especially with regard to radiation exposure.

If the commenter wishes to pursue this issue, EPA believes the appropriate context is through the Land Disposal Restriction mechanisms described above.

Comment. The commenter states that the source argues that feedrate control is not ''practical.'' There appears to be no record evidence indicating what would make feedrate control impractical and why any such obstacle could not be overcome.

Response. Feedrate control to the extent necessary to achieve the liquid fuel boiler standards is not practical for reasons just discussed. This source is one of two available sources that is authorized to treat mixed waste, and the other source is not likely to have the ability to burn mercury-bearing organic waste in the future due to permit limitations and size constraints.

Comment. The commenter states that mixed legacy waste should not be burned at all. If there are truly no other facilities that are currently permitted to dispose of mixed legacy waste, such waste should be stored until a facility that can treat such waste safely—e.g., through chemical oxidation—can be permitted.

Response. The commenter's suggestion is beyond the scope of today's rulemaking. The suggestion is also illegal, since RCRA prohibits the storage of hazardous waste for extended periods. See RCRA section 3004(j); and *Edison Electric Inst.* v. *EPA*, 996 F. 2d 326, 335–37 (DC Cir. 1993) (illegal under RCRA section 3004(j) to store hazardous waste pending development of a treatment technology). EPA also notes that it retains authority under RCRA section 3005(c) (the so-called omnibus permitting authority) by which permit writers can adopt more stringent emission standards in RCRA permits if they determine that today's standards are not protective of human health and the environment.

2. Different Mercury, Semivolatile Metals, Chromium, and Total Chlorine Standards for Liquid Fuel Boilers Depending on the Heating Value of the Hazardous Waste Burned

Comment. Several commenters state that liquid fuel boilers should have an alternative concentration-based standard in addition to the thermal emission-based standard. Liquid fuel boilers are typically ''captive'' units that burn waste fuels generated from on-site or nearby manufacturing operations, rather than accepting wastes from a wide variety of other sources. Because they have captive fuel sources, operators generally do not have fuel blending capabilities. Liquid fuel boilers ''burn what they have,'' and as such have very limited operational flexibility. EPA should not penalize boilers that have the same mass concentrations of metals or chlorine in their waste compared to other boilers, but which wastes have a lower heating value than wastes burned by other boilers. (The ''penalty'' is that emissions limits that are normalized by the heating value of the hazardous waste require that less volume of lower heating value waste can be burned compared to higher heating value fuel.) This problem is made worse by the limited data base for liquid fuel boilers,

[169] Although the legacy waste that DSSI is burning is nominally classified as a nonwastewater due to its high organic content, it is in fact a liquid matrix, meaning that the treatment standard of 0.025 μg/l is effectively a total standard.

the lack of historical data to verify that these standards are achievable over time, and having most or all of the measured emissions below detection limits. In addition, most of the mercury and semivolatile metal data EPA has in the data base were obtained during normal operations and while the source demonstrated compliance with RCRA's chromium standard—the other metals data were available only because stack method Method 29 reports data for all RCRA metals, even ones that are not at issue for the compliance test. (Sources generally elected to comply with the BIF Tier I metals emissions levels, but Tier III for chromium. Thus, the Method 29 test for chromium will give emissions results for all the metals—even those not subjected to stack testing—not just chromium.)

Response. As explained earlier in Part Four, Section V.A., EPA has selected normalizing parameters that best fit the input to the combustion device. A thermal normalizing parameter (i.e., expressing the standards in terms of amount of HAP contributed by hazardous waste per thermal content of hazardous waste) is appropriate where hazardous waste is being used in energy-recovery devices as a fuel, since the waste serves as a type of fuel. Using a thermal normalizing parameter in such instances avoids the necessity of subcategorizing based on unit size.

The commenters raise the other side of the same issue. As the commenters point out, some liquid fuel boilers burn lower Btu hazardous waste because that is the waste available to them, and those with waste that has a low heating value are, in their words, ''penalized,'' compared to those with a high(-er) heating value. Also, since these are not commercial combustion units, they normally lack the opportunity to blend wastes of different heating values to result in as-fired high heating value fuels. If boiler standards are normalized by hazardous waste heating value, sources with lower heating value waste must either reduce the mass concentration of HAP or increase the waste fuel heating value (or increase the system removal efficiency) compared to sources with wastes having the same mass concentration of HAP but higher heating value.

Moreover, the thermal normalizing parameter is not well suited for a hazardous waste that is not burned entirely for its fuel value. In cases where the lower heating value waste is burned, the boiler is serving—at least in part—as a treatment device for the lower heating value hazardous waste. When this occurs, the better normalizing parameter is the unit's gas flow (a different means of accounting for sources of different size), where the standard is expressed as amount of HAP per volume of gas flow (the same normalizing parameter used for most of the other standards promulgated in today's final rule.)

The commenters requested that liquid fuel boilers be able to select the applicable standard (i.e., to choose between normalizing parameters) and further requested that we assess the performance of these units (for the purpose of establishing concentration-based MACT floor levels) by using the same MACT pool of best performing sources expressed on a thermal emissions basis.

Neither of these suggestions is appropriate. Choice of normalizing parameter is not a matter of election, but rather reflects an objective determination of what parameter is reasonably related to the activity conducted by the source. Moreover, the commenter's suggestion to use thermal emissions to measure best performance for a concentration-based standard does not make sense. It arbitrarily assumes that the best performers with respect to low and high heating value wastes are identical.

Instead, we have established two subcategories among the liquid fuel boilers: those burning high and those burning low heating value hazardous waste. The normalizing parameter for sources burning lower energy hazardous waste is that used for the other hazardous waste treatment devices, gas flow rate, so that the standard is expressed as concentration of HAP per volume of gas flow (a concentration-based form of the standard.) The normalizing parameter for sources burning higher energy content hazardous waste is the thermal parameter used for energy recovery devices, such as cement kilns and lightweight aggregate kilns. For the purposes of calculating MACT floors, the best performers are then drawn from those liquid fuel boilers burning lower energy hazardous waste for the lower heating value subcategory, and from those liquid fuel boilers burning higher energy hazardous waste for the higher heating value subcategory [170]. (See Section 23.2 of Volume III of the Technical Support Document for more information.)

Moreover, liquid fuel boilers are not irrevocably placed in one or the other of these subcategories. Rather, the source is subject to the standard for one or the other of these subcategories based on the as-fired heating value of the hazardous waste it burns at a given time. Thus, when the source is burning for energy recovery, then the thermal emissions-based standard would apply. When the source is burning at least in part for thermal destruction, then the concentration based standard would apply. This approach is similar to how we have addressed the issue of normalization in other rules where single sources switch back and forth among inputs which are sufficiently different to warrant separate classification. [171]

We next considered what an appropriate as-fired heating value would be for each liquid fuel boiler subcategory. Although we have used 5000 Btu/lb (the heating value of lowest grade fuels such as scrap wood) in past RCRA actions as a presumptive measure of when hazardous waste is burned for destruction (see, e.g. 48 FR 11159 (March 16, 1983)), we do not think that measure is appropriate here. We used the 5,000 Btu/lb level to delineate burning for destruction from burning for energy recovery at a time when that determination meant the difference between regulation and nonregulation. See 50 FR 49166–167 (Nov. 29, 1985). This is a different issue from choosing the most reasonable normalizing parameter for regulated units (*i.e.*, units which will be subject to a standard in either case).

Instead, we are adopting a value of 10,000 Btu/lb as the threshold for subcategorization. This is approximately the heating value of commercial liquid fossil fuels. 63 FR 33782, 33788 (June 19, 1998) It is also typical of current hazardous waste burned for energy recovery. *Id.* Moreover, EPA has used this value in its comparable fuel specification as a means of differentiating fuels from waste. See *id.* and Table 1 to 40 CFR section 261.38, showing that EPA normalizes all

[170] We also agree that liquid fuel boilers present several unique circumstances, namely: they are often unable to blend fuel and have limited operational flexibility as a result; our data base on these sources' performance is relatively small; much of our mercury and semivolatile metals data is at or near detection limits; and much of the mercury and semivolatile metals data was obtained for other purposes, namely from risk burns or as a result of Method 29 testing to demonstrate compliance with a RCRA chromium standard. While not immediately important to the topic at hand—namely that not all liquid fuel boilers burn for energy recovery—they are secondary issues that we need to closely consider to make sure we do not estimate what the best performing 12% of sources are achieving in an unreasonable manner.

[171] See NESHAP for Stationary Combustion Turbines, 40 CFR section 63.6175 (definitions of ''diffusion flame gas-fired stationary combustion turbine'', ''diffusion flame oil-fired stationary combustion turbine'', ''lean pre-mix gas-fired stationary combustion turbine'' and ''lean premix oil-fired stationary combustion turbine'').

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constituent concentrations to a 10,000 Btu/lb level in its specification for differentiating fuels from wastes.

We next examined the waste fuel being burned at cement kilns and lightweight aggregate kilns, which burn hazardous waste fuels to drive the process chemistry to produce products[172], to cross-check whether 10,000 Btu/lb is a reasonable demarcation value for subcategorizing. 10,000 Btu/lb is the minimum heating value found in burn tank and test report data we have for cement kilns and lightweight aggregate kilns [173]. We believe the cement kiln and light weight aggregate kiln data confirm that this is an appropriate cutpoint, since these sources are energy recovery devices that blend hazardous wastes into a consistent, high heating value fuel for energy recovery in their manufacturing process.

We then separated the liquid fuel boiler emissions data we had into two groups, sources burning hazardous waste fuel with less than 10,000 Btu/lb and all other liquid fuel boilers, and performed separate MACT floor analyses. (See Sections 13.4, 13.6, 13.7, 13.8, and 22 of Volume III of the Technical Support Document.) We calculated concentration-based MACT standards for these sources from their respective mercury, semivolatile metals, chromium, and total chlorine data.

Liquid fuel boilers will need to determine which of the two subcategories the source belongs in at any point in time. Thus, you must determine the as-fired heating value of each batch of hazardous waste fired so that you know the heating value of the hazardous waste fired at all times.[174] If the as-fired heating value of hazardous wastes varies above and below the cutpoint (i.e., 10,000 Btu/lb) at times, you are subject to the thermal emissions standards when the heating value is not less than 10,000 Btu/lb and the mass concentration standards when the heating value is less than 10,000 Btu/lb. To avoid the administrative burden of frequently switching applicable operating requirements between the subcategories, you may elect to comply with the more stringent operating requirements that ensure compliance with the standards for both subcategories.

Comment: EPA's attempt to give actual performance two different meanings within a single floor approach is unlawful, unexplained, internally inconsistent, and arbitrary. If EPA believes that mass-based emissions constitute sources' actual performance, the best performing sources must be those with the best mass based emissions—not thermal emissions.

Response: As just explained, we agree with this comment, and have developed MACT floors independently for the two subcategories of liquid fuel boilers. Thus, we have defined two separate MACT pools based on the thermal input of the waste fuel and derived two separate and consistent MACT standards for sources when they burn solely for energy recovery, and when they do not.

We also note that a source cannot ''pick and choose'' the less stringent of the two standards and comply with those. The source must be in compliance with the set of standards that apply.

3. Alternative Particulate Matter Standard for Liquid Fuel Boilers

Comment: A commenter requested that EPA establish standards that allow boilers the option to comply with either a concentration-based particulate matter standard or thermal emissions-based particulate matter standard.

Response: We determined that it is appropriate to express the particulate matter emission standard as a concentration-based standard consistently across source categories and not to give boilers the option to comply with a thermal emissions-based particulate matter standard. As discussed in Part Four, Section III.D as well as the preceding section, metal and chlorine concentration-based emission standards can be biased against sources that process more hazardous waste (from an energy demand perspective), in part because the SRE/Feed methodology assesses feed control of each source when identifying the best performing sources; the ranking procedure thus favors sources with lower percentage hazardous waste firing rates (keeping all other assessment factors equal). The thermal emission standard format eliminates this firing rate bias, which amounts to a limitation on the amount of raw material (hazardous waste fuel to an energy recovery device) that may be processed, when identifying best performing sources.

The methodology we use to identify best performing sources for particulate matter emissions is not affected by the firing rate bias in the manner that metal and chlorine emissions are. This is primarily because we define best performing sources as those with the best back-end air pollution control technology; feed control is not assessed (specifically ash feed control) for raw materials, fossil fuel, or unenumerated HAP metal in the hazardous waste. The hazardous waste firing rate bias is therefore not present when we identify the best performing particulate matter sources because a source's hazardous waste firing rate is not a direct factor in the ranking procedure.

We also note that four of the nine best performing liquid fuel boilers for particulate matter are equipped with fabric filters. Particulate matter emissions from sources equipped with fabric filters are not significantly affected by ash inlet loading. This is not true for metals and chlorine, given metal and chlorine emissions from fabric filters tend to increase at increased feed rates. See Volume III of the Technical Support Document, Sections 5.3 and 7.4. We conclude that the hazardous waste firing rate issue is not a concern for these sources given their particulate matter emissions would not be significantly affected by increased hazardous waste firing rates.

4. Long-term, Annual Averaging Is Impermissible

Comment: Standards expressed as long-term limits are legally impermissible because those levels, by definition, would sometimes be greater than the average emission levels achieved by the best performing sources. Compliance also must be measured on a continuous basis, under section 302(k) of the Act. Thus, floor levels (and standards) for mercury expressed as long-term limits are illegal.

Response: The commenter maintains that the statutory command in section 112(d)(3)(A) to base floor standards for existing sources on ''the average emission limitation achieved by the best performing 12 percent of * * * existing sources'' precludes establishing standards expressed as long term averages because certain daily values could be higher. We do not accept this position. The statute does not state what type of ''average'' performance EPA must assess. Long term, i.e., annual, averaging of performance is quite evidently a type of average, and so is permissible under the statutory text. Moreover, it is reasonable to establish

[172] The Norlite light-weight aggregate kiln was not included in this analysis because they claim they are *not* burning for energy recovery. The waste Norlite burns is 4,860 Btu/lb or lower. This is indicative of a source burning solely for thermal treatment of the waste and not, at least in part, for energy recovery. See 40 CFR 266.100(d)(2)(ii).

[173] The cement kiln burn tank data and test report data shows the minimum heating values of 9,900 and 10,000 Btu/lb, respectively, for the hazardous waste. The minimum lightweight aggregate kiln heating values for hazardous waste was 10,000 Btu/lb, excluding the Norlite source.

[174] If you burn hazardous waste in more than one firing nozzle, you must determine the mass-weighted average heating value of the as-fired hazardous waste across all firing nozzles.

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standards on this basis (the standards being the average of the best performing sources, expressed as a long-term average), where sufficient data exist. Indeed, since the principal health concern posed by the emitted HAP is from chronic exposure (i.e. cumulative exposure over time), long-term standards (which reduce the long-term distribution of emitted HAP) arguably would be preferable in addressing the chief risks posed by these sources' emissions.

We establish standards with long-term averaging limits whenever we use normal data to estimate long-term performance. We do this in the few instances where there are insufficient data (whether normal data or compliance test data) to estimate each source's short term emission levels (e.g., mercury and semivolatile metal standards for liquid fuel boilers).[175] One or two snapshot data based on normal operations are not likely to reflect a source's short-term operating levels in part because feed control levels can vary over time.[176] See *Mossville*, 370 F. 3d at 1242 (varying feed rates lead to different emission levels, and this variability must be encompassed within the floor standard because the standard must be met at all times). As a result, snapshot normal emissions, when averaged together, better reflect a source's long term average emissions. An emission standard based on normal data that is averaged together, but expressed as a short-term limit, would not be achievable by the best performing sources because it would not adequately account for their emissions variability. See *National Wildlife Federation* v. *EPA*, 286 F. 3d at 572–73 (''[c]ontinuous operation at or near the daily maximum would in fact result in discharges that exceed the long-term average. Likewise, setting monthly limitations at the 99th percentile would not insure that the long-term average is met''). Long-term limits better account for this variability because such limits allow sources to average their varying feed control levels over time while still assuring average emissions over this period are below the levels demonstrated by the best performing sources.

Indeed, under the commenter's approach where no averaging of intra-source data would be allowed, sources would not be in compliance with the standards during the performance tests themselves. The tests consist of the average of three data runs, so half of the emissions-weighted data points would be impermissibly higher than the average during the test used to derive today's emission standards.

EPA also does not see that section 302(f) of the Act, cited by the commenter, supports its position. That provision indicates that the emission standards EPA establishes must limit the quantity, rate, or concentration of air pollutants on a continuous basis. A standard expressed as a long-term average does so by constraining the overall distribution of emissions to meet a long-term average. Also, long term limits result in emission standards that are lower than those that otherwise would be implemented on a short-term basis. The short-term limit would have to reflect the best performing sources' short term emissions variability (i.e., the maximum amount of variability a source could experience during a single test period). *National Wildlife Federation*, 286 F. 3d at 571–73.

Comment: Other commenters argued the opposite point, that ERA has no data to show that an annual average is achievable, and EPA should establish a longer averaging period.

Response: We believe that all sources can achieve the mercury and semivolatile metals standards for liquid fuel boilers on an annual basis using some combination of MACT controls, i.e., feed control, back end control, or some combination of both. We agree that we have a small data set for these standards, but also believe that it is intuitive that a liquid fuel boiler can meet these standards on an annual basis, because one year is sufficiently more than any seasonal (i.e., several month long) production of certain items that may not be represented by the tests we have.

This informs us that an average of less than a year may not be achievable. It does not inform us that averaging of more than a year is required, since variations that occur with a year are averaged together. An annual average is sufficient for a source to determine whether an individual waste stream impacts negatively on the compliance of the liquid fuel boiler and take measures to address the issue.

5. Gas Fuel Boilers

Comment: How can a boiler burning only gaseous waste also be burning hazardous waste? Uncontained gases are not considered hazardous waste under RCRA. Why are boilers that burn only gasses part of the liquid fuel boiler subcategory?

Response: We agree with the commenter that boilers that burn gasses are unlikely to burn hazardous wastes. However, gas fuel hazardous waste boilers have existed in the past,[177] and we believe we need to define a MACT standard for them. Therefore, we included gas fuel boilers in the liquid fuel boiler subcategory for reasons cited in the proposed rule. See 69 FR at 21216.

E. General

1. Alternative to the Particulate Matter Standards

Comment: Commenters state that some incinerators are currently complying with the alternative to the particulate matter standard provision pursuant to the interim standards. See § 63.1206(b)(14). The eligibility and operating requirements for the alternative to the particulate matter standard in the Interim Standards are different than the proposed alternative to the particulate matter standard in the replacement rule. Specifically, the proposed alternative to the particulate matter standard would no longer require sources to demonstrate a 90% system removal efficiency or a minimum hazardous waste metal feed control level to be eligible for the alternative. Commenters request that EPA clarify in the final rule that the proposed alternative to the particulate matter standard supersedes the requirements in the Interim Standards.

Response: We are finalizing the alternative to the particulate matter standard for incinerators as proposed, with the exception that the alternative metal emission limitations have been revised as a result of database changes since proposal. See § 1219(e) and part three, section II.A. We considered superseding the interim standard alternative to the particulate matter standard requirements (63.1206(b)(14)) immediately (upon promulgation) by replacing it with the revised alternative

[175] Two emission standards in this rulemaking are based on normal data but are expressed as short term limits (the mercury standards for lightweight aggregate and cement kilns). However, in these instances we had enough normal data to reasonably estimate each source's maximum emissions, thus allowing us to express the standard as a short term limit. See USEPA, ''Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards,'' September 2005, Sections 11.2 and 12.2.

[176] This is not the case for floors that are based on compliance tests because sources spiked their hazardous wastes to account for variability in hazardous waste feedrate. See Part Four, Section III.C above. Normal data, however, are a snapshot of what occurred on that day and are not likely to be representative over the long term, especially for mercury and semivolatile metals for liquid fuel boilers, where these limited data were almost entirely below the analytic detection limit.

[177] For example, sources 2014 and 2015 owned by Environmental Purification Industries in Toledo, Ohio, were considered hazardous waste boilers at the time the Phase II data base was noticed in the June 27, 2000, despite the fact that these boilers burned only gasses. These boilers have since stopped burning hazardous waste.

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standard provisions finalized in today's rule. Although the eligibility requirements for the alternative to the particulate matter standard finalized today are less stringent than the interim standard requirements, the metal emission limitations that are also required by the alternative finalized today are by definition equivalent to or more stringent than the metal limitations in the interim standard alternative. We therefore cannot completely supersede the interim standard provisions immediately (upon promulgation) because sources have three years to comply with more stringent standards. We are instead revising the interim standard provisions of § 63.1206(b)(14) to only reflect the revised alternative standard eligibility criteria (specifically, we have removed the requirements to achieve a given system removal efficiency and hazardous waste metal HAP feed control level).[178] These eligibility criteria revisions become effective immediately with respect to the interim standards because they are less stringent than the current requirements. Sources should modify existing Notifications of Compliance and permit requirements as necessary prior to implementing these revised procedures.

Comment: One commenter is opposed to the alternative to the particulate matter standard because it ignores the health effects/benefits that are attributable to particulate matter.

Response: Particulate matter is not defined as a hazardous air pollutant pursuant the NESHAP program. See CAA 112(b)(1). We control particulate matter as a surrogate for metal HAP. See part four, section IV.A. As a result, a particulate matter standard is not necessary in instances where metal HAP emission standards can alternatively and effectively control the nonmercury metal HAP that is intended be controlled with the surrogate particulate matter standard. The alternative to the particulate matter standard in the final rule accomplishes this. We acknowledge that particulate matter emission reductions result in health benefits. That in itself does not give EPA the authority under § 112(d)(2) to directly regulate particulate matter, however.

2. Assessing Risk as Part of Consideration of Nonair Environmental Impacts

Comment: Commenter states that EPA has inappropriately failed to consider emissions of persistent bioaccumulative pollutants in its beyond-the-floor analysis despite EPA's acknowledgment that these HAPs have non-air quality health and environmental impacts.

Response: EPA has taken the consistent position that considerations of risk from air emissions have no place when setting MACT standards, but rather are to be considered as part of the residual risk determination and standard-setting process made under section 112 (f) of the statute. EPA thus interprets the requirement in section 112 (d) (2) that we consider ''non-air quality health and environmental impacts'' as applying to the by-product outputs from utilization of the pollution control technology, such as additional amount of waste generated, and water discharged.[179] EPA's interpretation was upheld as reasonable in *Sierra Club* v. *EPA*, 353 F. 3d 976, 990 (D.C. Cir. 2004) (Roberts, J.).

VII. Health-Based Compliance Alternative for Total Chlorine

A. Authority for Health-Based Compliance Alternatives

Comment: One commenter states there is no established health threshold for either HCl or chlorine.

Response: Although EPA has not developed a formal evaluation of the potential for HCl or chlorine carcinogenicity (e.g., for IRIS), the evaluation by the International Agency for Research on Cancer stated that there was inadequate evidence for carcinogenicity in humans or experimental animals and thus concluded that HCl and chlorine are not classifiable as to their carcinogenicity to humans (Group 3 in their categorization method). Therefore, for the purposes of this rule, we have evaluated HCl and chlorine only with regard to non-cancer effects. In the absence of specific scientific evidence to the contrary, it has been our policy to classify non-carcinogenic effects as threshold effects. RfC development is the default approach for threshold (or nonlinear) effects.

Comment: One commenter states that the proposal is an inappropriate forum for bringing forward such a significant change in the way that MACT standards are established under Section 112(d) of the Clean Air Act. A precedent-setting change of the magnitude that EPA has raised should be discussed openly and carefully with all affected parties, rather than being buried in several individual proposed standards.

Response: Including health-based compliance alternatives for hazardous waste combustors does not mean that EPA will automatically provide such alternatives for other source categories. Rather, as has been the case throughout the MACT rule development process, EPA will undertake in each individual rule to determine whether it is appropriate to exercise its discretion to use its authority under CAA section 112(d)(4) in developing applicable emission standards. Stakeholders for those affected rules will have ample opportunity to comment on the Agency's proposals.

Comment: One commenter states that the proposed approach is contrary to the intent of the CAA which explicitly calls for a general reduction in HAP emissions from all major sources nationwide through the establishment of MACT standards based on technology, rather than risk, as a first step.

Response: For pollutants for which a health threshold has been established, CAA section 112(d)(4) allows the Administrator to consider such threshold level, with an ample margin of safety, to establish emission standards.

Comment: One commenter states that the proposed approach would take the national air toxics program back to the time-consuming NESHAP process that existed prior to the Clean Air Act Amendments of 1990.

Response: We disagree that allowing a health-based compliance alternative in the final rule will alter the MACT program or affect the schedule for promulgation of the remaining MACT standards. Today's rule is the last MACT rule to be promulgated, and the health-based compliance alternative did not delay promulgation of the rule.

Comment: A commenter is concerned that the proposal would remove the benefit of the ''level-playing field'' that would result from the proper implementation of technology-based MACT standards.

Response: Providing health-based compliance alternatives in the final rule for sources that can meet them will assure the application of a uniform set of requirements across the nation. The final rule and its criteria for demonstrating eligibility for the health-based compliance alternatives apply uniformly to all hazardous waste combustors except hydrochloric acid

[178] Sources can only use § 63.1206(b)(14) for purposes of complying with the interim standards. After the compliance date for today's rule, incinerators electing to comply with the alternative to the particulate matter standard must comply with the provisions found in § 63.1219(e).

[179] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume V: Emission Estimates and Engineering Costs,'' September 2005, Section 6, for a discussion of the non-air impact that were assessed for this final rule.

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production furnaces. The final rule establishes two baseline levels of emission reduction for total chlorine, one based on a traditional MACT analysis and the other based on EPA's evaluation of the health threat posed by emissions of HCl and chlorine. All hazardous waste combustor facilities must meet one of these baseline levels, and all facilities have the same opportunity to demonstrate that they can meet the alternative health-based emission standards. We also note that additional uniformity is provided by limiting the health-based compliance alternatives for incinerators, cement kilns, and lightweight aggregate kilns to the emission levels allowed by the Interim Standards.

Comment: Several commenters state that site-specific emission limits are inappropriate under section 112(d)(4) because they are not emission standards. One commenter asserts that the Agency's position that the limits are based on uniform procedures is flawed because the process allows ''any scientifically-accepted, peer-reviewed risk assessment methodology for your site-specific compliance demonstration.'' This is not a ''uniform'' procedure, according to the commenter. There are a host of variables that influence the results of an accepted methodology. The commenter reasons that, without some standardization of those variables, there is no uniform or standard analysis. Each permitting authority could establish its view of appropriate variables; there would be no national consistency.

Several other commenters assert that EPA has the authority to establish an exposure-based emission limit for total chlorine. One commenter notes that one issue that often arises when considering risk-based standards is whether EPA has authority under section 112 to establish an exposure-based emission limit. The commenter states that the concern seems to be that some stakeholders construe the Act's statutory provisions as requiring uniform emission limitations at all facilities, rather than emissions that are measured at places away from the source and that vary from facility to facility. The commenter does not see any legal impediment to establishing exposure-based limits.

The commenter notes that, first, under section 112, EPA has authority to establish ''emission standards.'' Emission standards are defined to be a requirement established by the State or the Administrator which limits the quantity, rate or concentration of emissions of air pollutants on a continuous basis * * * to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this chapter. EPA's alternate risk-based emission standard will limit the quantity, rate or concentration of the emissions. The commenter states that there is no requirement in the definition that specifies where the emission standard is to be measured, nor is there such a requirement anywhere in the statute.

Second, the commenter notes that EPA's proposed exposure-based limit will result in facilities establishing operating parameter limitations, or OPLs. These OPLs qualify as emission limitations because they are ''operational standards'' being promulgated under section 112, according to the commenter. They will be measured at the facility, not at the point of exposure. Finally, the commenter reasons that the limitations EPA is establishing are uniform. They uniformly protect the individual most exposed to emission levels no higher than a hazard index of 1.0. Consequently, the commenter believes that there is nothing in the statute that prevents the Agency from promulgating exposure-based emission standards.

Response: We agree with the commenters who believe the Agency has the authority to establish health-based compliance alternatives under a national exposure standard. In particular, we agree with the commenter that the health-based compliance alternatives are national standards since they provide a uniform and national measure of risk control, and also that the health-based compliance alternatives are ''emission standards'' because they limit the quantity, rate or concentration of total chlorine emissions.

Section 112(d)(4) authorizes EPA to bypass the mandate in section 112(d)(3) in appropriate circumstances. Those circumstances are present for hazardous waste combustors other than hydrochloric acid production furnaces. Section 112(d)(4) provides EPA with authority, at its discretion, to develop health-based compliance alternatives for HAP ''for which a health threshold has been established,'' provided that the standard reflects the health threshold ''with an ample margin of safety.''

Both the plain language of section 112(d)(4) and the legislative history indicate that EPA has the discretion under section 112(d)(4) to develop health-based compliance alternatives for some source categories emitting threshold pollutants, and that those standards may be less stringent than the corresponding MACT standard (including floor standards) would be.[180] EPA's use of such standards is not limited to situations where every source in the category or subcategory can comply with them. As with technology-based standards, a particular source's ability to comply with a health-based standard will depend on its individual circumstances, as will what it must do to achieve compliance.

In developing health-based compliance alternatives under section 112(d)(4), EPA seeks to ensure that the concentration of the particular HAP to which an individual exposed at the upper end of the exposure distribution is exposed does not exceed the health threshold. The upper end of the exposure distribution is calculated using the ''high end exposure estimate,'' defined as ''a plausible estimate of individual exposure for those persons at the upper end of the exposure distribution, conceptually above the 90th percentile, but not higher than the individual in the population who has the highest exposure'' (EPA Exposure Assessment Guidelines, 57 FR 22888, May 29, 1992). Assuring protection to persons at the upper end of the exposure distribution is consistent with the ''ample margin of safety'' requirement in section 112(d)(4).

We agree with the view of several commenters that section 112(d)(4) is appropriate for establishing health-based compliance alternatives for total chlorine for hazardous waste combustors other than hydrochloric acid production furnaces. Therefore, we have established such compliance alternatives for affected sources in those categories. Affected sources which believe that they can demonstrate compliance with the health-based compliance alternatives may choose to comply with those compliance alternatives in lieu of the otherwise applicable MACT-based standard.

Comment: One commenter states that the risk assessments would not provide an ample margin of safety because background exposures are not taken into account. There is no accounting for other chlorine compounds from other sources at the facility, or from other neighboring facilities. The commenter believes that there is no evidence in the section 112(f) residual risk assessments produced thus far that emissions from collocated sources will actually be pursued by EPA. The commenter also notes that the Urban Air Toxics program cannot be relied upon to address ambient background. This program,

[180] See also Legislative History at 876 (section 112(d)(4) standard may be less stringent than MACT).

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required under section 112(k), was to be completed by 1999. However, the strategy has not been finalized and the small amount of activity in this area is focused on *voluntary* emission reductions rather than federal requirements. Finally, the commenter notes that control of criteria pollutants via State Implementation Plans to achieve compliance with the NAAQS is problematic. For particulate matter (PM) and ozone, new NAAQS were set in 1997 and seven years later the nonattainment designations are still being determined. The designation process will be followed by a 3 year period to prepare State Implementation Plans and several more years to carry out those plans. In the meantime, there will be high levels of PM and ozone in the air near many hazardous waste combustors in New Jersey which will exacerbate exposures to chlorine and hydrogen chloride.

Response: Total chlorine missions from collocated hazardous waste combustors must be considered in establishing health-based compliance alternatives under § 63.1215. Ambient levels of HCl or chlorine attributable to other on-site sources, as well as off-site sources, are not considered, however. As we indicated in the Residual Risk Report to Congress and in the recent residual risk rule for Coke Ovens, the Agency intends to consider facility-wide HAP emissions as part of the ample margin of safety determination for CAA section 112(f) residual risk actions. 70 FR at 19996–998 (April 15, 2005); see also, 54 FR at 38059 (Sept. 14, 1989) (benzene NESHAP).

Comment: Several commenters state that acute exposure guideline levels (AEGLs) are *once-in-a-lifetime* exposure levels. They assert that, because short term exposures at a Hazard Index greater than 1.0 may occur more than once in a lifetime, using AEGLs for the purpose of setting risk-based short-term limits for HCl and chlorine does not provide an ''ample margin of safety.''

Response: To assess acute exposure, we proposed to use acute exposure guideline levels for 1-hour exposures (AEGL–1) as health thresholds. We have investigated commenters' concerns, however, and conclude that AEGLs are not likely to be protective of human health because individuals may be subject to multiple acute exposures at a Hazard Index greater than 1.0 from hazardous waste combustors. Consequently, we use acute Reference Exposure Levels (aRELs) rather than acute exposure guideline levels (AEGLs) as acute exposure thresholds for the final rule. See also Part Two, Section IX.D above. Acute RELs are health thresholds below which there would be no adverse health effects while AEGL–1 values are health thresholds below which there may be mild adverse effects.

Acute exposures are relevant (in addition to chronic exposures) and the acute exposure hazard index of 1.0 could be exceeded multiple times over an individual's lifetime. Although we concluded at proposal that the chronic exposure Hazard Index would always be higher than the acute exposure Hazard Index, and thus would be the basis for the total chlorine emission rate limit, this conclusion relates to acute versus chronic exposure to a constant, maximum average emission rate of total chlorine from a hazardous waste combustor. See 69 FR at 21300. We explained that acute exposure must nonetheless be considered when establishing operating requirements to ensure that short-term emissions do not result in an acute exposure Hazard Index of greater than 1.0. This is because total chlorine and chloride feedrates to a hazardous waste combustor (e.g., commercial incinerator) can vary substantially over time. Although a source may remain in compliance with a feedrate limit with a long-term averaging period (e.g., 12-hour, monthly, or annual) based on the chronic Hazard Index, the source could feed chlorine during short periods of time that substantially exceed the long-term feedrate limit. This could result potentially in emissions that exceed the one-hour (i.e., acute exposure) Hazard Index. Consequently, we discussed at proposal the need to establish both short-term and long-term total chlorine and chloride feedrate limits to ensure that neither the chronic exposure nor the acute exposure Hazard Index exceeds 1.0.[181]

We conclude that 1-hour Reference Exposure Levels (aRELs) are a more appropriate health threshold metric than AEGL–1 values for hazardous waste combustors given that the acute Hazard Index limit of 1.0 may be exceeded multiple times over an individual's lifetime, albeit resulting from uncontrollable factors. The California Office of Health Hazard Assessment has developed acute health threshold levels that are intended to be protective for greater than once in a lifetime exposures. The acute exposure levels are called acute Reference Exposure Levels and are available at *http://www.oehha.ca.gov/air/acute_rels/acuterel.html.*

The 1-hour REL values for hydrogen chloride and chlorine are 2.1 mg/m^3 and 0.21 mg/m^3, respectively. The AEGL–1 values for hydrogen chloride and chlorine are 2.7 mg/m^3 and 1.4 mg/m^3, respectively. Although there is little difference between the 1-hour REL and AEGL–1 values for hydrogen chloride, the 1-hour REL for chlorine is substantially lower than the AEGL–1 value.

In summary, we believe that aRELs are a more appropriate health threshold metric than AEGL–1 values for establishing health-based compliance alternatives for hazardous waste combustors because aRELs are ''no adverse effect'' threshold levels that are intended to be protective for multiple exposures.

Comment: One commenter states that the health-based compliance alternative is unlawful because the proposal does not address ecological risks that may result from uncontrolled HAP emissions, including risks posed to those areas where few people currently live, but sensitive habitats exist.

Response: An ecological assessment is normally required under CAA section 112(d)(4) to assess the presence or absence of ''adverse environmental effects'' as that term is defined in CAA section 112(a)(7). To identify potential multimedia and/or environmental concerns, EPA has identified HAP with significant potential to persist in the environment and to bioaccumulate. This list does not include hydrogen chloride or chlorine.

We also note that health-based total chlorine emission limits for incinerators, cement kilns, and lightweight aggregate kilns cannot be higher than the current Interim Standards. See § 63.1215(b)(7). Thus, the ecological risk from total chlorine emissions from these sources will not be increased under the health-based limits.

In addition, we note that only 2 of 12 solid fuel boilers have total chlorine emissions higher than 180 ppmv, and only 1 liquid fuel boiler has emissions higher than 170 ppmv. Thus, boilers generally have low total chlorine emissions which would minimize ecological risk.

Consequently, we do not believe that emissions of hydrogen chloride or chlorine from hazardous waste boilers will pose a significant risk to the environment, and facilities attempting to comply with the health-based

[181] Note that we conclude for the final rule that most sources are not likely to exceed the acute Hazard Index because they will establish a 12-hour rolling average chlorine feedrate limit and their chlorine feedrates are not likely to vary substantially over that averaging period. Thus, we believe that most sources will not be required to establish an hourly rolling average chlorine feedrate limit. The owner/operator must determine whether the hourly rolling average chloride feedrate limit can be waived under § 63.1215(d).

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alternatives for these HAP are not required to perform an ecological assessment.

B. Implementation of the Health-Based Standards

Comment: Several commenters are concerned that the health-based compliance alternative will place an intensive resource demand on state and local agencies to review and approve facilities' eligibility demonstrations, and State and local agencies may not have adequate expertise to review and approve the demonstrations. One commenter states that permitting authorities do not have the expertise to review eligibility demonstrations that are based on procedures other than those included in EPA's Reference Library, as would be allowed. The commenter also states that, if the health-based compliance alternative is promulgated, EPA should establish one standard method for the analyses so there is consistency nationwide. If EPA offers more than one method, EPA should do all of the risk assessment reviews, instead of passing the responsibility, without clear direction, to the permitting authorities, according to the commenter.

Response: The health-based compliance alternatives for total chlorine that EPA has adopted in the final rule should not impose significant resource burdens on states. The required compliance demonstration methodology is structured in such a way as to avoid the need for states to have significant expertise in risk assessment methodology. We have considered the commenters' concerns in developing the criteria defining eligibility for these compliance alternatives, and the approach that is included in the final rule provides clear, flexible requirements and enforceable compliance parameters. The final rule provides two ways that a facility may demonstrate eligibility for complying with the health-based compliance alternatives. First, look-up tables allow facilities to determine, using a limited number of site-specific input parameters, whether emissions from their sources might cause the Hazard Index limit to be exceeded. Second, if a facility cannot demonstrate eligibility using a look-up table, a modeling approach can be followed. The final rule presents the criteria for performing this modeling.

Only a portion of hazardous waste combustors will submit eligibility demonstrations for the health-based compliance alternatives. Of these sources, several should be able to demonstrate eligibility based on simple analyses—using the look-up tables. However, some facilities will require more detailed modeling. The criteria for demonstrating eligibility for the compliance alternatives are clearly defined in the final rule. Moreover, under authority of RCRA section 3005(c)(3), multi-pathway risk assessments will typically have already been completed for many hazardous waste combustors to document that emissions of toxic compounds, including total chlorine, do not pose a hazard to human health and the environment. Thus, state permitting officials have already reviewed and approved detailed modeling studies for many hazardous waste combustors. The results of these studies could be applied to the eligibility demonstration required by this final rule.

Because these requirements are clearly defined, and because any standards or requirements created under CAA section 112 are considered applicable requirements under 40 CFR part 70, the compliance alternatives would be incorporated into title V programs, and states would not have to overhaul existing permitting programs.

Finally, with respect to the burden associated with ongoing assurance that facilities that opt to do so continue to comply with the health-based compliance alternatives, the burden to states will be minimal. In accordance with the provisions of title V of the CAA and part 70 of 40 CFR (collectively ''title V''), the owner or operator of any affected source opting to comply with the health-based compliance alternatives is required to certify compliance with those standards every five years on the anniversary of the comprehensive performance test. In addition, if the facility has reason to know of changes over which the facility does not have control, and these changes could decrease the allowable HCl-equivalent emission rate limit, the facility must submit a revised eligibility demonstration. Further, before changing key parameters that may impact an affected source's ability to continue to meet the health-based emission standards, the source is required to evaluate its ability to continue to comply with the health-based compliance alternatives and submit documentation to the permitting authority supporting continued eligibility for the compliance alternative. Thus, compliance requirements are largely self-implementing and the burden on states will be minimal.

Comment: One commenter suggests that the look-up tables would have more utility if EPA developed tables for each source category to ensure the HCl-equivalent emission rate limits reflected stack parameters representative of each source category. Similarly, another commenter notes that a look-up table designed to be applicable to all hazardous waste combustors is very conservative and will have limited utility. This commenter does not suggest that EPA develop look-up tables for each class of hazardous waste combustors, however. Rather, the commenter suggests that since look-up tables have already been developed for industrial boilers that do not burn hazardous waste [182] hazardous waste combustors should be allowed to use those look-up tables instead of the look-up tables proposed for hazardous waste combustors.

Response: We noted at proposal that the emission rates provided in the look-up table for hazardous waste combustors are more stringent than those promulgated for solid fuel industrial boilers that do not burn hazardous waste. This is because the key parameters used by the SCREEN3 atmospheric dispersion model (i.e., stack diameter, stack exit gas velocity, and stack exit gas temperature) to predict the normalized air concentrations that EPA used to establish HCl-equivalent emission rates for solid fuel industrial boilers that do not burn hazardous waste are substantially different for hazardous waste combustors. Thus, the maximum HCl-equivalent emission rates for hazardous waste combustors would generally be lower than those EPA established for solid fuel industrial boilers that do not burn hazardous waste.

Nonetheless, we agree with the commenter's concerns that the look-up tables would have more utility if they better reflected the range of stack properties representative of hazardous waste combustors. Accordingly, we examined the stack parameters for all hazardous waste-burning sources in our data base (except for hydrochloric acid production furnaces that are not eligible for the health-based emission standards). After analyzing the relationships among the various stack parameters (i.e., stack height, stack diameter, stack gas exhaust volume, and exit temperature), we concluded that the look-up table should be modified to treat both stack diameter and stack height as independent variables rather than relying on stack height alone.

We developed separate tables for short-term (i.e., 1-hour) HCl-equivalent

[182] See Table 2 of Appendix A to Subpart DDDDD, Part 63.

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emissions limits to protect against acute health effects and long-term (i.e., annual) emission limits to protect against chronic effects from exposures to chlorine and hydrogen chloride. As discussed above, we used the acute Reference Exposure Level (aREL) developed by Cal-EPA as the benchmark for acute health effects. We used EPA's Reference Concentrations (RfC) as the benchmark for chronic health effects from exposures occurring over a lifetime.

Emission limits in the look-up table are expressed in terms of HCl-toxicity equivalent emission rates (lbs/hr). To convert your total chlorine emission rate (lb/hr) to an HCl-equivalent emission rate, you must adjust your chlorine emission rate by a multiplicative factor representing the ratio of the HCl health risk benchmark to the chlorine health risk benchmark. For 1-hour average HCl-equivalent emission rates, the ratio is the ratio of the aREL for HCl (2100 micrograms per cubic meter) to the aREL for chlorine (210 micrograms per cubic meter), or a factor of 10.[183] For annual average emissions, the ratio is the ratio of the RfC for HCl (20 micrograms per cubic meter) to the RfC of chlorine (0.2 micrograms per cubic meter), or a factor of 100. See § 63.1215(b).

We used the SCREEN3 air dispersion model to develop the emission limits in the look-up tables. SCREEN3 is a screening model that estimates air concentrations under a wide variety of meteorological conditions in order to identify the meteorological conditions under which the highest ambient air concentrations are likely to occur and what the magnitude of the ambient air concentrations are likely to be. The SCREEN3 model implements the procedures in EPA's ''Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised'' (EPA–454/R–92–019, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, October 1992). Included are options for estimating ambient air concentrations in simple elevated terrain and complex terrain. Simple elevated terrain refers to terrain elevations below stack top. We did not use the complex terrain option in the development of the look-up tables because of the site-specific nature of plume impacts in areas of complex terrain. Therefore, the look-up tables cannot be used in areas of complex terrain (which we define generally as terrain that rises above stack top). Sources located in complex terrain (i.e., as a practical matter, sources other than those that are located in flat or simple elevated terrain as discussed below and thus cannot use the look-up tables) must use site-specific modeling procedures to establish HCl-equivalent emission rates.

We looked at two generic terrain scenarios for purposes of the look-up table. In one we assumed the terrain rises at a rate of 5 meters for every 100 meter run (i.e., a slope of 5 percent) and that terrain is ''chopped off'' above stack top (following the convention for such analyses in simple elevated terrain). In the other we assumed flat terrain. As can be seen from the tables in § 63.1215, the emission limits with flat terrain are significantly higher than those with simple elevated terrain. To reasonably ensure that the emission limits are not substantially over-stated (e.g., by a factor of 2), the simple elevated terrain table must be used whenever terrain rises to an elevation of one half (½) the stack height within a distance of 50 stack heights.

For both the simple elevated terrain and flat terrain scenarios, we performed model runs for urban and rural dispersion conditions, with and without building downwash. We selected the highest (ambient air concentration) values at each distance from among the four runs for each of the terrain scenarios.

As can be seen from the tables in § 63.1215, the HCl-equivalent emission rate limits range from 0.13 pounds per hour on an annual average (for a 0.3 meter diameter stack that is 5 meters tall that lies within 30 meters of the property boundary) to 340 pounds per hour (for a 4.0 meter diameter stack that is 100 meters tall that lies 5000 meters from the property boundary) when located in simple elevated terrain. In flat terrain, the range is from 0.37 to 1100 pounds per hour on an annual average. This contrasts with the look-up table at proposal, where the comparable range was from 0.0612 pounds per hour (for a 5 meter stack height at a distance of 30 meters) to a maximum of 18 pounds per hour (for stack heights of 50 meters or greater, at distances of 500 meters or greater).

If you have more than one hazardous waste combustor on site, the sum of the ratios for all combustors of the HCl-equivalent emission rate to the HCl-equivalent emission rate limit cannot exceed 1.0. See § 63.1215 (c)(3)(v). This will ensure that the Hazard Index of 1.0 is not exceeded considering emissions from all on-site combustors.

Comment: Several commenters state that facilities should be allowed to establish an averaging period for the total chlorine and chloride feedrate limit that is shorter than an annual rolling average. Commenters are referring to the feedrate limit to ensure compliance with the annual average HCl-equivalent emission rate limit. Commenters are concerned with the data handling issues that could arise from calculating, recording, and reporting an annual rolling average feedrate level that is updated hourly, and note that a shorter averaging period would make the limit more stringent.

Response: We agree with commenters, and conclude, moreover, that a 12-hour averaging period rather than an annual averaging period will be imposed on the vast majority of sources as a practical matter. This is because sources must establish a limit on the feedrate of total chlorine and chloride to ensure compliance with the semivolatile metals emission standards. See § 63.1209(n). The feedrate limit for total chlorine and chloride is established under § 63.1209(n) as the average of the hourly rolling averages for each test run, and the averaging period is 12 hours. Thus, the averaging period for the feedrate limit for semivolatile metals—12-hour rolling average updated hourly—trumps the annual rolling average averaging period that would otherwise apply here.[184]

Sources may also demonstrate compliance with the semivolatile metals standard by assuming all semivolatile metals in feedstreams are emitted. See § 63.1207(m)(2). Sources that do not have emission control equipment, such as most liquid fuel boilers, are particularly likely to use this approach. Under this approach, there is no concern regarding increased volatility of metals as chlorine feedrates increase, and such sources are not subject to a feedrate limit for chlorine for compliance assurance with the semivolatile metal standard. These sources may establish an averaging period for the feedrate of total chlorine and chloride for compliance with the health-based compliance alternative for total chlorine of not to exceed one year.[185]

[183] We note that this factor of 10 ratio of the aRELs of HCl to chlorine is based on current aREL values and is subject to change. You must use current aREL (and RfC) values when you conduct your eligibility demonstration. See § 63.1215(b)(4 and 5).

[184] To also ensure compliance with the annual average HCl-equivalent emission rate limit, however, the numerical value of the feedrate limit established during the semivolatile metals performance test cannot exceed the value calculated as the annual average HCl-equivalent emission rate limit divided by [1 − system removal efficiency], where you demonstrate the total chlorine system removal efficiency during the comprehensive performance test.

[185] We note that we have also applied this ''not-to-exceed'' approach to establishing the duration of

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Comment: Several commenters offered suggestions on whether a short-term feedrate limit was needed for total chlorine and chloride (*i.e.*, chlorine) as EPA suggested, and if EPA continues to consider it necessary, how the limit should be established.

One commenter states that it is not necessary to set short-term limits for chlorine feedrates. If EPA concludes that short-term limits are necessary, however, the commenter recommended these options: (1) Cap the feedrate at a level that is extrapolated up to the feedrate associated with Interim Standard for incinerators; (2) if the facility uses the site-specific option to set emission limits, the dispersion models can easily be used to set a 1-hour (or longer) limit; and (3) if the facility uses the look up table (which at proposal provided only annual average HCl-equivalent emission rate limits), a short-term limit can be set based on a multiplier of the annual limit'10 times the annual limit as recommended by documents in EPA's Air Toxics Risk Assessment Reference Library.

Another commenter states that, if EPA were to promulgate a short-term feedrate limit, the EPA-endorsed factor of 0.08 employed to translate maximum hourly concentrations to annual concentrations could be used to identify the maximum hourly feedrate limit.

Finally, another commenter states that extrapolation of the chlorine feedrate (from the level during the comprehensive performance test when the source documents compliance with the annual average HCl-equivalent emission rate limit) should be allowed to 100% of the 1-hour average HCl-equivalent emission rate limit because numerous safety factors have already been included in the health risk threshold values, look-up tables, and modeling demonstration.

Response: At proposal, we explained that sources would establish an annual average feedrate limit on chlorine as the feedrate level during the comprehensive performance test demonstrating compliance with the annual average HCl-equivalent emission rate limit. [186] Only long-term exposures—maximum annual average exposures—need be considered when confirming that the chlorine feedrate during the comprehensive performance test (i.e., average of the hourly rolling averages for each run) is acceptable because the annual exposure Hazard Index limit (i.e., not to exceed 1.0) would always be exceeded before the 1-hour Hazard Index limit (i.e., not to exceed 1.0). Thus, the feedrate limit associated with annual exposures would always be more stringent than the feedrate limit associated with 1-hour exposures. See 69 FR at 21299.

We further explained at proposal, however, the need to establish a short-term feedrate limit for chlorine to ensure that the 1-hour HCl-equivalent emission rate did not exceed the 1-hour average HCl-equivalent emission rate limit due to variability in the chlorine feedrate during the annual averaging period for the feedrate limit. We requested comment on approaches to establish this 1-hour chlorine feedrate limit, including extrapolating feedrates to 100% of the 1-hour average HCl-equivalent emission rate limit. See 69 FR at 21304.

In the final rule we have corrected and refined these procedures. The final rule requires you to establish a long-term chlorine feedrate limit to maintain compliance with the annual average HCl-equivalent emission rate limit as either: (1) The chlorine feedrate during the comprehensive performance test if you demonstrate compliance with the semivolatile metals emission standard during the test (see § 63.1209(o)); or (2) if you comply with the semivolatile metals emission standard under § 63.1207(m)(2) by assuming all metals in the feed to the combustor are emitted, the annual average HCl-equivalent emission rate limit divided by [1 − system removal efficiency] where you demonstrate the system removal efficiency during the comprehensive performance test. See discussion in Part Two, Section IX.H, of this preamble. If you establish the chlorine feedrate limit based on the feedrate during the performance test to demonstrate compliance with the semivolatile metals emission standard, the averaging period for the feedrate limit is a 12-hour rolling average. If you establish the chlorine feedrate limit based on the system removal efficiency during the performance test, the averaging period is up to an annual rolling average.

The final rule also requires you to establish an hourly rolling average chlorine feedrate limit if you determine under § 63.1215(d)(3) that the 1-hour average HCl-equivalent emission rate limit may be exceeded. That feedrate limit is established as the 1-hour HCl-equivalent emission rate limit divided by [1 − system removal efficiency].

Under § 63.1215(d)(3), you must establish an hourly rolling average chlorine feedrate limit unless you determine considering specified criteria that your chlorine feedrates will not increase over the averaging period for the long-term chlorine feedrate limit (*i.e.*, 12-hour rolling average or (up to) annual rolling average) to a level that may result in an exceedance of the 1-hour average HCl-equivalent emission rate limit. The criteria that you must consider are: (1) The ratio of the 1-hour average HCl-equivalent emission rate based on the total chlorine emission rate you select for each combustor to the 1-hour average HCl-equivalent emission rate limit for the combustor; and (2) the potential for the source to vary chlorine feedrates substantially over the averaging period for the long-term chlorine feedrate limit.

For example, if a source's primary chlorine-bearing feedstreams have a relatively constant chlorine concentration over the averaging period for the chlorine feedrate limit to ensure compliance with the annual average HCl-equivalent emission rate limit (*e.g.*, generally 12-hours), as may be the case for commercial sources feeding from large burn tanks or on-site sources where chlorine levels in wastes are fairly constant, you may conclude that there is little probability that 1-hour feedrates would vary substantially over the averaging period. Thus, a 1-hour rolling average chlorine feedrate limit may not be warranted. Even if chlorine feedrates could vary substantially over the long-term feedrate averaging period, however, an hourly rolling average feedrate limit still may not be warranted if the source's 1-hour average HCl-equivalent emission rate is well below the 1-hour HCl-equivalent emission rate limit. See Part Two, Section IX.H, of this preamble for a discussion of the relationship between emission rates, emission rate limits, and feedrate limits.

We disagree with the commenter who states that short-term chlorine feedrate limits are not necessary. The 1-hour average HCl-equivalent emission rate limit could potentially be exceeded for sources with highly variable chlorine feedrates and where the 1-hour HCl-equivalent emission rate is relatively high compared to the 1-hour HCl-equivalent emission rate limit. The 1-hour average HCl-equivalent emission rate limit could be exceeded even though the source remains in compliance with the annual average HCl-equivalent emission rate limit (and,

averaging periods for the limits on all operating parameters established under § 63.1209. See new § 63.1209(r) and USEPA, ''Final Technical Support Document for HWC MACT Standards, Volume IV: Compliance with HWC MACT Standards, September 2005, Section 2.4.6.

[186] We discussed at proposal that the feedrate limit to ensure compliance with the long-term Hazard Index limit of not to exceed 1.0 would be the average of the hourly rolling averages for each test run, with compliance based on an annual average. Note that, under the final rule however, the long-term chlorine feedrate limit is established as the annual average HCl-equivalent emission rate limit divided by [1 − system removal efficiency]. See § 63.1215(g)(2).

moreover, the 12-hour rolling average or (up to) annual rolling average chlorine feedrate limit).

We agree with commenters that suggest that the hourly rolling average chlorine feedrate limit should be extrapolated from performance test feedrates up to 100% of the 1-hour average HCl-equivalent emission rate limit. The final rule requires you to establish the hourly rolling average feedrate limit (if a limit is required under § 63.1215(d)(3)) as the 1-hour HCl-equivalent emission rate limit divided by [1 − system removal efficiency]. Establishing the hourly rolling average feedrate in this manner ensures that the 1-hour HCl-equivalent emission rate limit is not exceeded, and thus that the aREL-based Hazard Index of 1.0 is not exceeded.

We also agree in principle with commenters that suggest that the hourly rolling average feedrate limit be based on the 1-hour average HCl-equivalent emission rate limit which is based on emissions modeling. These commenters suggested that we use a multiplier of 10 or 12.5 (*i.e.*, 1/0.08) to project 1-hour average HCl-equivalent emission rate limits from the annual average HCl-equivalent emission rate limits. Rather than use these approaches to project 1-hour average emissions from annual average emissions, however, we use emissions modeling to develop look-up tables for both 1-hour average HCl-equivalent emission rate limits and annual average HCl-equivalent emission rate limits. For sources that use site-specific risk assessment to demonstrate eligibility, they will use the same models to estimate 1-hour average maximum ambient concentrations. Thus, the final rule uses modeling to establish directly 1-hour average HCl-equivalent emission rate limits rather than approximating those limits from annual average HCl-equivalent emission rate limits as commenters suggest. In summary, the final rule requires you to establish the 1-hour average HCl-equivalent emission rate limit by either using Tables 3 or 4 in § 63.1215 to look-up the limit, or conducting a site-specific risk analysis. Under the site-specific risk analysis option, the 1-hour average HCl-equivalent emission rate limit would be the highest emission rate that the risk assessment estimates would result in an aREL-based Hazard Index not exceeding 1.0 at any off-site receptor location.

We do not agree that the short-term feedrate limit should be capped at the level corresponding to the Interim Standards for incinerators, cement kilns, and lightweight aggregate kilns. The final rule caps the total chlorine emission rate and the annual average HCl-equivalent emission rate limit at the level equivalent to the Interim Standard for total chlorine. Thus, the long-term chlorine feedrate limit (12-hour rolling average or (up to) an annual rolling average) is capped at the level corresponding to the Interim Standards for incinerators, cement kilns, and lightweight aggregate kilns. The hourly rolling average feedrate limit to maintain compliance with the 1-hour average HCl-equivalent emission rate limit, however, can exceed the numerical value of the long-term chlorine feedrate limit because the 1-hour average HCl-equivalent emission rate limit is substantially higher than the annual average HCl-equivalent emission rate limit. Thus, capping at the interim standard level is inappropriate unless the interim standard were somehow re-expressed as a 1-hour limit.

Comment: Many commenters state that requiring prior approval of the eligibility demonstration would be unworkable. Commenters are concerned that the permitting authority may not approve the demonstration prior to the compliance date even though the source has submitted complete and accurate information and has responded to any requests for additional information in good faith. Commenters are also concerned that the permitting authority may disapprove the demonstration too late for the source to take other measures to comply with the total chlorine MACT standard. Once commenter recommends the following alternative approach: (1) If the regulatory agency does not act on a risk demonstration within the 6-month period, it is conditionally deemed approved; and (2) if a risk demonstration is disapproved, the source would have to comply with the MACT emission standards no later than three years after notice of disapproval and, in the interim, sources would comply with current emission limits for total chlorine.

Another commenter suggests that, if the permitting authority has neither approved nor disapproved the eligibility demonstration by the compliance date, the source may begin complying on the compliance date with the alternative health-based limits specified in the eligibility demonstration.

Finally, another commenter states that facilities should be granted a three-year extension of the compliance date if the Agency denies a good-faith eligibility demonstration. The commenter is concerned that sources will not have time to install additional controls or take other measures after a denial is issued but prior to the compliance date.

Response: We agree with commenters that requiring prior approval of the eligibility demonstration may be unworkable for the reasons commenters suggest. We also agree with commenters that sources who make a good-faith eligibility demonstration but whose demonstration is denied by the permitting authority may need additional time to install controls or take other measures to comply with the MACT emission standards.

Accordingly, the final rule does not require prior approval of the eligibility demonstration for existing sources. If your permitting authority has not approved your eligibility demonstration by the compliance date, and has not issued a notice of intent to disapprove your demonstration, you may nonetheless begin complying, on the compliance date, with the HCl-equivalent emission rate limits and associated chlorine feedrate limits you present in your eligibility demonstration.

In addition, the final rule states that the permitting authority should notify you of approval or intent to disapprove your eligibility demonstration within 6 months after receipt of the original demonstration, and within 3 months after receipt of any supplemental information that you submit. A notice of intent to disapprove your eligibility demonstration, whether before or after the compliance date, will identify incomplete or inaccurate information or noncompliance with prescribed procedures and specify how much time you will have to submit additional information or comply with the total chlorine MACT standards. The permitting authority may extend the compliance date of the total chlorine MACT standards to allow you to make changes to the design or operation of the combustor or related systems as quickly as practicable to enable you to achieve compliance with the total chlorine MACT standards.

Comment: One commenter states that proposed § 63.1215(f)(1)(A) should have required sources to conduct a new comprehensive performance test only if there are changes that would decrease the HCl-equivalent emission rate limit below the HCl-equivalent emission rate demonstrated during the comprehensive performance test. Similarly, the commenter suggests that a retest should not be required if a change increases the HCl-equivalent emission rate limit but the source elects to maintain the current feedrate limit.

Another commenter states that the Agency should clarify that if there are any changes that are not controlled by the facility owner/operator, and the

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facility is required to change its design or operation to lower chlorine emissions to address the changes, the facility may request up to three years to make such changes.

Response: We generally agree with the commenters and have revised the rule as follows: (1) A new comprehensive performance test is required to reestablish the system removal efficiency for total chlorine only if you change the design, operation, or maintenance of the source in a manner that may decrease the system removal efficiency (e.g., the emission control system is modified in a manner than may decrease total chlorine removal efficiency); and (2) if you use the site-specific risk analysis option for your eligibility demonstration and changes beyond your control (e.g., off-site receptors newly residing or congregating at locations exposed to higher ambient levels than originally estimated) dictate a lower HCl-equivalent emission rate limit and you must make changes to the design, operation, or maintenance of the combustor or related systems to comply with the lower limit, you may request that the permitting authority grant you additional time to make those changes as quickly as practicable.

Comment: Several commenters state that the proposed approach for calculating chlorine emissions to address the potential bias using Method 26/26A attributable to high bromine or sulfur levels in feedstreams is not statistically valid. They indicate that the approach could lead to collection of total chlorine, hydrogen chloride and chlorine data that are contradictory and difficult to apply in a compliance situation. One commenter suggests that using Method 26/26A results for sources with bromine and sulfur dioxide, while recognizing that there is bias in the sampling method, will result in a valid compliance approach.

Response: We agree with commenters that the proposed approach to avoid the bias when feedstreams contain high levels of bromine or sulfur (bromine/chlorine ratio in feedstreams of greater than 5 percent, or sulfur/chlorine ratio in feedstreams of greater than 50 percent) during the comprehensive performance test may be problematic. The proposed approach would have required you to use Method 320/321 or ASTM D 6735–01 for hydrogen chloride measurements, to use Method 26/26A for total chlorine (i.e., hydrogen chloride and chlorine combined) measurements, and to calculate chlorine levels by difference. The potential problem is that chlorine emission levels are generally a very small portion of total chlorine measurements, and variability in the hydrogen chloride or total chlorine measurements due to method imprecision or other factors could result in inaccurate estimations of chlorine emission levels.

We do not agree, however, that using Method 26/26A for chlorine measurements for combustors feeding high levels of bromine or sulfur is acceptable–the chlorine measurement may be biased low. Chlorine emission levels must be determined as accurately as possible given that the long-term health threshold for chlorine is 100 times the threshold for HCl, and the short-term health threshold for chlorine is 10 times the threshold for HCl (i.e., using current RfCs and aRELs). To ensure that a conservative estimate of the chlorine emission rate is used to establish the alternative health-based emission limits and to address commenters' concerns, the final rule requires that you determine chlorine emissions to be the higher of: (1) The chlorine value measured by Method 26/26A, or an equivalent method; or (2) the chlorine value calculated by difference between the combined hydrogen chloride and chlorine levels measured by Method 26/26A, or an equivalent method, and the hydrogen chloride measurement from EPA Method 320/321 or ASTM D 6735–01, or an equivalent method.

Comment: Several commenters state the procedures for calculating HCl-equivalent emission rates cannot merely reference an outside source, such as a Web site, unless that reference specifies that the contents of the source are as of a date certain. To specify use of health threshold values that can change over time provides inadequate opportunity for notice and comment on the regulation.

Response: We believe that the best available sources of health effects information should be used for risk or hazard determinations. To assist us in identifying the most scientifically appropriate toxicity values for our analyses and decisions, the Web site to be used for RfCs identifies pertinent toxicity values using a default hierarchy of sources, with EPA's Integrated Risk Information System (IRIS) being the preferred source. The IRIS process contains internal and external peer review steps and IRIS toxicity values represent EPA consensus values. When adequate toxicity information is not available in IRIS, however, we consult other sources in a default hierarchy that recognizes the desirability of these qualities in ensuring that we have consistent and scientifically sound assessments. Furthermore, where the IRIS assessment substantially lags the current scientific knowledge, we have committed to consider alternative credible and readily available assessments (e.g., the acute Relative Exposure Levels established by the California Office of Health Hazard Assessment). For our use, these alternatives need to be grounded in publicly available, peer-reviewed information. We agree with the commenter that the issue of changing toxicity values is a general challenge in setting health-based regulations. However, we are committed to establishing such regulations that reflect current scientific understanding, to the extent feasible.

C. National Health-Based Standards for Cement Kilns

Comment: One commenter states that our suggestion at proposal that it would be appropriate to establish a single national emission rate type standard applicable to all cement kilns based on the worst-case scenario cement kiln is unduly burdensome as it discounts the benefits of improved dispersion realized by facilities that have invested in taller stacks that minimize downwash effects. The commenter recommends a dual limit for cement kilns such that the HCl equivalent emission rate is limited to both: (1) A 130 ppmv total chlorine emission standard (the Interim Standard) coupled with a chlorine feedrate limit based on a 12-hour rolling average; and (2) a Hazard Index of 1.0.

Response: We have decided not to include a separate national standard for cement kilns in the final rule for several reasons: (1) We have no assurance that the Cl_2/HCl volumetric ratio exhibited during the most recent compliance test, and that was the basis for the commenter documenting in a study [187] that the Hazard Index of 1.0[188] was not exceeded, is representative of ratios in the past or future; (2) the commenter's recommended emission standard for cement kilns—130 ppmv total chlorine emission limit and a Hazard Index of 1.0—is equivalent to the requirements under § 63.1215 applicable to other hazardous waste combustors to establish site-specific emission limits; (3) the MACT standard for total chlorine for cement kilns is 120 ppmv such that the health-based standard that the commenter recommends—130 ppmv,

[187] See Trinity Consultants, ''Analysis of HCl/Cl2 Emissions from Cement Kilns for 112(d)(4) Consideration in the HWC MACT Replacement Standards,'' September 17, 2003.

[188] The HCl/Cl_2 ratio for the total chlorine measurement is important because the current RfC for chlorine is 0.2 μg/m³ while the current RfC for HCl is 20 μg/m³. Thus, when calculating HCl-equivalent emission rate limits, chlorine emissions are currently multiplied by a factor of 100.

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the Interim Standard—would provide little compliance relief; and (4) even though the final rule does not provide a separate national health-based standard for cement kilns, cement kilns may apply for the health-based compliance alternatives applicable to other hazardous waste combustors.

Prior to publication of the proposed rule, the commenter submitted results of site-specific risk assessments for all cement kiln facilities showing that both the long-term and short term Hazard Index of 1.0 would not be exceeded at any facility assuming: (1) Sources emit total chlorine at the Interim Standard level of 130 ppmv; and (2) total chlorine emissions are apportioned between HCl and chlorine according to the apportionment exhibited during the most recent compliance test.

At proposal, we requested comment on how to ensure that the 130 ppmv concentration-based standard would ensure that total chlorine emission rates (lb/hr) would not increase to levels that may exceed the Hazard Index limit of 1.0 given that: (1) The partitioning ratio between HCl and chlorine could change over time such that a larger fraction of total chlorine could be emitted as chlorine, which has a much lower health risk threshold; and (2) the mass emission rate of total chlorine could increase. See 69 FR at 21306.

The commenter has addressed the concern about the mass emission rate of total chlorine potentially increasing by suggesting that the health-based standard include a limit on the feedrate of total chlorine and chloride at the level used in their risk assessment supporting a separate national standard for cement kilns. The commenter has also addressed the concern about the HCl and chlorine apportionment ratio changing over time by suggesting that the standard also include a requirement that the Hazard Index of 1.0 not be exceeded. We agree that sources need to account for variability in the chlorine to HCl ratio (see § 63.1215(b)(6)) and that periodic checks to ensure that the Hazard Index of 1.0 is not exceeded are needed. We believe the best way to ensure that the health-based compliance alternatives for total chlorine for cement kilns are protective with an ample margin of safety is through the procedures of § 63.1215 where site-specific emission rate limits are established rather than under a separate national standard for cement kilns.

VIII. Implementation and Compliance

A. Compliance Assurance Issues for both Fabric Filters and Electrostatic Precipitators (and Ionizing Wet Scrubbers)

1. Implementation Issues

Comment: Several commenters state that design and performance specifications and explicit detailed test procedures to determine conformance with the specifications are needed so that manufacturers can certify that their bag leak detection systems and particulate matter detection systems meet applicable criteria. Absent design and performance specifications and test procedures, commenters assert that the ''manufacturer's certification'' cannot ensure the performance capabilities of the devices.

Response: In general, we believe adherence to manufacturer's written specifications and recommendations is an appropriate approach to reasonably ensure performance of a bag leak detection system or particulate matter detection system, and we have retained that provision in the final rule. We agree, however, that there may be cases where other procedures are more appropriate than the manufacturer's recommendations to ensure performance of a bag leak detection system or particulate matter detection system. Consequently, the rule allows you to request approval for alternative monitoring procedures under § 63.1209(g)(1).[189] We note that you may use references other than EPA's Guidance Document, ''Fabric Filter Bag Leak Detection Guidance,'' September 1997 to identify appropriate performance specifications for the bag leak detection system or particulate matter detection system, including: PS–11 for PM CEMS; PS–1 for opacity monitors; and CPS–001 for opacity monitoring below 10% opacity. You may use these references to support your request for additions to, or deviations from, manufacturer's specifications.

Comment: One commenter states that bag leak detection systems and particulate matter detection systems should have a detection limit of 1.0 mg/acm to ensure peak performance is maintained rather than explicitly allowing sources to request approval for a detection limit on a site-specific basis as the rule currently allows. Several other commenters state that the bag leak detection system or particulate matter detection system need not have a detection limit as low as 1.0 mg/acm to detect increases in normal emissions. One commenter believes that bag leak detection systems installed on cement kilns should be allowed to have a detection limit of 10 mg/acm because: (1) A detection limit requirement of 10 mg/acm is more than sufficient to protect the particulate matter emission limit and to detect increases in particulate matter concentration given that the current particulate matter emission limit for existing kilns is 63 mg/dscm; (2) a detection limit requirement of 10 mg/acm is consistent with the requirement for bag leak detection systems in Subpart LLL, Part 63, for cement plants that choose to install bag leak detection systems on finish mills and raw mills, for bag leak detection systems and particulate matter detection systems installed on lime kilns under Subpart AAAAAA, and for industrial boilers under Subpart DDDDD; (3) a 10 mg/acm detection limit is achievable using state-of-the-art transmissometers (the actual instrument used in a continuous opacity monitoring system (COMS) at cement plants having kiln stack diameters of 2–3 meters, or greater; and (4) it is unclear if any bag leak detection system device can actually be demonstrated to achieve a 1.0 mg/acm detection limit except by extrapolation from tests conducted at higher dust loadings and theoretical arguments based on signal-to-noise ratios or other parameters. This commenter also recommends that EPA establish a 10 mg/am^3 detection limit for all cement kilns rather than provide for site-specific determinations because allowing site-specific determinations is likely to create confusion in the selection of monitoring devices and further complicate the manufacturer's certification of performance requirements.

Response: The current requirement for the bag leak detection system sensitivity/detection limit applicable to incinerators and lightweight aggregate kilns is 1.0 mg/acm unless you demonstrate under § 63.1209(g)(1) that a lower sensitivity (i.e., higher detection limit) would detect bag leaks. We proposed to apply the bag leak detection system requirements to all hazardous waste combustors equipped with fabric filters and promulgate that requirement today. Although we also requested comment whether detection limits higher than 1.0 mg/acm should be allowed, none of the comments has convinced us to alter our view that the rule should allow higher detection limits on a site-specific basis. Similarly,

[189] See discussion in Part Five, Section III.C, for an explanation of how the alternative monitoring provisions of § 63.1209(g)(1) relate to those of § 63.8(f).

we believe that the same detection limit requirement should apply to particulate matter detection systems that you may elect to use for compliance monitoring for your electrostatic precipitator or ionizing wet scrubber in lieu of site-specific operating parameter limits.

Both bag leak detection systems and particulate matter detection systems must be able to detect particulate emission in the range of normal concentrations. For example, to establish the alarm level for the bag leak detection system, you must first adjust detector gain/sensitivity and response time based on normal operations. Although the alarm level for particulate matter detection systems will be established based on operations during the comprehensive performance test or higher (see discussion below), the detector must be responsive within the range of normal operations for you to effectively minimize exceedances of the alarm level.

The range of normal emission concentrations will generally be well below both the particulate matter standard and emissions during the comprehensive performance test. Consequently, we disagree with commenters that believe the detection limit need only be within the range of emissions at the particulate matter emission standard. On the other hand, normal emissions may be well above 1.0 mg/acm such that a higher detection limit (e.g., 10 mg/acm) may be appropriate on a site-specific basis.

We also disagree with the comment that bag leak detection systems (or particulate matter detection systems) may not be able actually to achieve a 1.0 mg/acm detection limit. EPA is aware of bag leak detection system instruments certified to meet levels of 0.2 mg/m^3 and particulate matter detection systems can readily achieve detection limits well below 1.0 mg/acm.[190]

Comment: One commenter states that a continuous opacity monitoring system (COMS) that can achieve a detection level of 10 mg/acm or less can be used to monitor electrostatic precipitator performance. The commenter believes that allowing a COMS for compliance under Subpart EEE is also appropriate because cement kilns will be operating under the requirements of Subpart LLL (for cement kilns that do not burn hazardous waste) at times, which requires compliance with an opacity standard using a COMS.

Response: You may use a COMS (i.e., transmissometer) that meets the detection limit requirement as discussed above (i.e., 1.0 mg/acm or a higher detection limit that you document under an alternative monitoring petition under § 63.1209(g)(1) would routinely detect particulate matter loadings during normal operations) as the detector for your bag leak detection system or particulate matter detection system.

2. Compliance Issues

Comment: One commenter states that, if the bag leak detection system or particulate matter detection system exceeds the alarm level or an operating parameter limit (OPL) is exceeded, the automatic waste feed cutoff (AWFCO) system must be initiated. Allowing a source to exceed the alarm level for 5% of the time in a 6-month period does not ensure continuous compliance.

Response: Although the AWFCO system must be initiated if an OPL is exceeded, we believe that allowing exceedances of the bag leak detection system or particulate matter detection system alarm level up to 5% of the time in a 6-month period is reasonable. Requiring initiation of the AWFCO for an exceedance of an OPL is reasonable because sources generally can control directly the parameter that is limited. Examples are the feedrate of metals or chlorine, or pressure drop across a wet scrubber. Bag leak detection systems and particulate matter detection systems, however, measure mass emissions of particulate matter, a parameter that is affected by many interrelated factors and that is not directly controllable. We believe that the 5 percent alarm rate is a reasonable allowance for sources due to difficult-to-control variations in particulate matter emissions. More important, although the bag leak detection system and particulate matter detection system measure mass emissions of particulate matter, the detector response is not correlated to particulate matter emission concentrations to the extent necessary for compliance monitoring.[191] Thus, triggering the alarm level is not evidence that the particulate matter emission standard has been exceeded.

The purpose of a BLDS or PMDS is to alert the operator that the PM control device is not functioning properly and that corrective measures must be undertaken. We believe that using a BLDS or PMDS for compliance assurance better minimizes emissions of PM (and metal HAP) than use of operating parameter limits (which are linked to the automatic waste feed cutoff system). APCD operating parameters often have an uncertain relationship to PM emissions while the BLDS and PMDS provide real-time information on actual PM mass emission levels.[192]

Comment: One commenter states that requiring a notification if the bag leak detection system or particulate matter detection system set point is exceeded more than 5% of the time in a 6-month period is not cost-effective. Sources using bag leak detection systems have not linked exceedances to the data logging system and would incur an expense to do so.

Response: We continue to believe that limiting the aggregate duration of exceedances in a 6-month period is a reasonable approach to gage the effectiveness of the operation and maintenance procedures for the combustor. We note that recent MACT standards for several other source categories use this approach, including standards for industrial boilers and process heaters and standards for lime kilns.

Comment: One commenter states that EPA did not present a rationale for requiring a notification within 5 working days if the bag leak detection system or particulate matter detection system set point is exceeded more than 5% of the time during a 6-month period. The commenter notes that this notice is not required under the Subpart DDDDD boiler and process heater MACT. The commenter also notes that the source is required to take corrective measures under both the operation and maintenance plan and bag leak detection systems and particulate matter detection systems requirements. The commenter believes that requiring a report to the permitting authority is duplicative, unnecessary, and increases the burden on regulated facilities without providing additional protection to human health or the environment.

Response: If a source exceeds the alarm set point more than 5% of the time in a 6-month period, it is an indication that the operation and maintenance plan may need to be revised. Requiring the source to report the excess exceedances to the permitting

[190] USEPA, ''Technical Support Document for HWC MACT Standards, Volume IV: Compliance with the HWC MACT Standards,'' September 2005, Appendix C, Section 4.0.

[191] Actually, the BLDS is not correlated at all to PM concentrations, and the alarm level for a PMDS may or may not be approximately correlated to PM concentrations. See § 63.1206(c)(9).

[192] Moreover, for FFs, we are not aware of any APCD operating parameters that correlate well with PM emissions. Thus, sources must use a BLDS or PMDS for compliance assurance. For ESPs and IWSs, we are not aware of generic APCD parameters that correlate well with PM emissions. See discussion below in Section VIII.C of the text. Consequently, although the rule allows sources with ESPs and IWSs to establish site-specific operating parameter limits, sources are encouraged to use a PMDS.

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authority serves as a notification that the authority may need to review the operation and maintenance plan with the source to determine if changes are warranted.

We agree with the commenter, however, that it is not necessary to require that the report be submitted within five working days of the end of the 6-month block period. Consequently, the final rule requires you to submit the report within 30 days of the end of the 6-month block period. Allowing 30 days to submit the report rather than 5 days as proposed is reasonable. We are concerned that 5 days may not be enough time to complete the report given that several exceedances toward the end of the 6-month block period may cause you to exceed the 5% time limit and that there may be many individual exceedances that need to be included in the report. We acknowledge that it may take some time to prepare the report given that you must describe the causes of each exceedance and the revisions to the operation and maintenance plan you have made to mitigate the exceedances.

Comment: One commenter notes that there is no guidance on how to calculate when the set-point has been exceeded more than 5 percent of the operating time within a 6 month period. The commenter notes that the MACT for industrial boilers and process heaters provides minimal instruction on how this is to be done, but it is not specific enough to enable facilities to ensure that they are in compliance with this requirement.

Response: For the final rule, we have adopted the procedures specified in the industrial boiler and process heater MACT for calculating the duration of exceedances of the set point. Those procedures are as follows:

1. You must keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken.
2. You must record the percent of the operating time during each 6-month period that the alarm sounds.
3. In calculating the operating time percentage, if inspection of the fabric filter, electrostatic precipitator, or ionizing wet scrubber demonstrates that no corrective action is required, no alarm time is counted.
4. If corrective action is required, each alarm shall be counted as a minimum of 1 hour.

Although the commenter indicates that these procedures are not specific enough to ensure that sources are in compliance with the requirements, the commenter did not indicate the deficiencies or suggest additional requirements. If you need additional guidance on compliance with this provision, you should contact the permitting authority.

Comment: One commenter supports the approach of listing the shutting down of the combustor as a potential—but not mandatory—corrective measure in response to exceeding an alarm set point. Several commenters suggest, however, that EPA should specify that corrective measures could include shutting off the hazardous waste feed rather than shutting down the combustor. Other commenters state that it is inappropriate to imply that shutting down the combustor must be part of a corrective measures program for responding to exceedance of a set point. These commenters believe that the requirement to take corrective action upon the alarm is sufficiently protective. The facility should determine if shutting down the combustor is a necessary response to avoid noncompliance with a standard.

Response: You must operate and maintain the fabric filter, electrostatic precipitator, or ionizing wet scrubber to ensure continuous compliance with the particulate matter, semivolatile metals, and low volatile metals emission standards. Your response to exceeding the alarm set point should depend on whether you may be close to exceeding an operating parameter limit (e.g., ash feedrate limit for an incinerator or liquid fuel boiler equipped with an electrostatic precipitator) or an emission standard. If so, corrective measures should include, as commenters suggest, cutting off the hazardous waste feed. Corrective measures could also include, however, shutting down the combustor as the ultimate immediate corrective measure if an emission standard may otherwise be exceeded. Consequently, the final rule continues to require you to alleviate the cause of the alarm by taking the necessary corrective measure(s) which may include shutting down the combustor. This provision does not imply that shutting down the combustor is the default corrective measure. Rather, it implies that the ultimate immediate response, absent other effective corrective measures, would be to shut down the combustor.

Comment: One commenter states that periods of time when the combustor is operating but the bag leak detection system or particulate matter detection system is malfunctioning should not be considered exceedances of the set-point.

Response: If the bag leak detection system or particulate matter detection system is malfunctioning, the source cannot determine whether it is operating within the alarm set point. Accordingly, it is reasonable to consider periods when the bag leak detection system or particulate matter detection system is malfunctioning as exceedances of the set point.

B. Compliance Assurance Issues for Fabric Filters

Comment: One commenter states that establishing the set point for the bag leak detection system at twice the detector response achieved during bag cleaning as recommended by EPA guidance would not be sensitive enough to detect gradual degradation of the fabric filter, nor would it be low enough to require the operator of the source to take corrective measures that would ensure effective operation of the baghouse over time.

Response: The commenter expresses the same concern that EPA raised at proposal. See 69 FR at 21347. We have concluded, however, that it may be problematic to establish an alarm set point for fabric filters based on operations during the comprehensive performance test. This is because, as noted in earlier responses and at 69 FR at 21233, it is much more difficult to ''detune'' a fabric filter than an electrostatic precipitator to maximize emissions during the performance test.[193] Consequently, emissions from fabric filters that have not been detuned during the performance test may not be representative of the range of normal emissions caused by factors such as bag aging. Baghouse performance degrades over time as bags age. In addition, establishing the alarm set point based on operations during the performance test for baghouses that have not been detuned would establish more stringent compliance requirements on sources that perform the best—the lower the emissions, the lower the alarm set point. This would unfairly penalize the best performing sources.

For these reasons, the final rule requires you to establish the alarm set-point for bag house detection systems using principles provided in USEPA, ''Fabric Filter Bag Leak Detection Guidance,'' (EPA–454/R–98–015, September 1997).

Comment: One commenter states that the bag leak detection system requirement should not apply to the coal mill baghouse for cement kilns with indirect-fired coal mill systems where a fraction of kiln gas is taken

[193] One approach to detune a fabric filter to simulate the extreme high range of normal operations would be to install a butterfly valve that allows a portion of the combustion gas to by-pass a section of the baghouse.

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from the preheater and routed to the coal mill and subsequently to a baghouse before entering the stack. The commenter notes that the PM in this gas is nearly exclusively coal dust, and the baghouse is substantially smaller than the baghouse for the kiln.

Response: We believe that a bag leak detection system is a reasonable approach to monitor emissions for the coal mill baghouse to ensure compliance with the particulate matter (and semivolatile and low volatile metals) emission standards. These systems are inexpensive to install and operate. Annualized costs are approximately $24,000.[194] Although the commenter did not suggest an alternative monitoring approach, and we are not aware of a less expensive and effective approach, we note that sources may petition the permitting authority under § 63.1209(g)(1) to request an alternative monitoring approach.

C. Compliance Issues for Electrostatic Precipitators and Ionizing Wet Scrubbers

Comment: Several commenters believe that a particulate matter detection system may not be necessary for monitoring of electrostatic precipitators and ionizing wet scrubbers. Commenters state that site-specific operating parameter limits linked to the automatic waste feed cutoff system can effectively monitor and ensure the performance of electrostatic precipitators and ionizing wet scrubbers. Particulate matter detection systems on cement kilns would have to operate in a high moisture stack environment (all kilns burning hazardous waste that are equipped with electrostatic precipitators are wet process kilns), with the potential for condensation and/or water droplet interference. Commenters state that when water droplets are present, many of these devices are not applicable.

Response: The final rule provides sources equipped with electrostatic precipitators or ionizing wet scrubbers the alternative of using a particulate matter detection system or establishing site-specific operating parameter limits for compliance assurance. If a particulate matter detection system is used, corrective measures must be taken if the alarm set point is exceeded. If the source elects to establish site-specific operating parameter limits, the limits must be linked to the automatic waste feed cutoff system.

In response to commenters' concern that high moisture stack gas may be problematic for particulate matter detection systems, we note that extractive light-scattering detectors and beta gauge detectors can effectively operate in high moisture environments. We acknowledge, however, that the cost of these extractive detector systems is substantially higher than transmissometers or in situ light-scattering detectors.

Comment: One commenter states that EPA must set minimum total power requirements for both ionizing wet scrubbers and electrostatic precipitators because allowing permit officials to establish compliance operating parameters on a site-specific basis frustrates the intention of the CAA by obviating the requirements for federal standards. The commenter asserts that a minimum total power requirement is monitorable, recordable, and reportable, three requirements that are necessary for these facilities to come into, and remain in compliance with, their Title V operating permits.

Other commenters state that electrostatic devices are not easily characterized by operating parameters in a ''one-size-fits-all'' fashion. The significant operating parameters for electrostatic devices are secondary voltage, secondary current, and secondary power (the product of the first two items). The relationship between these parameters and performance of the unit differ between applications and unit types. For example, inlet field power can increase as unit performance appears to decrease. In this case, an operating parameter other than secondary power by field would be more appropriate. The commenter notes that, in its various proposals over the years, EPA has discussed a number of approaches to establish operating parameter limits for electrostatic devices, including: Minimum total secondary power; minimum secondary power by field; pattern of increasing power from inlet to outlet field; and minimum secondary power of the last ⅓ of fields (or the last field). Commenters have also proposed: minimum specific power (secondary power divided by flue gas flow rate); minimum secondary voltage and/or secondary current; and total secondary voltage and/or secondary current. The commenter concludes that it is not surprising that there is so little agreement on the right approach, because different units and applications respond differently. EPA's proposal to let facilities and local regulators determine the best approach is far wiser than regulating from a distance.

Response: We agree with the commenters that state that it is not practicable to establish operating parameter limits that would effectively ensure performance of all electrostatic devices. Accordingly, the final rule continues to allow sources to establish site-specific operating parameter limits for these devices.

We disagree with the commenter's assertion that site-specific operating parameter limits obviate the requirements for federal standards. The site-specific operating parameter limits merely reflect the truism that no two sources are identical and so what each needs to do to comply with the uniform standards may differ. The final rule provides consistent, federally-enforceable emission standards. Necessary flexibility in compliance assurance for those emission standards does not undermine the uniformity of those standards. In addition, we disagree with the commenter's concern that without a minimum power limit, there will be no monitorable, recordable, and reportable Title V permit limits for electrostatic devices. To the contrary, site-specific operating parameter limits can and will be monitored, recorded, reported, and linked to the automatic waste feed cut-off system. And, if a source elects to use a particulate matter detection system in lieu of establishing site-specific operating parameter limits, the detector response will be monitored, recorded, reported, and linked to requirements to take corrective measures if the alarm set point is exceeded.

Comment: One commenter asserts that the use of electrostatic precipitator total power input data (sum of the product of kilovolts times milliamps for each electrostatic precipitator field) is one acceptable approach as a site-specific parameter to monitor electrostatic precipitator performance. Limits on power input for each field (or particular fields) are not warranted.

Response: A limit on total power input to a multifield electrostatic device is generally not an acceptable operating parameter for compliance assurance. We have documented that when total power input was held constant for a four-field electrostatic precipitator while the power input to the fourth field was decreased, emissions of particulate matter doubled from 0.06 gr/dscf to 0.12 gr/dscf. See 66 FR at 35143 (July 3, 2001). Thus, if the total power input during the comprehensive performance test were used as the operating parameter limit, particulate matter emissions could exceed the emission

[194] USEPA, ''Technical Support Document for HWC MACT Standards, Volume IV: Compliance with the HWC MACT Standards,'' September 2005, Appendix C.

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standard because of changes in other parameters that were not limited even though total power input did not exceed the parametric limit.

Notwithstanding our concern that a limit on total power input to a multifield electrostatic device is generally not an effective operating parameter for compliance assurance, this does not preclude you from documenting to the permitting authority that total power input is an effective compliance assurance parameter for your source. See § 63.1209(m)(1)(iv).

Comment: Several commenters suggest that the rule should offer various approaches to establish an achievable particulate matter detection system alarm level on a site-specific basis in lieu of the approach we proposed (i.e., average detector response during the comprehensive performance test): (1) Use the 2 times the maximum peak height or 3 times the baseline concepts developed in EPA's bag leak detection guidance documents; (2) allow spiking to set the alarm set point given that PS 11 allows for spiking as a way to calibrate PM CEMs; (3) establish the limit as the 99th percentile upper prediction limit of the average response during each performance test run instead of the average of the test run averages; (4) allow upward extrapolation from the average of the test run averages to some percentage of the particulate matter emissions standard (fraction could be variable depending upon how close to the standard the facility is during the compliance test); or (5) set the alarm point at the maximum test run.

Response: We agree with several of the commenters' suggestions: explicitly allowing spiking (and emission control device detuning) during the comprehensive performance test to maximize controllable operating parameters to simulate the full range of normal operations; and upward extrapolation of the detector response. See discussion below.

The final rule is consistent with commenters' suggestion to establish the alarm level for particulate matter detection systems on fabric filters based on the concepts in the Agency's guidance document on bag leak detection systems. Commenters made this suggestion in response to our request for comments on requiring particulate matter detection systems on fabric filters and establishing the alarm level based on the detector response during the comprehensive performance test. See 69 FR at 21347. The final rule requires bag leak detection systems on all fabric filters and suggests that you establish the alarm level using concepts in the bag leak detection system guidance. [195]

Neither the suggestion to establish the alarm level at the 99th percentile upper prediction limit (UPL99) based on the average response during the comprehensive performance test runs nor the suggestion to establish the alarm level at the maximum test run response would control PM emissions at the level achieved during the performance test or provide some assurance that the PM standard was not being exceeded, unless the detector response is correlated to PM concentrations. For example, if the detector response does not relate linearly to PM concentration (or if the response changes w/changes in particulate characteristics), the UPL99 detector response could relate to a much higher (e.g., 99.9th percentile) PM concentration. In addition, even if the detector response were correlated to PM concentration, there is no assurance that the correlation would be consistent over the range of the average detector response during the performance test to the UPL99 detector response. Note that under PS–11 for PM CEMS, even after complying with rigorous procedures to correlate the detector response to PM concentrations, the detector response may be extrapolated only to 125% of the highest PM concentration used for the correlation. Thus, the final rule does not use these approaches to establish the alarm level.

If you elect to use a particulate matter detection system in lieu of site-specific operating parameters for your electrostatic precipitator or ionizing wet scrubber, you must establish the alarm level using either of two approaches. See Appendix C of USEPA, ''Technical Support Document for HWC MACT Standards, Volume IV: Compliance with the HWV MACT Standards,'' September 2005. Under either approach, you may maximize controllable operating parameters during the comprehensive performance test to simulate the full range of normal operations (*e.g.*, by spiking the ash feedrate and/or detuning the electrostatic device).[196]

You may establish the alarm set-point as the average detector response of the test condition averages during the comprehensive performance test.

Alternatively, you may establish the alarm set point by extrapolating the detector response. Under the extrapolation approach, you must approximate the correlation between the detector response and particulate matter emission concentrations during an initial correlation test. You may extrapolate the detector response achieved during the comprehensive performance test (*i.e.*, average of the test condition averages) to the higher of: (1) A response that corresponds to 50% of the particulate matter emission standard; or (2) a response that correlates to 125% of the highest particulate matter concentration used to develop the correlation.

To establish an approximate correlation of the detector response to particulate matter emission concentrations, you should use as guidance Performance Specification–11 for PM CEMS (40 CFR Part 60, Appendix B), except that you need only conduct only 5 runs to establish the initial correlation rather than a minimum of 15 runs required by PS–11. In addition, the final rule requires you to conduct an annual Relative Response Audit (RRA) for quality assurance as required by Procedure 2—Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources, Appendix F, Part 60.[197] The RRA is required on only a 3-year interval, however, after you pass two sequential annual RRAs.

The rule requires only minimal correlation testing because the particulate matter detection system is used for compliance assurance only—as an indicator for reasonable assurance that an emission standard is not exceeded. The particulate matter detection system is not used for compliance monitoring—as an indicator of continuous compliance with an

[195] Note that a bag leak detection system is a type of particulate matter detection system for purposes of this discussion. A triboelectric detector is normally used for a bag leak detector system because it is very inexpensive and has a low detection limit. A triboelectric detector meets the criterion for a particulate matter detector in a particulate matter detection system in that it detects relative mass emissions of particulate matter within the range of normal emission concentrations. (Note further, however, that a triboelectric detector cannot be correlated to particulate matter concentrations and thus cannot be used as a particulate matter CEMS. Note also that a triboelectric detector cannot be used on sources equipped with electronic control devices.) The alarm level for a bag leak detection system would be established using the concepts discussed in the Agency's guidance document on bag leak detection systems. The alarm level for a particulate matter detection system used on a fabric filter, however, (preferable with a detector other than a tribolectric device that could be correlated to PM concentrations) would be established based on the detector response during the comprehensive performance test.

[196] Note, however, that bypassing or detuning an emission control system could cause PM stratification and could make it difficult to pass the PS–11 performance criteria you use as guidelines for a PMDS.)

[197] You perform an RRA by collecting three simultaneous reference method PM concentration measurements and PM CEMS measurements at the as-found source operating conditions and PM concentration.

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emission standard. Because particulate matter detection system correlation testing and quality assurance is much less rigorous than the requirements of PS–11 for a PM CEMS, the particulate matter detection system response cannot be used as credible evidence of exceedance of the emission standard.

D. Fugitive Emissions

Comment: A commenter does not support EPA's proposed approach to allow alternative techniques that can be demonstrated to prevent fugitive emissions without the use of instantaneous pressure limits given that the CAA requires continuous compliance with the standards and given positive pressure events can result in fugitive emissions, irrespective of facility design.

Response: Rotary kilns can be designed to prevent fugitive emissions during positive pressure events. As stated in the February 14, 2002 final rule, and subsequently in the April 20, 2004 proposed rule, there are state-of-the-art rotary kiln seal designs (such as those with shrouded and pressurized seals) which are capable of handling positive pressures without fugitive releases. See 67 FR at 6973 and 69 FR at 21340. We have included documentation of such kiln designs in the docket.[198] Instantaneous combustion zone pressure limits thus may not be necessary to assure continuous compliance with these fugitive emission control requirements. Our approach to allow alternative techniques that have been demonstrated to prevent fugitive emissions is therefore reasonable and appropriate. We note that these alternative techniques must be reviewed and approved by the appropriate delegated regulatory official.[199]

Comment: A commenter disagrees with EPA's clarification that fugitive emission control requirements apply only to fugitives attributable to the hazardous waste, given that the CAA does not distinguish between HAP emissions that come from hazardous waste streams and other HAP emissions.

Response: The fugitive emission control requirements in today's final rule originated from the RCRA hazardous waste combustion fugitive emission control requirements for incinerators and boilers and industrial furnaces.[200] The primary focus of these RCRA requirements is to ensure hazardous waste treatment operations are conducted in a manner protective of human health and the environment.[201] It is therefore appropriate to clarify that the intent of this requirement is to control fugitive emission releases from the combustion of hazardous waste.

Furthermore, MACT requirements for source categories that do not combust hazardous waste (e.g., industrial boilers, Portland cement kilns, and commercial and industrial solid waste incinerators) do not have combustion chamber fugitive emission control requirements for the non-hazardous waste inputs or outputs (e.g., clinker product for cement kilns or coal and natural gas fuels for industrial boilers). We have previously taken the position that emissions not affected by the combustion of hazardous waste (e.g., clinker coolers, raw material handling operations, etc.) are regulated pursuant to the applicable nonazardous waste MACT rules.[202], [203] We conclude the clarification that the fugitive emission control requirements applies only to fugitive emissions that result from the combustion of hazardous waste is appropriate because it regulates emissions attributable to nonhazardous waste streams to the same level of stringency that otherwise would apply if the source did not combust hazardous waste.[204]

Comment: A commenter states that the instantaneous monitoring requirements are inappropriate because (1) EPA has not demonstrated that the average of the top 12% of boilers are capable of operating with no instantaneous deviations from the negative pressure requirements; and (2) these requirements, though not standards themselves, effectively increase the stringency of the standard itself beyond what even the best available technology can achieve.

Response: As previously discussed, the fugitive emission control requirements included in today's rule originated from the RCRA hazardous waste combustion chamber fugitive emission control requirements. These provisions allow sources to control fugitive emissions by ''maintaining the combustion zone pressure lower than atmospheric pressure, or an alternative means of control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.'' All sources that must comply with the provisions of this rule are, or were, required to control fugitive emissions from the combustion unit pursuant to RCRA.

The monitoring requirements in today's rule do not increase the stringency of the standard beyond what the best available technology can achieve. Although we do not have data that confirm negative pressure is being maintained on an instantaneous basis (as we define it)[205] for at least 12 percent of the boilers, we believe this is current practice and readily achievable by most sources.[206] These requirements have been in force for many years, and there is no basis for stating that they are unachievable (EPA is not aware of industrywide noncompliance with these provisions, the necessary premise of the comment). First, maintaining negative pressure is the option that most boilers elect to implement to demonstrate compliance with the RCRA fugitive emission control requirements. Second, negative pressure is readily achieved on an instantaneous basis in boilers through use of induced draft fans. Third, the requirements we are finalizing today for boilers are identical to the fugitive emission control requirements that hazardous waste incinerators, cement kilns, and lightweight aggregate kilns are currently complying with pursuant to the EEE interim standard regulations. See § 63.1206(c)(5). Most of these sources maintain negative combustion chamber pressure through use of induced draft fans, providing further evidence that continuously maintaining combustion

[198] See USEPA, ''Technical Support Document for the HWC MACT Standards, Volume IV: Compliance With the HWC MACT Standards,'' September 2005, Section 10.

[199] See § 63.1206(c)(5)(i)(C) and (D).

[200] See § 266.102(e)(7) and § 264.345(d).

[201] Section 3004(a) of RCRA requires the Agency to promulgate standards for hazardous waste treatment, storage, and disposal facilities as necessary to protect human health and the environment. The standards for hazardous waste incinerators generally rest on this authority. § 3004(q) of RCRA requires the Agency to promulgate standards for emissions from facilities that burn hazardous waste fuels (*e.g.*, cement and lightweight aggregate kilns, boilers, and hydrochloric acid production furnaces) as necessary to protect human health and the environment.

[202] See 69 FR at 21203 and 64 FR at 52871, and § 63.1206(b)(1)(ii).

[203] Portland cement manufacturing facilities that combust hazardous waste are subject to both Subpart EEE and Subpart LLL, and hydrochloric acid production facilities that combust hazardous waste may be subject to both Subpart EEE and Subpart NNNNN. In these instances Subpart EEE controls HAP emissions from the cement kiln and hydrochloric acid production furnace stack (and also fugitive emissions from the combustion chamber), while Subparts LLL and NNNNN would control HAP emissions from other operations that are not directly related to the combustion of hazardous waste (e.g., clinker cooler emissions for cement production facilities, and hydrochloric acid product transportation and storage for hydrochloric acid production facilities).

[204] This issue has little relevance given that the measures taken to control the fugitive emissions from the combustion of hazardous waste will also control the fugitive emission associated with other feedstreams.

[205] The February 14, 2002 Final Amendments Rule clarifies that that a reasonable pressure monitoring frequency that could meet the intent of ''instantaneous'' would be once every second. See 67 FR at 6974.

[206] Commenters did not provide data to the contrary.

zone pressure lower than ambient pressure is readily achievable by well designed and operated boilers.[207]

We note that use of instantaneous pressure monitoring is not a requirement. A source can elect to implement any of the four compliance options to control combustion system leaks as well as request to use alternative monitoring approaches. See §§ 63.1206(c)(5) and 63.1209(g). The instantaneous pressure monitoring option offers sources a method that satisfies the intent of the rule that can be applied at numerous sources. The inclusion of this requirement in today's rule is thus an attempt to simplify the review process for both regulators and affected sources; the absence of prescriptive compliance options in this case may likely result in time-consuming site-specific negotiations that would prolong the review and approval of comprehensive performance test workplans.

Comment: A commenter believes that requiring an instantaneous waste-feed cutoff when these pressure excursions occur is short-sighted and will result in greater HAP emissions. The commenter recommends EPA instead allow the use of reasonable pressure averaging periods in lieu of instantaneous pressure requirements.

Response: As discussed in the February 14, 2002 Final Amendments Rule, automatic waste feed cutoffs are appropriate non-compliance deterrents, and are necessary whenever an operating limit is exceeded. See 67 FR at 6973. Pressure excursions that result in combustion system leaks (and subsequently lead to automatic waste feed cutoffs) should be prevented by maintaining negative pressure in the combustion zone. We agree that needless triggering of automatic waste feed cutoffs due to short term pressure fluctuations that do not result in combustion system leaks would provide less environmental protection, not more. Today's rule offers three alternative options that do not require the use of instantaneous pressure monitoring to control combustion system leaks. See § 63.1206(c)(5). The use of averaging periods in these alternatives is not prohibited. Sources that elect to use an alternative compliance option must demonstrate that the alternative method is equivalent to maintaining combustion zone pressure lower than ambient pressure or, that the alternative approach prevents fugitive emissions.

[207] The commenter did not provide information that would lead us to conclude that these requirements are harder to implement for boilers than for incinerators, cement kilns, and lightweight aggregate kilns.

E. Notification of Intent To Comply and Compliance Progress Report

1. Notice of Intent To Comply

In the NPRM, we proposed to re-institute the Notification of Intent to Comply (NIC) because we felt that it offered many benefits in the early stages of MACT compliance. As discussed in the 1998 ''fast track'' rule (63 FR 33782) and in the proposal, the NIC serves several purposes: as a planning and communication tool in the early implementation stages, to compensate for lost public participation opportunities when using the RCRA streamlined permit modification procedure to make upgrades for MACT compliance, and as a means to share information and provide public participation opportunities that would be lost when new units are not required to comply with certain RCRA permit requirements and performance standards. Please refer to the proposal at 69 FR 21313–21316 for additional discussion of the regulatory history, purpose, and implementation of the NIC provisions.

Overall, most commenters supported our decision to finalize NIC provisions. However, they also feel that the NIC should only be required for sources that have not completed a NIC previously (i.e., Phase 2 sources or Phase 1 sources that did not meet the previous NIC deadline) and for sources that need to make upgrades to comply with the final standards (i.e., either Phase 1 or Phase 2). They suggest that if sources do not need to make upgrades, then they should not be required to complete the NIC process, if they had done so previously. To require a second NIC would only add to the administrative burden and is not in line with Agency efforts to reduce reporting burdens. We agree that if Phase 1 sources do not need to make upgrades to comply with the Replacement Standards and if they completed the NIC process before, then it is not necessary to do so again.

In addition to the comment discussed above, a few commenters proposed that for sources who must still comply with the NIC because they wish to make upgrades, that the NIC public notice be combined with the Title V re-opening or renewal public notice. They point out that sources with existing Title V permits will have their permits re-opened or renewed to incorporate the new applicable requirements (i.e., Phase 1 Replacement or even Phase 2 Standards) shortly after the NIC public notice and meeting are to occur. Title V permit re-openings and renewals require: public notice, a minimum of 30 days for comment, and an opportunity to request a hearing.

While we do agree that the Title V re-opening and renewal requirements provide adequate information to the public and an opportunity for the public to comment and request a hearing, we are concerned that the timing requirements for the NIC may not correspond with the timing requirements for title V permit reopenings, revisions, and renewals. The public review of the draft NIC and subsequent public meeting are scheduled to occur 9 and 10 months, respectively, after the rule's effective date. On the other hand, Title V permits for major sources that have a remaining permit term of greater than 3 years from the rule's promulgation date will need to be re-opened, but this re-opening may not occur until 18 months beyond the promulgation date of the rule. Also, Title V permits that have a remaining permit term of less than 3 years from the rule's promulgation date will need to be renewed, but the timing of the renewal is contingent upon the individual permit term, not the timing requirements for public review of the draft NIC and public meeting. Thus, we do not believe there is ample opportunity to combine the requirements of the NIC and Title V process for the vast majority of sources.[208] Also, those sources that need to make upgrades to comply with the final standards and that need to modify any applicable conditions in their RCRA permit will not be able to request the streamlined modification procedure (see 40 CFR 270.42(j)) until they meet the NIC requirements. So the earlier they comply with the NIC requirements, the earlier they can begin upgrading their combustion units.

Another commenter suggested a change to the regulations at § 63.1210(c)(1) to account for sources that will cease burning hazardous waste prior to or on the compliance date. The regulations, as proposed, require sources to hold an informal public meeting to discuss anticipated activities described in the draft NIC even if they plan to cease burning hazardous waste. The commenter also suggested a similar change to § 63.1210(b)(2) that requires the draft NIC be made available for public review no later than 30 days

[208] We recognize that there may be instances when states can coordinate the Title V permit re-opening, revision, and renewal process with the NIC timeframe requirements. Where this is possible, we encourage states (or other permitting authorities) to coordinate the two processes. By coordinating the two, duplication with respect to material content and public participation would be eliminated for both sources and states.

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prior to the public meeting. We agree with the commenter that it does not make sense to require sources that intend to cease burning hazardous waste to submit a NIC that discusses anticipated activities that will allow them to achieve compliance with the standards. We also agree that it is not necessary for those sources to hold an informal public meeting, since there are no MACT compliance activities to discuss. However, we believe that the public should be provided notice of the draft NIC so that they are aware of the source's intentions to cease burning and the steps (and key dates) the source will undertake to stop hazardous waste combustion activities.

With regard to Phase 2 sources, we had proposed that all Phase 2 sources comply with the same NIC requirements as the Phase 1 sources. Commenters did not express opinions in favor or against the NIC for Phase 2 sources. We believe that the NIC is beneficial in several respects. As mentioned previously, it serves as a planning and communication tool in the early implementation stages, it compensates for lost public participation opportunities when using the RCRA streamlined permit modification procedure to make upgrades for MACT compliance, and it is a tool to share information and provide public participation opportunities that would be lost when new units are not required to comply with certain RCRA permit requirements and performance standards. Ultimately, it creates more public confidence in the permitting process and so promotes a more stable regulatory environment.

For today's rule, we are finalizing our decision to re-institute the NIC provisions for Phase 1 and Phase 2 sources. We are including a few minor changes and clarifications to improve the proposed regulatory language based on commenters' suggestions. Section 63.1210(b) is revised so that Phase 1 sources that previously complied with the NIC requirements, and that do not need to make upgrades to comply with the Replacement Standards, are not required to comply with the NIC again. Sections 63.1210(b)(1)(iv) and (b)(2) have been revised and (c)(5) has been added so that sources that intend to cease burning hazardous waste prior to or on the compliance date are only required to prepare a (draft) NIC, make a draft of the NIC available for public review no later than 9 months after the effective date of the rule, and submit a final NIC to the Administrator no later than one year following the effective date of the rule. Last, we have revised language in § 63.1210(b) based upon a commenter's concerns that the term you ''will'' implies that sources are required meet their ''estimated'' dates for achieving key activities. We have removed ''will'' and replaced it with ''anticipate'' to more accurately represent the objective of the NIC, which is for sources to communicate their plans for complying with the standards in two years.

2. Compliance Progress Report

In the proposal, we explained why we thought a compliance progress report would be beneficial. In short, we believed it would help regulatory agencies determine whether Phase 1 and Phase 2 sources were making sufficient headway in their efforts to meet the compliance date. The progress report would be due to the regulatory agency at the midway point of the 3 year compliance period and would serve to update the information the source provided in its NIC. However, because we do not have any experience to draw upon regarding the value of the progress report, we requested comment on whether or not it should be required.

In response to our request for comment, all commenters were opposed to the progress report. They cited several reasons, with the most consistent one being that the progress report serves no useful purpose and imposes unnecessary additional burdens on sources. As we discussed above, sources and regulatory agencies will be focusing on the NIC as well as initial Title V applications, re-openings, revisions, and renewals during this three year compliance period. We agree with the commenter who noted that there is already significant interaction between sources and regulatory authorities during this period. Furthermore, we learned through implementation of the Interim Standards that some regulatory agencies found it difficult to manage the notices, applications, requests, and test plans that were due prior to the compliance date. Therefore, we have decided not to finalize any compliance progress report requirements for today's rule.

F. Startup, Shutdown, and Malfunction Plan

Comment: One commenter states that an exceedance of a standard or operating requirement during a malfunction should be a violation not only because source owners and operators need an incentive to minimize exceedances caused by malfunctions, but also because an exemption for malfunction periods would violate the plain language of the CAA. The commenter notes that an emission standard is defined by 42 U.S.C. § 7602(k) as a standard that ''limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation of maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard * * *.'' The commenter concludes that a standard that contains a malfunction exemption does not apply ''on a continuous basis'' as required by the statute. Likewise, the commenter concludes that an exemption for startup and shutdown periods would also violate this unambiguous statutory language.

The commenter also notes that, although some courts have held that a technology-based standard must provide some kind of an exemption for unavoidable technology failures, the rationale for such an exemption is that the underlying standard is based on the performance of a particular control technology that cannot be expected to function properly all of the time. The commenter believes that neither the rationale nor the exemption apply to section 112(d) standards, which are not based on the performance of any particular technology but instead must reflect the ''maximum degree of reduction'' that can be achieved, irrespective of the measures used by a source to achieve that reduction. CAA § 112(d)(2).

The commenter states that, even assuming for the sake of argument that EPA has authority to depart from the statutory language and carve out a startup, shutdown, and malfunction exemption, any such exemption must be narrowly drafted to apply only where a source demonstrates that a violation was unavoidable. See, e.g., *Marathon Oil*, 564 F.2d at 1272–73. As EPA recognizes, emission exceedances that occur during SSM events are frequently avoidable. See 69 FR at 21339/3 (noting that ''proper operation and maintenance of equipment'' helps avoid exceedances during startup, shutdown, and malfunction events), 69 FR at 21339/2 (describing the industry view that ''some'' exceedances that occur due to malfunctions are unavoidable). Thus, the commenter concludes that, even if a Marathon Oil-type exemption applies to a § 112(d) standard, it would be unlawful and arbitrary for EPA to exempt sources from liability for all emission exceedances occurring during startup, shutdown, and malfunction events. Rather, such an exemption could only apply where a source demonstrates that a given exceedance was unavoidable.

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Many other commenters state that it would be illegal to require compliance with the emission standards and operating requirements during startup, shutdown, and malfunction events. The commenters note that EPA and the courts have long recognized that technology fails at times, despite a source's best efforts to maintain compliance. For this reason, the courts have recognized that technology-based standards such as EPA's § 112(d)(2) MACT standards must account for such unavoidable technology failures if the standards are to be truly ''achievable.'' Thus, the standards must excuse noncompliance with the actual emission standards during startup, shutdown, and malfunction events.

These commenters also note that EPA took the position in the September 1999 final MACT rule for hazardous waste combustors that exceedance of an operating requirement during startup, shutdown, or malfunction events was a violation if hazardous waste remained in the combustion chamber. The commenters note that industry groups challenged the rule, and while the D.C. Circuit did not reach this issue because it vacated the emission standards, it pointed out that ''industry petitioners may be correct that EPA should have exempted HWCs from regulatory limits during periods of startup, shutdown, and malfunction, permitting sources to return to compliance by following the steps of a startup, shutdown, and malfunction plan filed with the Agency.'' *CKRC* v. *EPA*, 255 F.3d 855, 872 (2001). Commenters conclude that, after reading this language, EPA officials wisely decided that hazardous waste combustors should not be required to meet the MACT emission standards and operating limits during startup, shutdown, and malfunction events.

Response: We agree with commenters who state that sources must be exempt from technology-based emission standards and operating limits during startup, shutdown, and malfunction events. Technology is imperfect and can malfunction for reasons that are not reasonably preventable. The regulations must provide relief for such situations. We believe that existing case law supports this position. See, e.g., *Chemical Mfr's Ass'n* v. *EPA*, 870 F. 2d at 228–230 (daily maximum limitations established at 99th percentile reasonable because rules also provide for upset defense for unavoidable *exceedances*); *Marathon Oil* v. *EPA*, 541 F. 2d at 1272–73 (acknowledged by commenter). As commenters noted, the D.C. Circuit also intimated in *CKRC* that some type of exception from compliance with standards during startup, shutdown and malfunction periods was required.

We do not agree with the commenter who contends that the § 112(d) MACT standards are not technology-based standards because they are not based on the performance of any particular technology but instead must reflect the ''maximum degree of reduction'' that can be achieved, irrespective of the measures used by a source to achieve that reduction. On the contrary, the standards must reflect the average performance of the best performing sources, which performance is achieved using technical controls—air pollution control devices, and for some pollutants, hazardous waste feedrate control. Those controls can fail for reasons that are not reasonably preventable. We note further that the situation was the same in the Clean Water Act cases which the commenter seeks to distinguish. Like section 112(d) standards, Clean Water Act standards are technology-based (reflecting Best Practicable Technology or Best Available Technology, see CWA sections 304 (b) and 301 (b)) and do not require use of any particular type of technology. See also *Mossville*, 370 F. 3d at 1242 (EPA must account for foreseeable variability in establishing MACT floor standards).

We agree with the commenter who states that any exemption from the emission standards and operating requirements during malfunctions must apply only where a source demonstrates that a violation was unavoidable. We note that the term malfunction is defined in § 63.2 as ''any sudden, infrequent, and not reasonably preventable failure of air pollution control and monitoring equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.'' We believe this definition largely addresses the commenter's concern.

We acknowledge, however, that emissions can increase during malfunctions and potentially exceed the standards and agree that exceedances must be minimized. Accordingly, the final rule (and the current rule for incinerators, cement kilns, and lightweight aggregate kilns) requires that sources maintain compliance with the automatic hazardous waste feed cutoff system during malfunctions and notify the permitting authority if they have 10 or more exceedances of an emission standard or operating limit during a 6-month block period when hazardous waste is in the combustion chamber. See § 63.1206(c)(2)(v). This will alert the permitting authority that the source's operation and maintenance plan may not be adequate to maintain compliance with the emission standards and that the authority may need to direct the source to revise the plan under § 63.6(e)(3)(vi). Finally, we note that sources must report all excess emissions semiannually under § 63.10(e)(3) if an emission standard or operating limit is exceeded, including during malfunctions.

Comment: One commenter states that any exemption for emission exceedances during startup, shutdown, or malfunction events would violate the RCRA mandate for standards necessary ''to protect human health and the environment.'' 42 U.S.C. 6924(a). The commenter reasons that, because EPA's RCRA standards are health-based rather than technology-based, no unavoidability defense is available. Given that EPA concludes that the hazardous waste combustor MACT rule satisfies both its CAA and RCRA mandates, the emission standards and operating requirements cannot be waived during startup, shutdown, and malfunction events.

Response: We agree that the RCRA mandate to ensure protection of human health and the environment applies at all times, including during startup, shutdown, and malfunction events. Accordingly, the existing MACT requirements for incinerators, cement kilns, and lightweight aggregate kilns give sources the option of continuing to comply with RCRA permit requirements to control emission during these events, or to comply with special MACT requirements that are designed to be proactive and reactive and intended to be equivalent to the incentive to minimize emissions during these events provided by the RCRA requirements. See existing § 63.1206(c)(2)(ii). The special MACT requirements require sources to include proactive measures in the startup, shutdown, and malfunction plan to minimize the frequency and severity of malfunctions and to submit the startup, shutdown, and malfunction plan to the permitting authority for review and approval. We proposed to require boilers and hydrochloric acid production furnaces to comply with those same provisions providing for equivalence between the two sets of requirements, and promulgate those provisions today.

Comment: One commenter states that the rule should clarify the definitions of startup, shutdown, and malfunctions to preclude sources from improperly

classifying as unavoidable exceedances those exceedances that could have been avoided had the source implemented an appropriate operation and maintenance plan. Many other commenters state that the current definitions in § 63.2 clearly define these terms.

Response: We believe the definitions of startup, shutdown, and malfunction are clearly defined in § 63.2, and combined with the startup, shutdown, and malfunction plan requirements, will preclude sources from improperly classifying as malfunctions events that could have been reasonably prevented by following appropriate procedures in the operation and maintenance plan. As discussed above, the definition of malfunction clearly states that failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Comment: One commenter states that all stack bypasses, automatic waste feed cutoffs, and excursions from the operating parameter limits should be considered malfunctions.

Response: All failures resulting in stack bypasses, automatic waste feed cutoff, and excursions from the operating parameter limits are not malfunctions. As discussed above, failures caused in part by poor maintenance or careless operation are not malfunctions.

Comment: One commenter states that the rule should require sources to expand the startup, shutdown, and malfunction plan to address specific proactive measures that the source has considered and is taking to minimize the frequency and severity of malfunctions. Many other commenters believe that it is not necessary to expand the scope of the startup, shutdown, and malfunction plan beyond that required under § 63.6(e)(3) for other MACT source categories.

Response: We do not believe that it is necessary to expand the scope of the startup, shutdown, and malfunction plan generically for all hazardous waste combustors to address specific proactive measures that the source has considered and is taking to minimize the frequency and severity of malfunctions. Imposing additional requirements in particular situations is appropriate, however. For example, as discussed above, this expanded plan is required for sources that elect to meet the RCRA mandate using provisions of the startup, shutdown, and malfunction plan. See § 63.1206(c)(2)(ii). In addition, the plan with expanded scope may be appropriate for sources that have demonstrated an inability to minimize malfunctions. Consequently, the permitting authority should consider expanding the scope of the startup, shutdown, and malfunction plan on a site-specific basis under authority of § 63.6(e)(3)(vii) if the source has excessive exceedances during malfunctions. See § 63.1206(c)(2)(v)(A)(*3*) defining excessive exceedances during malfunctions and requiring reporting of the exceedances in the excess emissions report required under § 63.10(e)(3).

Comment: Two commenters state that all startup, shutdown, and malfunction plans should be submitted for review and approval by the delegated authority and made available for a 60-day public review period. Review and approval of the plans is needed in light of EPA's acknowledgment that most excess emissions would occur during startup, shutdown, and malfunctions. One of these commenters also believes that the regulations should provide for the public review period to be extended as necessary to accommodate a thorough public review. The reviewing authority should be required to provide a written response to public comments explaining any decision to reject a public comment suggesting ways for a facility to limit emissions during startup, shutdown, and malfunction events.

Many other commenters have concerns with requiring review and approval of startup, shutdown, and malfunction plans, except as required under § 63.1206(c)(2)(ii) for sources that elect to meet the RCRA mandate using provisions of the startup, shutdown, and malfunction plan as discussed above.

Response: Commenters express the same views here that they expressed under the rulemaking the Agency recently completed to revise the startup, shutdown, and malfunction plan requirements of the General Provisions applicable to all MACT source categories. See 68 FR at 32589–93 (May 30, 2003).

EPA concluded in that final rule that the Administrator may at any time request in writing that the owner or operator submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof). Upon receipt of such a request, the owner or operator must promptly submit a copy of the requested plan (or a portion thereof) to the Administrator. In addition, the Administrator must request that the owner or operator submit a particular startup, shutdown, or malfunction plan (or a portion thereof) whenever a member of the public submits a specific and reasonable request to examine or to receive a copy of that plan or portion of a plan.

These provisions to provide the Administrator and the public with access to startup, shutdown, and malfunction plans, coupled with the provisions of § 63.6(e)(3)(vii) under which the Administrator must require the source to make changes to a deficient plan, should ensure that startup, shutdown, and malfunction plans are complete and accurate. We note that under § 63.6(e)(3)(vii) the Administrator must require the source to revise the plan if the plan: (1) does not address a startup, shutdown, or malfunction event that has occurred; (2) fails to operate the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions; (3) does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or (4) includes an event that does not meet the definition of startup, shutdown, or malfunction listed in § 63.2.

The commenter advocating that all hazardous waste combustors should be required to submit their startup, shutdown, and malfunction plans for review and approval did not explain why the concerns the Agency expressed in the General Provisions rulemaking (see 68 FR at 32589–93) are not valid for hazardous waste combustors. Accordingly, we do not believe it is appropriate to deviate from the General Provisions to require that all hazardous waste combustors submit their startup, shutdown, and malfunction plans for review.

G. Public Notice of Test Plans

1. What Are the Revised Public Notice Requirements for Test Plans?

Prior to the proposal, it was brought to our attention that the Agency did not provide any direction in the 1999 final rule regarding how and when sources should notify the public, what the notification should include, or where and for how long performance test plans should be made available. Consequently, we proposed to add clarifying language to the § 63.1207(e)(2) public notification requirement for approved performance test and CMS performance evaluation test plans because we believe that providing opportunities for timely and adequate public notice is necessary to fully inform nearby communities of a source's plans to initiate important waste management activities. The proposed clarifications are based upon the *RCRA Expanded Public Participation Rule* (60 FR 63417, December 11, 1995) requirements for

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public notification of an impending trial burn test. As a result, we did not feel that the clarifications imposed any new or additional requirements upon sources that will conduct a MACT comprehensive performance test or confirmatory performance test.

Commenters generally supported the clarifications to the public notice.[209] However, they suggested a change to the proposed requirement to provide notice of test plan approval no later than 60 days prior to conducting the test. The basis for suggesting a change is that many sources had not received approval of their test plans 60 days prior to the deadline for initiating their test under the Interim Standards. Moreover, several sources did not receive approval until well after the deadline for initiating the test. The problem created for these sources is that the required 60 day notification of the approved test plan effectively determines when the source will be able to begin its test. In other words, its test would need to be postponed until the approved test plan had been noticed for 60 days. Thus, commenters provided several possible alternatives.

One alternative that would avoid causing delays to testing is to require the public notice when the source submits its test plan. Although this fulfills the notification requirement, this alternative has a shortfall: The notice would occur at least one year (barring any extensions) in advance of the test and given this long period of time, the test plan is likely to be modified prior to approval. A second alternative is to provide notice of the test plan 60 days before the test as before, but regardless of approval status. This alternative is improved over the first, but still faces the same problem of potentially not offering the public an opportunity to view a final approved plan. A third alternative is to issue notice of the test plan as soon as it is approved. With this alternative, the public will have the most up-to-date information; however, it may not be until a few days prior to commencement of the test. Ideally, the second and third alternatives could be combined to provide the best possible chance of providing the public with an approved test plan in a reasonable period of time prior to the test. On the other hand, that would potentially require the facility to issue two notices if the test plan is not approved 60 days prior to the test. We do not believe this would be reasonable given that sources will be focused on activities associated with the impending test.

In consideration of practicality, we believe that the second alternative provides an adequate solution. As we mentioned, the drawback is that the public may not have the opportunity to view an approved test plan. However, we believe it is more important that the public be aware of a source's plans (*i.e.*, how and when) for conducting the performance test.[210] This way, if they have questions, there will be 60 days in which they may contact the regulatory authority or the source before the test is scheduled to begin. This alternative will also eliminate the conflict associated with the confirmatory performance test. The regulations at § 63.1207(e)(1)(ii) specify that a source must submit to the regulatory authority its notice of intent to conduct a confirmatory performance test and the applicable test plans at least 60 calendar days prior to the date the test is to begin. Since we are no longer requiring that the test plans be approved before issuing public notice, sources would then provide notice of their confirmatory performance test plan to the public at the same time they submit their notice of intent and test plans to the regulatory authority. Therefore, we are requiring that sources issue the public notice of test plans 60 days in advance of commencing the performance test, whether their test plans have been approved or not. The regulations at § 63.1207(e)(2) have been revised accordingly.

One last concern related to the public notice of approved test plans involves sources that choose to conduct a performance test without an approved test plan (*e.g.*, both time extensions provided by §§ 63.7(h) and 63.1207(e)(3) have expired or due to other circumstances, the source has elected to begin the test without approval). Because we did not believe any sources would choose or need to do so, we did not propose any guidance or regulations specific to issuing notice to the public of their test plans. Nevertheless, a few commenters raised this possibility indirectly in their discussion of the problematic 60 day notice of approved test plan requirement. The revised proposal addresses this concern by no longer requiring that test plans be approved before issuing public notice. Thus, sources that choose to begin their test without an approved plan will have complied with the requirement to issue public notice. Irrespective of the public notice requirements for noticing test plans, we expect that sources will notify their regulatory authority of their decision to proceed with their test in the absence of plan approval.

2. What Are the Revised Public Notice Requirements for the Petition To Waive a Performance Test?

In the Final Amendments Rule (67 FR 6968, February 14, 2002), the Agency did not provide direction regarding how, when, where, and what should be included in the public notice for a petition for time extension if the Administrator fails to approve or deny test plans.[211] In the proposal, we believed it important to provide clarification regarding when the notice must be issued and what it should contain. Thus, we proposed to revise paragraph § 63.1207(e)(3)(iv).

We received only one comment in response to the proposed requirements. The commenter did not express any concern over the requirements themselves, but rather suggested a change to terminology used. The commenter feels that the terms ''to waive a performance test'' or ''waiver'' as used in § 63.1207(e)(3)(iv) could be confusing to readers when we are actually referring to a time extension for commencing the test. Although we agree the terminology could be confusing, 40 CFR 63.1207(e)(3) clearly uses the term ''waiver'' in the context of an extension of time to conduct the performance test at a later date, implying that the deadline can be waived in this specific situation. The use of the term waiver is derived from the General Provisions requirements for requesting a waiver of performance tests (§ 63.7(h)). Thus, § 63.7(h)(3) provides the basis by which sources may petition, in the form of a waiver, for a time extension under § 63.1207(e)(3). In consideration of the above and that the existing regulations of § 63.1207(e)(3)(i)-(iii) consistently use the term waiver, we do not feel that a change to § 63.1207(e)(3)(iv) is warranted.

H. Using Method 23 Instead of Method 0023A

Comment. Most commenters support our proposal to allow the use of Method 23 instead of Method 0023A if a source includes this request in the comprehensive test plan to the permitting authority. Some commenters believe that Method 23 should be

[209] See 69 FR 21347–21349.

[210] We expect that some source's test plans may be modified after notice is issued and prior to approval or commencement of their test. However, even under the previous regulations, test plans could be modified after they had been approved and public noticed. It is often a necessary consequence as sources continue to prepare the combustion unit for the test.

[211] Sections 63.1207(e)(2) and (e)(3) each require public notice, but neither had provided any direction on how, when, where, and what should be included in their respective notices until today's final rule.

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allowed in all cases without prior approval or on a source category basis.

Response. We proposed to allow sources to use Method 23 for dioxin and furan testing instead of SW–846 Method 0023A in situations where the enhanced procedures found in Method 0023A would not increase measurement accuracy. We proposed this change in the July 3, 2001, proposed rule, and again in the April 20, 2004, proposal. See 66 FR at 35137 and 69 FR at 21342.

The final rule promulgates this change as proposed. See § 63.1208(b)(1)(i). You may use Method 23 in lieu of Method 0023A after justifying use of Method 23 as part of your performance test plan that must be reviewed and approved the delegated permitting authority. You may be approved to use Method 23 considering factors including whether previous Method 0023A analyses document that dioxin/furan are not detected, are detected at low levels in the front half of Method 0023A, or are detected at levels well below the emission standard, and the design and operation of the combustor has not changed in a manner that could increase dioxin/furan emissions. We note that coal-fired boilers and combustors equipped with activated carbon injection systems may not be able to support use of Method 23, however, because these sources' stack gas is likely to contain carbonaceous particulate. Thus, these sources are likely to benefit the most from using Method 0023A.

The final rule does not automatically allow use of Method 23 for particular source categories because we cannot assess whether all sources in a category meet the conditions for use of Method 23—generally that quality assurance may not be improved—such as those listed above. These determinations can only be made on a site specific basis by the permitting authority most familiar with the particular source.

Comment: Commenters do not believe that an additional petition process (*i.e.*, under § 63.1209(g)(1)) is necessary before allowing use of Method 23. Instead, EPA should require that the use of Method 23 should be submitted with the test plan to the regulatory agency for approval.

Response: We agree that a separate petition is unnecessary. Sources should include a justification to use Method 23 in the performance test plan that is submitted for review and approval. This will allow the permitting authority to determine whether use of Method 23 is appropriate for the source.

Comment: Two commenters state that ''the justification of the use of Method 23 will not be by the existing system of a petition to EPA, but will be included as a part of the performance test plan that is submitted to the delegated regulatory authority for review and approval. This means that the expertise, training, and decision-making will not be consistent across the country. This is especially a problem because of the severe resource, training and staff reductions among the delegated regulatory authorities across the country and from region to region. The decision to allow or disallow use of Method 23 should come specifically, for each case, from EPA consideration of the submitted justification, based on the knowledge and expertise of trained and experienced EPA staff. This is important for uniformly applying the testing requirements all across the country.''

Response: We disagree, and we believe the responses to comments in today's rule make clear when Method 23 is an acceptable substitute for Method 0023A. If the source has carbon in the flue gas, as is the case with coal-fired boilers, boilers with carbon injection, and other sources likely to have a substantial amount of carbonaceous particulate matter in the flue gas, Method 0023A will generally be preferable because it includes procedures to account for dioxin and furan bound to carbonaceous particulate matter found in the probe and filter. In other situations, Method 23 will generally give the same results at a lower cost.

I. Extrapolating Feedrate Limits for Compliance With the Liquid Fuel Boiler Mercury and Semivolatile Metal Standards

Comment: One commenter questions whether allowing sources to extrapolate metal feedrates downward from the levels achieved during the comprehensive performance test to establish a metal feedrate limit will ensure compliance with the emission standards.

Response: The mercury and semivolatile metals standards for liquid fuel boilers are annual average emission limits where compliance is established by a rolling average mercury feedrate limit with an averaging period not to exceed an annual rolling average (updated hourly).[212] We use this approach because the emissions data used to establish the standards are more representative of normal emissions than compliance test emissions.[213]

As we explained at proposal, to ensure compliance with the mercury and semivolatile metal emission standards for liquid fuel boilers, you must document during the comprehensive performance test a system removal efficiency for the metals and back-calculate from the emission standard a maximum metal feedrate limit that must not be exceeded on an (not to exceed) annual rolling average. See 69 FR at 21311–12. If your source is not equipped with an emission control system (such as activated carbon to control mercury) for the metals in question, however, you must assume zero system removal efficiency. This is because, although a source that is not equipped with an emission control system may be able to document a positive system removal efficiency in a single test, that removal efficiency is not likely to be reproducible. Rather, it is likely to be an artifact of the calculation of emissions and feeds rather than a removal efficiency that can reliably be repeated.

To ensure that you can calculate a valid, reproducible system removal efficiency for sources equipped with a control system that effectively controls the metal in question, you may need to spike metals in the feed during the comprehensive performance test at levels that may result in emissions that are higher than the standard. This is appropriate because compliance with an emission standard derived from normal emissions data is based on compliance with an (not to exceed) annual average feedrate limit calculated as prescribed here, rather than compliance with the emission standard during the comprehensive performance test.[214]

The commenter is concerned that downward extrapolation from the levels achieved during the comprehensive performance test to establish a metal feedrate limit may not ensure

[212] If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by § 63.1209 (b)(5)(i). This is reasonable because allowing a longer period of time before calculating the initial rolling average would not effectively ensure compliance with the feedrate limit. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. We note that this is an approach allowed for calculating rolling averages under different modes of operation at § 63.1209(q)(2)(ii). At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

[213] See USEPA, ''Technical Support Document for HWC MACT Standards, Volume III: Selection of HWC MACT Standards,'' September 2005, Section 13.

[214] The emission standard accounts for long-term variability by incorporating an (not to exceed) annual averaging period that is implemented by an (not to exceed) annual average chlorine feedrate limit. Thus, because the emission level achieved during the performance test relates to daily (or hourly) variability, an exceedance of the emission standard during the test is not a violation.

compliance with the standard because system removal efficiency may be lower at lower feedrates.

This is a valid concern, and we have investigated it since proposal. We conclude that downward extrapolation of feedrates for the purpose of complying with the mercury and semivolatile metals emission standards for liquid fuel boilers will ensure compliance with the emission standards under the conditions discussed below.

We investigated the theoretical relationship between stack gas emissions and feedrate considering vapor phase metal equilibrium, the chlorine, mercury, and semivolatile metal feedrates for liquid fuel boilers in our data base, and the mercury and semivolatile emission standards for liquid fuel boilers.[215] We considered sources equipped with dry particulate matter controls and sources equipped with wet particulate matter controls.

Sources Equipped with Dry Controls. For sources equipped with dry controls other than activated carbon, mercury is not controlled. Thus, you must assume zero system removal efficiency. Consequently, if you are in the low Btu subcategory and comply with the mercury standard expressed as a mass concentration (µg/dscm), the mercury feedrate limit expressed as an MTEC (maximum theoretical emission concentration, µg/dscm) is equivalent to the emission standard.[216] If you are in the high Btu subcategory and comply with the mercury standard expressed as a hazardous waste thermal emission concentration (lb/MM Btu), the mercury feedrate limit expressed as a hazardous waste thermal feed concentration (lb/MM Btu) is also equivalent to the emission standard.

For semivolatile metals, the theoretical relationship between emissions and feedrate indicates that downward extrapolation introduces only a trivial error'0.17% at an emission rate 100 times the standard irrespective of the level of chlorine present. Id. Nonetheless, to ensure the error is minimal and to be practicable, you should limit semivolatile emissions during the comprehensive performance test to five times the emission standard.

Sources Equipped with Wet Scrubbers. For sources equipped with wet scrubbers, we conclude that the approach we use for semivolatile metals for dry scrubbers will also be appropriate to extrapolate a semivolatile metal feedrate limit for wet scrubbers. To ensure that downward extrapolation of the feedrate limit is conservative and to be practicable, you should limit semivolatile metal emissions during the comprehensive performance test to five times the emission standard.

For mercury, ensuring control with wet systems is more complicated because the level of chlorine present affects the formation of mercuric chloride which is soluble in water and easily controlled by wet scrubbers. Elemental mercury has very low solubility in scrubber water and is not controlled. The worst-case situation for conversion of elemental mercury to soluble mercuric chloride would be when the chlorine MTEC is lowest and the mercury MTEC is highest. We conclude that downward extrapolation of mercury feedrates is conservative for feedstreams that contain virtually no chlorine, *e.g.*, below an MTEC of 100 µg/dscm. In addition, we conclude that downward extrapolation is appropriate[217] for boilers feeding chlorinated feedstreams provided that during the performance test: (1) Scrubber blowdown has been minimized and the scrubber water has reached steady-state levels of mercury prior to the test (*e.g.*, by spiking the scrubber water); (2) scrubber water pH is minimized (*i.e.*, you establish a minimum pH operating limit based on the performance test as though you were establishing a compliance parameter for the total chlorine emission standard); and (3) temperature of the scrubber water is maximized (*i.e.*, you establish a maximum scrubber water temperature limit).

J. Temporary Compliance With Alternative, Otherwise Applicable MACT Standards

Comment: One commenter requests clarification on the requirements applicable to a source that switches to an alternative mode of operation when hazardous waste is no longer in the combustion chamber under the provisions of § 63.1206(b)(1)(ii). The commenter suggests that § 63.1206(b)(1)(ii) can imply that the complete compliance strategy needs to be switched over to the alternative section 112 or 129 requirements, even though compliance with the Subpart EEE requirements for monitoring, notification, reporting, and recordkeeping remains environmentally protective under Subpart EEE. For example, the commenter notes that § 63.1206(b)(1)(ii) could be incorrectly interpreted to require a source to comply with illogical requirements when the source temporarily switches to alternative, otherwise applicable standards, including standards testing and opacity monitoring under the alternative section 112 or 129 requirements. The commenter states that this interpretation makes little sense because a source that temporarily changes its mode of operation will continue to do testing under Subpart EEE, Part 63, or, in the case of opacity, the alternative section 112 requirements for cement kilns would necessarily require duplicate systems and compliance with redundant limits because a source may already be using a bag leak detection system or a particulate matter detection system. The commenter suggests only requiring sources to comply with the otherwise applicable emission standards under the alternative section 112 or 129 requirements while still operating under the various associated compliance requirements of Subpart EEE, part 63.

Response: The commenter requests clarification of § 63.1206(b)(1)(ii), which states that if a source is not feeding hazardous waste to the combustor and the hazardous waste residence time has expired (*i.e.*, the hazardous waste feed to the combustor has been cut off for a period of time not less than the hazardous waste residence time), then the source may elect to comply temporarily with alternative, otherwise applicable standards promulgated under the authority of sections 112 and 129 of the Clean Air Act.[218] As we have explained in previous notices,[219] sources that elect to invoke § 63.1206(b)(1)(ii) to become temporarily exempt from the emission standards and operating requirements of Subpart EEE, Part 63, remain an affected source under Subpart EEE (and only Subpart EEE) until the source is no longer an affected source by meeting the requirements specified in Table 1 of § 63.1200. Of course, a source can elect not to use the alternative requirements for compliance during periods when

[215] USEPA, ''Technical Support Document for HWC MACT Standards, Volume IV: Compliance with the HWC MACT Standards,'' September 2005, Section 2.5 and Appendix B.

[216] Note, however, that you convert the MTEC (µg/dscm) to a mass feedrate (lb/hr) by considering the average gas flowrate of the test run averages during the comprehensive performance test to simply implementation and compliance.

[217] Mercury SRE is constant as the mercury feedrate decreases.

[218] Examples include 40 CFR part 60, subparts CCCC and DDDD for commercial and industrial solid waste incinerators, 40 CFR part 63, subpart LLL for Portland cement manufacturing facilities, 40 CFR part 63, subpart DDDDD for industrial/commercial/institutional boilers and process heaters, and 40 CFR part 63, subpart NNNNN for hydrochloric acid production facilities.

[219] This provision has been discussed in several **Federal Register** notices including 64 FR at 52904 (September 30, 1999), 66 FR at 35090, 35145 (July 3, 2001), 67 FR at 6979 (February 14, 2002), and 69 FR at 21203 (April 20, 2004).

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they are not feeding hazardous waste, but, if so, the source must comply with all of the operating and monitoring requirements and emission standards of Subpart EEE at all times.[220] To implement § 63.1206(b)(1)(ii) a source defines the period of compliance with the otherwise applicable sections 112 and 129 requirements as an alternative mode of operation under § 63.1209(q). In order to be exempt from the emission standards and operating requirements of Subpart EEE, a source documents in the operating record that they are complying with the otherwise applicable Section 112 and 129 requirements specified under § 63.1209(q).

The commenter recommends that the complete compliance strategy need not be switched over to the alternative section 112 and 129 requirements when temporarily switching to the alternative standards. In general, we disagree. The intent of § 63.1206(b)(1)(ii) is to ensure that a source is complying with all requirements of sections 112 and 129 as an alternative mode of operation in lieu of the requirements under Subpart EEE. In the 1999 final rule we stated that the source must comply with all otherwise applicable standards under the authority of sections 112 and 129. Specifically, the source must comply with all of the applicable notification requirements of the alternative regulation, comply with all of the monitoring, recordkeeping, and testing requirements of the alternative regulation, modify the Notice of Compliance (or Documentation of Compliance) to include the alternative mode(s) of operation, and note in the operating record the beginning and end of each period when complying with the alternative regulation. See 64 FR at 52904. A source that elects to comply with otherwise applicable standards under § 63.1206(b)(1)(ii) must specify all requirements of those standards, not only the emission standards applicable under the sections 112 and 129 standards, but also the associated monitoring and compliance requirements and notification, reporting, and recordkeeping requirements in the operating record under § 63.1209(q).

The commenter suggests that a source should be able to comply with the otherwise applicable emission standards, while continuing to operate under the associated compliance requirements for the HAP under Subpart EEE. An example would be a cement kiln source complying with the dioxin and furan monitoring requirements under § 63.1209(k) of Subpart EEE for the dioxin and furan standards under § 63.1343(d) under Subpart LLL. We did not determine, when promulgating the provisions of §§ 63.1206(b)(1)(ii) and 63.1209(q)(1), that the monitoring provisions under Subpart EEE are equivalent to the associated monitoring requirements under the otherwise applicable 112 and 129 standards, or indeed, whether they are even well-matched. Such a determination would require notice and opportunity for comment, which we have not provided. However, this should not be interpreted to mean that a similar determination could not be made on a site-specific basis given that the MACT general provisions allow a source to request alternative monitoring procedures under § 63.8(f)(4). Certainly, a source can apply under this provision that the compliance requirements under Subpart EEE satisfy the associated monitoring requirements under the otherwise applicable 112 and 129 standards.

We also disagree with the commenter that emissions testing under the alternative standards of sections 112 and 129 is an example of an illogical requirement under § 63.1206(b)(1)(ii). Performance testing generally is required to demonstrate compliance with the emission standards and to establish limits on specified operating parameters to ensure compliance is maintained. In order to take advantage of the alternative under § 63.1206(b)(1)(ii), a source needs to show that compliance with and establish operating parameter limits for the otherwise applicable standards of sections 112 and 129. Thus, testing in order to establish operating parameter limits will be necessary. However, this does not mean that a separate performance test with the alternative sections 112 or 129 standards is necessarily required. We note that a source can make use of the performance test waiver provision under § 63.7(h) of the general provisions to request that the performance test under the alternative sections 112 and 129 standards be waived because the source is meeting the relevant standard(s) on a continuous basis by continuing to comply with Subpart EEE for the relevant HAP. This approach may be practicable for sources that can demonstrate that their level of performance during testing under Subpart EEE, including the associated operating and monitoring limits, will undoubtedly ensure continuous compliance with the emissions standards and the associated operating limits of alternative sections 112 and 129 standards.

Finally, the commenter notes that Subpart LLL (the alternative section 112 standards for cement kilns) includes opacity monitoring while Subpart EEE may not. The commenter states that this unnecessarily would require duplicate systems and compliance with redundant limits because of the bag leak detection and particulate matter detection system requirements under Subpart EEE. We respond that Subpart LLL specifies opacity as a standard (see § 63.1343(b)(2)), and, therefore, cement kilns subject to Subpart EEE must comply with the opacity standard when electing to comply temporarily with the requirements of Subpart LLL. We note that the opacity standard under Subpart EEE does not apply to cement kilns that are equipped with a bag leak detection system under § 63.1206(c)(8) and to sources using a particulate matter detection system under § 63.1206(c)(9). However, a cement kiln may use an opacity monitor that meets the detection limit requirements as the detector for a bag leak detection system or particulate matter detection system. See Part Four, Section VIII.A-C of the preamble.

K. Periodic DRE Testing and Limits on Minimum Combustion Chamber Temperature for Cement Kilns

Comment: Several commenters oppose the need for cement kilns that burn at locations other than the normal flame zone to demonstrate compliance with the destruction and removal efficiency (DRE) standard during each comprehensive performance test. These commenters recommend that EPA remove the requirement of § 63.1206(b)(7)(ii) for cement kilns citing that existing rule provisions (i.e., the requirements under § 63.1206(b)(5) pertaining to changes that may adversely affect compliance) are sufficient to require additional DRE testing after changes are made that may adversely affect combustion efficiency. Commenters question EPA's position that cement kilns that burn hazardous waste at locations other than the normal flame zone demonstrate a variability in DRE sufficient to justify the expense of re-testing for DRE with each performance test. Commenters point to EPA's data base that includes DRE results from over 30 tests with nearly 250 runs showing consistent DRE results, including sources burning hazardous waste at locations other than the normal flame zone, being achieved by cement kilns. The commenters note several burdens associated with DRE

[220] However, the operating requirements do not apply during startup, shutdown, or malfunction provided that hazardous waste is not in the combustion chamber. See § 63.1206(b)(1)(i).

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testing that do not result in improved environmental benefit including the purchase of expensive exotic virgin chemicals for performance testing, the risks to workers and contractors associated with the handling of these chemicals, and increasing the length of operation at stressful kiln operating conditions necessary to conduct DRE testing at minimum combustion chamber temperatures. Alternatively, commenters recommend that EPA revise the DRE requirements such that periodic testing is no longer required for cement kilns (that burn at locations other than the normal flame zone) after they have successfully achieved the DRE standard over multiple testing cycles (e.g., two or three) under similar testing regimes. That is, the source should only be required to demonstrate compliance with the DRE standard a maximum of two or three times until the source (that burns at locations other than the normal flame zone) modifies the system in a manner that could affect the ability of it to achieve the DRE standard.

Response: We are revising the requirements of § 63.1206(b)(7)(ii) such that cement kilns that feed hazardous waste at locations other than the normal flame zone need only demonstrate compliance with the DRE standard during three consecutive comprehensive performance tests provided that the source has successfully demonstrated compliance with the DRE standard in each test and that the design, operation, and maintenance features of each of the three tests are similar. These revisions do not affect sources that burn hazardous waste only in the normal flame zone.[221]

Prior to today's change, we required sources that feed hazardous waste in locations other than the flame zone to perform periodic DRE testing every 5 years to ensure that the DRE standard continues to be achieved over the life of the unit. See § 63.1206(b)(7)(ii). We justified this requirement because of concerns that sources that feed hazardous waste at locations other than the flame zone have a greater potential of varying DRE performance due to their hazardous waste firing practices. As we stated in the 1999 rule, we were concerned that the DRE may vary over time due to the design and operation of the hazardous waste firing system, and that those variations may not be identical or limited through operating limits set during a single DRE test (similar to what we concluded for sources that burn hazardous waste only in the normal flame zone). See 64 FR at 52850.

Commenters now question the need for subsequent DRE testing at cement kilns that feed hazardous waste at locations other than the normal flame zone once a cement kiln demonstrates compliance with the MACT DRE standard. The regulatory requirement for the destruction and removal efficiency standard has proved to be an effective method to determine appropriate process controls necessary for the combustion of hazardous waste. We are not convinced that only one DRE test is sufficient to ensure that a cement kiln that burns hazardous waste at locations other than the normal flame zone will continue to meet the DRE standard because temperatures are lower and gas residence times are shorter at the other firing locations. This is especially true given the industry trend to convert to the more thermally efficient preheater/precalciner kiln manufacturing process.[222] Precalciner kilns use a secondary firing system (i.e., flash furnace) at the base of the preheater tower to calcine the raw material feed outside the rotary kiln. This results in two separate combustion processes that must be controlled '' one in the kiln and the other in the flash furnace. The gas temperature necessary for calcining the limestone raw material in the flash furnace is lower than the temperature required making the clinker product. We conclude, therefore, that it is necessary, in spite of the concerns raised by commenters, to retain periodic DRE testing to ensure continued compliance with the DRE standard necessary for the control of nondioxin/furan organic HAP.

We also acknowledge, however, the concerns raised by the commenters. Our DRE data base of operating cement kilns includes results from approximately 25 DRE tests and nearly 200 runs.[223] All data show compliance with the DRE standard. Of these, approximately one-quarter of the data are from cement kilns that burned hazardous waste at locations other than the normal flame zone (e.g., injecting waste at midkiln in a wet process kiln), but we do not have DRE results from every operating cement kiln. Considering available DRE data and the concerns of the commenters, we believe that DRE testing during three consecutive comprehensive performance tests is sufficient to provide needed certainty about DRE performance while reducing the overall costs and toxic chemical handling concerns to the regulated source. Thus, we are revising the requirements of § 63.1206(b)(7)(ii) such that cement kilns that feed hazardous waste at locations other than the normal flame zone need only demonstrate compliance with the DRE standard during three consecutive comprehensive performance tests provided that the source has successfully demonstrated compliance with the DRE standard in each test and that the design, operation, and maintenance features of each of the three tests are similar. If a facility wishes to operate under new operating parameter limits that could be expected to affect the ability to meet the DRE standard, then the source would need to conduct another DRE test. Once the facility has conducted another three DRE tests under the new operating limits, then subsequent DRE testing would not be required. Accordingly, we are revising the requirements of § 63.1206(b)(7)(ii).

Comment: Several commenters support EPA's proposal to delete the requirement to establish an operating limit on the minimum combustion chamber temperature for dioxin/furans under § 63.1209(k)(1) for cement kilns. These commenters point to the high temperatures of approximately 2500°F required to make the clinker product. These high temperatures are fixed by the reaction kinetics and thermodynamics occurring in the burning zone and cannot be reduced below minimum values at the whim of the operator and still make a marketable product. In addition to deleting the minimum combustion chamber temperature limit for dioxin/furans, commenters also recommend, for similar reasons, that EPA delete the minimum combustion chamber temperature requirement under § 63.1209(j)(1) associated with the destruction and removal efficiency standand. Commenters note that demonstrating the minimum temperature requires operating under stressful operating conditions that can

[221] The DRE demonstration for these sources need be made only once during the operational life of a source, either before or during the initial comprehensive performance test, provided that the design, operation, or maintenance features do not change in a manner that could reasonably be expected to affect the ability to meet the DRE standard. See §§ 63.1206(b)(7) and 63.1207(c)(2)(ii). The source would ensure continued compliance by operating under the operating parameter limits established during this DRE test.

[222] For example, Ash Grove Cement in Chanute, KS replaced their two wet process cement kilns with one preheater/precalciner kiln in 2001. Holcim Inc in Holly Hill, SC has also recently constructed a new preheater/precalciner kiln to replace two wet process cement kilns. Keystone Cement Company in Bath, PA is considering replacing their two wet process cement kilns with a new preheater/precalciner kiln. See docket item OAR–2004–0022–0384.

[223] U.S. EPA, ''Final Technical Support Document for HWC MACT Standards, Volume III: Selection of MACT Standards and Technologies,'' Section 23.4, September 2005.

lead to upset conditions and potentially damage the integrity of the manufacturing equipment. Other commenters oppose, however, deletion of the minimum combustion chamber temperature limit for cement kilns. These commenters state that all combustion sources, including cement kilns, must meet a minimum combustion chamber temperature limit to control dioxin/furans and organic HAP emissions given that some cement kilns feed hazardous waste at locations other than the high temperature clinker-forming zone of the kiln.

Response: We are deleting as proposed the requirement to establish a minimum combustion chamber temperature limit for dioxin/furan under § 63.1209(k)(2) for cement kilns. See 69 FR at 21343. However, we retain the requirement for cement kilns to establish and comply with a minimum combustion chamber temperature limit for the destruction and removal efficiency standard under § 63.1209(j)(1).[224]

As discussed in the 1999 rule, nondioxin/furan organic hazardous air pollutants are controlled by the DRE standard and the carbon monoxide and hydrocarbon standards. See 64 FR at 52848–52852. This standard was not reopened in the present rulemaking. We note, however, that the DRE standard determines appropriate process controls necessary for the combustion of hazardous waste. Establishing and monitoring a minimum temperature of the combustion chamber is a principal factor in ensuring combustion efficiency and destruction of toxic organic compounds. As discussed in the previous response, we believe this is especially true given the industry trend to convert to the more thermally efficient preheater/precalciner kiln manufacturing process, which use two separate combustion processes. We conclude that it is necessary, in spite of the concerns raised by commenters, to retain the minimum combustion chamber temperature limit as related to the DRE standard to ensure that combustion efficiency within the entire kiln system is maintained for the control of nondioxin/furan organic HAP.

However, we acknowledge the difficulties that cement kiln operators face in establishing a minimum combustion chamber temperature limit, including the stressful operating conditions necessary to establish the limit. As we stated at proposal, our data indicate that limiting the gas temperature at the inlet to the particulate matter control device is a critical parameter in controlling dioxin/furan emissions in cement kilns. See 69 FR at 21344. Therefore, we believe that an operating limit on the minimum combustion chamber temperature is less important to ensure compliance with the dioxin/furan standard than to ensure compliance with the DRE standard. Thus, we remove the requirement to establish a minimum combustion chamber temperature limit for dioxin/furan under § 63.1209(k)(2) for cement kilns. This change does not affect the other operating parameter limits under § 63.1209(k) that must be established for dioxin/furans, including a limit on the gas temperature at the inlet to the particulate matter control device.

Comment: One commenter supports the use of previous minimum combustion zone temperature data, regardless of the test age, in lieu of conducting new, stressful DRE testing. That is, if a cement kiln is required to conduct future DRE tests, then the source should not have to re-establish a minimum combustion chamber temperature limit during the new test. Rather, the source should have the option to submit minimum combustion chamber temperature results in lieu of re-establishing the limit.

Response: We reject the commenter's suggestion for reasons discussed above. We believe that it is necessary to retain the link between the minimum combustion chamber temperature limit and the DRE test itself, which will ensure that the combustion efficiency of the entire system will be maintained for the control of nondioxin/furan organic HAP.

Comment: One commenter supports deletion of the minimum combustion chamber temperature requirement for dioxin/furan under § 63.1209(k)(2) for lightweight aggregate kilns.

Response: We reject the commenter's suggestion. Our data base of dioxin/furan emissions data shows substantial variability in test results at each source.[225] This may indicate that factors other than limiting kiln exit gas temperatures may be influencing significantly dioxin/furan formation in lightweight aggregate kilns. As such, we conclude that removing the minimum combustion chamber temperature limit would not be appropriate at this time due to the uncertain nature of dioxin/furan formation in lightweight aggregate kilns. Thus, we are retaining the requirement to establish a minimum combustion chamber temperature limit for dioxin/furans under § 63.1209(k)(2) and § 63.1209(j)(1) for lightweight aggregate kilns.

L. One Time Dioxin and Furan Test for Sources Not Subject to a Numerical Limit for Dioxin and Furan

Comment. Commenters support the one-time dioxin/furan test for sources not subject to a numerical dioxin and furan standard. Commenters agree that previous testing should be allowed to document the one time test.

Response. The final rule requires sources that are not subject to a standard with numerical dioxin and furan levels[226] to conduct a one-time dioxin and furan test as part of their initial comprehensive performance testing: lightweight aggregate kilns that elect to control the gas temperature at the kiln exit rather than comply with a dioxin/furan standard of 0.20 ng TEQ/dscm, solid fuel boilers, liquid fuel boilers with wet or no air pollution control systems, and HCl production furnaces. We will use these data as part of the process of addressing residual risk under CAA section 112(f) and evaluating future MACT standards under section 112(d)(6). The results may also be used as part of the RCRA omnibus permitting process.

Comment. EPA proposed that source not subject to a numerical dioxin and furan limit conduct a dioxin and furan test under worst-case conditions. Commenters state that operating under worst-case conditions is inconsistent with the CAA Section 112(f) process, which is to consider actual (i.e., normal) emissions. Commenters suggest that we require the tests be conducted under normal to above normal conditions.

Response. Section 112 (f) standards evaluate allowable emission levels, although actual emissions levels may also be considered. See 70 FR at 19998–

[224] Under the interim standards, cement kilns must establish and continuously monitor limits on minimum gas temperature in the combustion zone for both the dioxin/furan and DRE standards. As discussed in the preceding paragraph, a source may not need to conduct DRE testing during each comprehensive performance test. If DRE testing is required, then the source will need to establish a minimum combustion zone temperature limit as required under the DRE standard. However, if DRE testing is not required, then (according to the changes made today) the cement kiln will not be required to establish the minimum combustion chamber temperature limit under the dioxin/furan standard during a subsequent comprehensive performance test. The minimum combustion chamber temperature operating limit established during previous testing remains in effect, however.

[225] For example, dioxin/furan emissions from source number 307 range from a low of 0.024 to a high of 57.9 ng TEQ/dscm. See ''Source Category Summary Sheets'' available in the docket or USEPA, ''Final Technical Support Document for HWC MACT Standards, Volume II: HWC Data Base,'' September 2005.

[226] These sources do, however, need to comply with the carbon monoxide or hydrocarbon standards, as well as the DRE standard as surrogates to comply with today's dioxin and furan emissions control requirements.

19999 (April 15, 2005). Although we agree with the commenter that, in general, emissions in the range of normal to maximum are considered for section 112(f) determinations, we believe that dioxin/furan testing to provide information of use in section 112(f) residual risk determinations should be conducted under conditions where controllable operating conditions are maximized to reflect the full range of expected variability of those parameters which can be controlled. This is because dioxin/furan emissions may relate exponentially with the operating conditions that affect formation. We believe that dioxin/furan emissions relate exponentially with gas temperature at the inlet to an ESP or fabric filter,[227] and are concerned that emissions may also relate exponentially with the operating parameters (discussed below) that affect emissions from sources subject to the one-time dioxin/furan emissions test. Emissions testing under operating conditions that are in the range of ''normal to above normal'' may be exponentially lower than emissions under operating conditions reflecting maximum daily variability of the source. Since testing under normal operating conditions makes no effort to assess operating variability, emissions during such testing would fail to reflect expected daily maximum operating variability and so would not represent time-weighted average emissions and would under-represent health risk from chronic exposure.

Although we acknowledge that sources will not exhibit maximum operating variability each day of operation, we believe that it is important to assess the upper range of emissions that these sources may emit to properly evaluate under section 112(f) whether the MACT standards for dioxin/furan for these sources (i.e., absent a numerical emission standard) protect public health with an ample margin of safety.[228]

In addition, we note that emissions reflecting daily maximum variability would be most useful for section 112(d)(6) determinations in the future because they would represent the full range of emissions variability that results from controllable operating conditions.

For these reasons, the final rule requires sources to test under feed and operating conditions that are most likely to reflect maximized expected daily variability of dioxin/furan emissions, as proposed. Such testing is similar to a comprehensive performance test to demonstrate compliance with a numerical dioxin/furan emission standard where operating limits would be established based on operations during the test. As a practical matter, however, we note that many of the operating parameters discussed below, although controllable to some extent, cannot be quantified and cannot be controlled to replicate the condition in a future test. In addition, some operating parameters we identify may not have as strong a relationship to dioxin/furan emissions as others. Consequently, the operating conditions are generally described subjectively.

Based on currently available research, you should consider the following factors to ensure that you conduct the test under operating conditions that seek to fully reflect maximum daily variability of dioxin/furan emissions: (1) Dioxin/furan testing should be conducted at the point in the maintenance cycle for a boiler when the boiler tubes are more fouled and soot-laden, and not after maintenance involving soot or ash removal from the tubes; (2) dioxin/furan testing should be performed following (or during) a period of feeding normal or greater quantities of metals; (3) dioxin/furan testing should be performed while feeding normal or greater quantities of chlorine; (4) the flue gas temperature in some portion of the heat recovery section of a boiler should be within the dioxin formation temperature window of 750 to 400°F during the testing; (5) the testing should not be conducted under optimal combustion conditions (e.g., combustion chamber temperature should be in the range of normal to the operating limit; hazardous waste feedrate and combustor through put should be in the range of normal to maximum); (6) for units equipped with wet air pollution control systems, the testing should be conducted after a high solids loading has developed in the scrubber system (consistent with normal operating cycles); and (7) for solid fuel boilers, the sulfur content of the coal should be equivalent to or lower than normal coal sulfur levels (within the range of sulfur levels that the source utilizes), and the gas temperature at the inlet to the electrostatic precipitator or fabric filter should be close to the operating limit. In addition, unless sulfur compounds are routinely fed to the boler, dioxin/furan testing should not be performed after a period of firing high sulfur fuel or injection of sulfur additives. See 69 FR at 21308 for more information.

Comment: Commenters state that we should delete the one-time testing requirement for dioxin and furans. The Clean Air Act at Section 114(a)(1)(D) allows EPA to request ''any person'' to sample emissions. Applying the Section 114 authority to an entire subcategory of sources is overly broad, particularly in the context of having already established appropriate surrogates for dioxin and furan in a MACT rule. Commenters are not aware of EPA taking this approach in previous efforts. (Section 114 requests have focused on collecting existing information from sources facing future MACT standards). Commenters oppose this approach because it established a precedent they do not favor, and will bring about significant costs and difficulties to provide the data. They suggest that we delete the proposed requirements for a one-time dioxin and furan test.

Response: We believe that section 114(a)(1)(D) of the Clean Air Act provides us the authority to require sources to conduct a one time test to generate data which can be used in making later section 112 (f) determinations for the source category. The results of the testing may also inform the section 112(d)(6) review and the RCRA omnibus permitting processes. The fact that section 114 specifically indicates that a purpose of gathering information under section 114 is to assist in developing national rules indicates that the provision can have wide sweep extending to all sources in a category. See 69 FR at 21307–308 for a full explanation.

We believe a dioxin and furan test costs approximately $10,000 when conducted along with other testing. We do not believe this cost is significant, and sources must only perform this test once, not more frequently as would be the case to ensure compliance with a standard. We also allow sources to use prior testing to meet this requirement, and allow sources to use ''data in lieu'' so they can test one source if they have more than one of the same identical sources.

We do not believe that obtaining these data will be difficult, and note that the permitting authority can assist sources in planning their tests.

M. Miscellaneous Compliance Issues

Comment: Several commenters state that § 63.1206(c)(3)(iv) requiring an automatic waste feed cutoff (AWFCO) if

[227] See USEPA, ''Technical Support Document for HWC MACT Standards, Volume IV: Compliance,'' July 1999, Chapter 3.

[228] Dioxin/furan are some of the most toxic compounds known due to their bioaccumulation potential and wide range of health effects, including carcinogenesis, at exceedingly low doses. Exposure via indirect pathways is a chief reason that Congress singled out dioxin/furan for priority MACT control in CAA section 112(c)(6). See S. Rep. No. 128, 101st Cong. 1st Sess. at 154–155.

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a parameter linked to the AWFCO is exceeded should be revised to reflect § 63.1206(c)(2)(v)(A)(1). Section 63.1206(c)(2)(v)(A)(1) states that, if the AWFCO is affected by a malfunction such that the malfunction itself prevents immediate and automatic cutoff of the hazardous waste feed, you must cease feeding hazardous waste as quickly as possible.

Response: We agree with commenters in principle, but note that the automatic waste feed cutoff system may fail for reasons other than a malfunction. That is, equipment or other failures are malfunctions only if they meet the definition of malfunction at § 63.2. Failures that result from improper maintenance or operation are not malfunctions. Consequently, the final rule revises § 63.1206(c)(3)(iv) to state that if the AWFCO is affected by a failure such that the failure itself prevents immediate and automatic cutoff of the hazardous waste feed, you must cease feeding hazardous waste as quickly as possible. Revised § 63.1206(c)(3)(iv) does not refer to malfunctions, however, because the AWFCO system may fail for reasons other than a malfunction. The reference in § 63.1206(c)(2)(v)(A)(1) to malfunctions is appropriate because that paragraph addresses requirements during malfunctions.

Comment: Several commenters note that the proposed rule did not include a sunset provision for the Interim Standards applicable to incinerators, cement kilns, and lightweight aggregate kilns after the compliance date of the standards we promulgate today (i.e., the ''permanent replacement standards''). Commenters are concerned that, although the Agency intends for the replacement standards to be more stringent than the Interim Standards, that may not be the case in all situations because of the different format used for some of the replacement standards. For example, several of the replacement standards for cement kilns and lightweight aggregate kilns are expressed as hazardous waste thermal emissions.

Response: Although we are promulgating the replacement standards in a format that ensures they are not less stringent than the Interim Standards, we agree with commenters that not sunsetting the Interim Standards may lead to confusion as to which standards apply. Consequently, we include a sunset provision in today's rule for the Interim Standards. The Interim Standards will be superseded by the final rule promulgated today on the compliance date.

We note, however, that the Interim Standards for total chlorine continue to apply to sources that establish health-based limits for total chlorine under § 63.1215. Consequently, we have incorporated the total chlorine Interim Standards in § 63.1215 as they apply as a cap to the health-based emission limits.

Comment: Several commenters state that the rule should allow extrapolation of ash and chlorine feedrates to establish feedrate limits corresponding to the particulate matter and total chlorine standards. Commenters believe the rationale we use to allow extrapolation of metals feedrates is also applicable to ash and chlorine.

Response: The final rule does not allow you to extrapolate ash and chlorine feedrates achieved during the comprehensive performance test to establish feedrate limits comparable to the particulate matter and total chlorine emission standards.

We do not allow extrapolation of ash to the particulate matter emission standard because particulate matter (i.e., soot) may form in the combustor, particularly at times of unstable combustion conditions. Consequently, extrapolating from ash feedrates may underestimate particulate matter emissions and may not ensure compliance with the particulate matter emission standard.

We do not allow extrapolation of chlorine feedrates to the total chlorine emission standard because chlorine feedrate is an operating parameter limit to ensure compliance with the semivolatile metal emission standard. Because an increase in chlorine feedrate can increase the volatility of semivolatile metals and we do not know the precise relationship among chlorine feedrate, metal volatility, and metals emissions, extrapolating the chlorine feedrate achieved during the comprehensive performance test to a feedrate comparable to the total chlorine emission standard may not ensure compliance with the semivolatile metal emission standard. If a source complies with the semivolatile metals emission standard under § 63.1207(m)(2) where the performance test is waived, however, by assuming zero system removal efficiency and limiting the semivolatile feedrate (expressed as a maximum theoretical emission concentration) to the level of the emission standard, the source may request under § 63.1209(g)(1) to extrapolate chlorine feedrates during the comprehensive performance test up to the total chlorine emission standard.

Comment: Several commenters state that the proposed regulatory language under §§ 63.1206(b)(9)(i) and 63.1206(b)(10)(i) is inconsistent with the proposed preamble, which states that sources should be allowed to petition for alternative standards provided they submit information showing that HAP contributions to emissions from the raw materials are preventing the source from achieving the emissions standard though the source is using MACT control.[229] The commenters state that the proposed regulatory language, despite the intent signaled in the proposed preamble, inappropriately excludes the provisions of §§ 63.1206(b)(9)(i) and 63.1206(b)(10)(i) as an alternative option when complying with the replacement emission standards under §§ 63.1220 and 63.1221.

Response: We agree with the commenters. The proposed regulatory text inadvertently excluded the alternative standard provisions from use by cement and lightweight aggregate kilns under the replacement standards. Accordingly, we are revising the introductory text of §§ 63.1206(b)(9)(i) and 63.1206(b)(10)(i) by making the alternative standards available under the replacement standards.

Comment: One commenter states that the availability of the alternative standard for mercury under § 63.1206(b)(10)(i) should not be conditioned upon mercury being present only at levels below the detection limit in raw materials, as specified under § 63.1206(b)(10)(i)(B). The commenter suggests that the approach for mercury should be the same as for other HAP such as semi- and low volatile metals under § 63.1206(b)(10)(i)(A).

Response: The commenter misreads the alternative standard provisions under § 63.1206(b)(10)(i). We note that § 63.1206(b)(10) includes two separate provisions for cement kilns. The first provision allows sources to petition for an alternative standard when a source cannot achieve a standard because of HAP metal or chlorine concentrations in their raw material feedstocks cause an exceedance of a standard despite the source's use of MACT control. See § 63.1206(b)(10)(i)(A). The term ''regulated metals'' specified in § 63.1206(b)(10)(i)(A) includes mercury, semivolatile metals, and low volatile metals. The second provision allows a source to petition for an alternative mercury standard when mercury is not present at detectable levels in the source's raw materials. § 63.1206(b)(10)(i)(B). These two provisions are indeed separate as

[229] For example, see 69 FR at 21268.

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discussed in the 1999 rule. See 64 FR at 52962–967. Also note that the conjunction separating paragraphs (b)(10)(i)(A) and (b)(10)(i)(B) is ''or,'' not ''and.''

Given the potential confusion of the term ''regulated metals,'' we are clarifying the regulatory text by specifying the three metal HAP volatility groups that comprise the term ''regulated metals.'' See revised § 63.1206(b)(10)(i)(A). Finally, given that the alternative standard provisions are similar for lightweight aggregate kilns, we are also clarifying §§ 63.1206(b)(9)(i)(A) and (b)(9)(iv).

IX. Site-Specific Risk Assessment Under RCRA

A. What Is the Site-Specific Risk Assessment Policy?

The Site-Specific Risk Assessment (SSRA) Policy has undergone several revisions since its inception in the 1993 draft Combustion Strategy. Currently, it is the same policy as we expressed in the 1999 final rule preamble. In the 1999 rule, we recommended that for hazardous waste combustors subject to the Phase 1 MACT standards, permitting authorities should evaluate the need for an SSRA on a case-by-case basis. Further, while SSRAs are not anticipated to be necessary for every facility, they should be conducted where there is some reason to believe that operation in accordance with the MACT standards alone may not be protective of human health and the environment. For hazardous waste combustors not subject to the Phase 1 standards, we continued to recommend that SSRAs be conducted as part of the RCRA permitting process. See 64 FR 52841. Since 1999, we have provided additional clarification of the appropriate use of the SSRA policy and technical guidance in an April 10, 2003 memorandum from OSWER's Assistant Administrator to the EPA Regional Administrators entitled, ''Use of the Site-Specific Risk Assessment Policy and Guidance for Hazardous Waste Combustion Facilities'' (see Docket # OAR–2004–0022–0083). Most importantly, in this memorandum we reiterated that where a permitting authority concludes that a risk assessment is necessary for a particular combustor, the basis for this decision must be substantiated in each case. The factual and technical basis for any decisions to conduct a risk assessment must be included in the administrative record for the facility per 40 CFR 124.7, 124.8, 124.9, and 124.18. In addition, if the facility, or any other party, files comments on a draft permit decision objecting to the permitting authority's conclusions regarding the need for a risk assessment, the permitting authority must respond fully to the comments. Any permit conditions determined to be necessary based either on the SSRA, or because the facility declined to conduct an SSRA, also must be documented and supported in the administrative record.

Today, we are codifying additional regulatory language providing authority for SSRAs while maintaining the same basic SSRA policy. It is important to note that all of the requirements of Part 124 referred to above will continue to apply to actions taken in accordance with the additional regulatory language we are codifying. The SSRA regulatory provisions, which establish that the need for an SSRA should be determined on a case-by-case basis, apply equally to both Phase 1 and Phase 2 sources.

B. Why Might SSRAs Continue To Be Necessary for Sources Complying With Phase 1 Replacement Standards and Phase 2 Standards?

EPA conducted a national evaluation of human health and ecological risk for the MACT standards as proposed in the 1996 NPRM and then revised the evaluation to include more facilities for the 1999 final rulemaking. Based on the results of the final national risk evaluation for hazardous air pollutants (excluding non-dioxin products of incomplete combustion), we concluded that sources complying with the MACT standards generally would not pose an unacceptable risk to human health or the environment. For today's final rule, we did not conduct another national risk assessment as we did for the 1999 rule. Rather, for both the April 20, 2004 NPRM and today's final rule we conducted a comparative risk analysis, comparing the Phase 1 Replacement and Phase 2 Standards to the 1999-promulgated Phase 1 Standards, to determine if there were any significant differences that might influence or impact the potential risk. Similar to the proposal, the comparative analysis conducted for today's final rule focused on several key characteristics: emission rates, stack height, stack gas buoyancy, meteorological conditions (which include a number of variables), population parameters including density and radial distribution, and correlations among the characteristics themselves. The results of the comparative analysis suggest that the MACT standards for both Phase 1 and Phase 2 sources are generally protective. Therefore, separate national emissions standards under RCRA are unnecessary. See Part Seven: How Does the Final Rule Meet the RCRA Protectiveness Mandate? Although we have concluded that the Phase 1 Replacement and Phase 2 standards are generally protective, as we discussed in the 2004 proposal (69 FR 21325), there may be instances where we cannot assure that emissions from each source will be protective of human health and the environment, and therefore an SSRA may be necessary. Furthermore, it should be noted that, just as for the risk assessment for the 1999 rule, the comparative analysis does not account for cumulative emissions at a source or background exposures from other sources.

Before discussing factors that may lead permit authorities to consider whether or not to conduct an SSRA, it should be noted that the Agency generally does not expect that facilities that have conducted risk assessments will have to repeat them. As we explained in the 1999 final rule preamble, changes to comply with the MACT standards should not cause an increase in risk for the vast majority of facilities given that the changes will likely be the addition of pollution control equipment or a reduction in the hazardous waste being burned (see 64 FR 52842). Instances where a facility may need to repeat a risk assessment would be related to changes in conditions that would likely lead to increased risk. For example, if the only changes at a facility relate to the exposed population (a new housing development is constructed within a few square miles of the source), what was once determined to be protective under a previous risk assessment may now be beyond acceptable levels. Another example would be where a hazardous waste burning cement kiln that previously monitored hydrocarbons in the main stack elects to install a mid-kiln sampling port for carbon monoxide or hydrocarbon monitoring to avoid restrictions on hydrocarbon levels in the main stack. Thus, the stack hydrocarbon emissions may increase (64 FR 52843, footnote 29). In such situations, we would anticipate that the risk assessment would not have to be entirely redone. It may be as limited as collecting relevant new data for comparison purposes, leading to a decision not to repeat any portion of a risk assessment. Or, it may be more inclusive such that modifications would be made to specific inputs to or aspects of the risk assessment using data from a previous risk assessment, risk burn or comprehensive performance test. In recognition of this, we have added an additional factor to the list of factors at § 270.10(l)(1) to indicate that a previously conducted risk assessment

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would be relevant in evaluating changes in conditions that may lead to increased risk. The factor reads as follows: ''Adequacy of any previously conducted risk assessment, given any subsequent changes in conditions likely to affect risk.'' The following discussion is intended mainly to address facilities that have not yet conducted an SSRA (i.e., where it has been determined that one is needed).

In the proposal we discussed our conclusion that almost all of the proposed standards for Phase 1 sources were equivalent to or more stringent than the 1999 final standards, with the exception of the mercury standard for new and existing LWAKs and the total chlorine standard for new LWAKs. However, there are additional standards for Phase 1 sources finalized in today's rulemaking that are less stringent than the 1999 final standards. In addition to those discussed in the proposal, the following standards are less stringent than the 1999 final standards: mercury for new cement kilns and semi-volatile metals for existing cement kilns; dioxin/furan for existing and new LWAKs, mercury for existing and new LWAKs, and total chlorine for existing and new LWAKs. Because these standards exceed the levels which were evaluated in the 1999 national risk assessment, especially with respect to mercury and dioxin/furan standards for which the national risk assessment showed high end risks at or near levels of concern, permit authorities may decide on a case-by-case basis that an SSRA is appropriate to determine whether the less stringent Replacement standards are protective. In addition, the comparative analysis results suggest concern regarding the dioxin/furan standard for LWAKs and thus, permit authorities may consider site-specific factors in determining whether the standard is sufficiently protective.

Specific to Phase 2 sources, we mentioned earlier that we conducted the same comparative risk analysis for Phase 2 sources as we did for Phase 1 sources (i.e., by comparing the Phase 2 standards to the 1999 final standards for Phase 1 sources). Although several MACT standards for Phase 2 sources are more stringent than the BIF standards under RCRA, there are a few MACT standards that may be cause for concern on a case-by-case basis, as they are either less stringent than some of the 1999 final standards or the comparative risk analysis suggests concern. They are: The particulate matter standard (and certain metals such as antimony and thallium), mercury standard, and total chlorine standard for solid fuel-fired boilers (SFBs); the dioxin/furan standard (carbon monoxide or total hydrocarbon as surrogate controls, versus a numerical standard) for HCl production furnaces; and the dioxin/furan standard for liquid fuel-fired boilers (LFBs) with dry APCDs. In addition, dioxin/furan emissions data for LFBs with wet or no APCDs indicate an observed level (1.4 ng TEQ/dscm) of more than three times the highest dioxin/furan standard evaluated in the 1999 national risk assessment (69 FR 21285).[230] Thus, these standards may warrant site-specific risk consideration, especially with respect to the dioxin/furan standards. That is, due to the complexity of the dioxin/furan formation mechanism and given the toxicity of dioxin/furans,[231] an SSRA may be needed based on the specific emission levels of each source not subject to a numerical standard. For additional discussion on the protectiveness of standards, please refer to Part Seven: How Does the Final Rule Meet the RCRA Protectiveness Mandate?

There are also site-specific factors beyond the standards that can be important to the SSRA decision making process. As discussed in the proposal, examples include a source's proximity to a water body or endangered species habitat, repeated occurrences of contaminant advisories for nearby water bodies, the number of hazardous air pollutant emission sources within a facility and the surrounding community, whether or not the waste feed to the combustor is made up of persistent, bioaccumulative or toxic contaminants, and sensitive receptors with potentially significantly different exposure pathways, such as Native Americans (69 FR 21326). Also, there are several uncertainties inherent in the 1999 national risk assessment.[232] Thus, the same uncertainties related to the fate and transport of mercury in the environment and the biological significance of mercury exposures in fish (i.e., once mercury has been transformed into methylmercury, it can be ingested by the lower trophic level organisms where it can bioaccumulate in fish tissue), as well as the risk posed by non-dioxin products of incomplete combustion, remain today and may influence a permitting authority's decision. Last, we are finalizing the option for Phase 2 area sources to comply with specific MACT standards as provided by CAA § 112(c)(6) specific pollutants authority. These area sources may need to conduct an SSRA for the remaining RCRA standards that they choose to comply with (i.e., since they do not address the potential risk from indirect exposures to long-term deposition of metals onto soils and surface waters).[233]

In addition to the examples provided in the previous paragraph, we also expressed that an SSRA may be necessary with respect to the proposed thermal emission standards. With respect to Phase 1 sources, we had noted in the proposal that the thermal emission standards for semi-volatile and low volatile metals for cement kilns and LWAKs may be of concern because they directly address emissions attributable to hazardous waste versus a source's total HAP metal emissions. See 69 FR 21326. However, we are requiring sources to comply with both the thermal emission standards and the Interim Standards in today's final rulemaking, since compliance with the thermal emission standards may not always assure compliance with the Interim Standards. As a result, the thermal emission standards for cement kilns and LWAKs no longer pose the uncertainties that they had in the proposal.[234] In regard to Phase 2 sources, the concern at the time of proposal was with respect to the thermal emission standards for liquid fuel-fired boilers. However, the comparative analysis for today's final rulemaking for liquid fuel-fired boilers, which is based on total stack emissions from these sources while assuming compliance with the thermal standards, does not suggest that risks for LFBs are cause for concern (except as otherwise noted, e.g., dioxins).

C. What Changes Are EPA Finalizing With Respect to the Site-Specific Risk Assessment Policy?

In the 1999 final rule preamble, we included a revised site-specific risk assessment (SSRA) policy recommendation to account for promulgation of the new technology-based CAA MACT standards for Phase

[230] The comparative analysis did not specifically suggest concern as it has for other source categories, but per the reference to the proposal, we have some concern regarding the protectiveness of the standard.

[231] There is ongoing uncertainty in cancer and other health effects levels for chlorinated dioxins and furans.

[232] Uncertainties stem from a lack of information regarding the behavior of mercury in the environment and a lack of sufficient emissions data and parameter values (e.g., bioaccumulation values) for nondioxin products of incomplete combustion. See 64 FR 52840–52841.

[233] Currently, there are only five area sources that this may apply to; they are interim status units in the process of conducting an SSRA as part of their final permits.

[234] An exception would be the semivolatile metal Interim standard for existing cement kilns, which is less stringent than the 1999 final standard. As we noted, permit authorities may consider the need for an SSRA as a result.

1 sources. We recommended that permitting authorities evaluate the need for an SSRA on a case-by-case basis for hazardous waste combustors subject to the Phase 1 MACT standards. For hazardous waste combustors not subject to the Phase 1 standards, we continued to recommend that SSRAs be conducted as part of the RCRA permitting process if necessary to protect human health and the environment. We indicated that the RCRA omnibus provision authorized permit authorities to require applicants to submit SSRA results where an SSRA was determined to be necessary. For the reasons described in the previous subsection, we believe that additional controls may be necessary on a site-specific basis to ensure that adequate protection is achieved in accordance with RCRA.

Consequently, because SSRAs are likely to continue to be necessary at some facilities (mainly those that have not previously conducted an SSRA), we concluded that it is more appropriate to include a regulatory provision that explicitly provides for the permit authority to require SSRAs on a case-by-case basis and add conditions to RCRA permits based on SSRA results. Therefore, instead of relying on RCRA § 3005(c)(3) and its associated regulations at § 270.10(k) when permitting authorities conduct or require a risk assessment on a site-specific basis (i.e., as applicable to those newly entering the RCRA permit process), we had proposed to codify the authorities provided by sections 3004(a) and (q) and 3005(b). See proposed regulations at 69 FR 21383–21384, §§ 270.10(l) and 270.32(b)(3). In proposing to codify these authorities, we stated that we were not requiring that SSRAs automatically be conducted for hazardous waste combustion units, but that the decision of whether or not a risk assessment is necessary must be made based upon relevant factors associated with an individual combustion unit and that there are combustion units for which an SSRA will not be necessary. Further, we explained that the proposed language would provide notice to the regulated community that an SSRA may be necessary to support a source's permit, while reminding the permit agency of the need to evaluate whether an SSRA would be necessary on a site-specific basis.

Despite our efforts to explain that by codifying these provisions, we are only modifying the statutory authority under which we implement the SSRA policy while maintaining the same SSRA policy from a substantive standpoint, commenters generally opposed EPA's proposed codification. The comment most frequently presented was that the proposed regulatory language is not helpful to anyone (i.e., regulated community, the public or permitting agencies), is redundant with the omnibus authority, and sets an extremely low hurdle for regulators to require SSRAs.

We disagree that the new regulatory language is not helpful and that it sets an extremely low hurdle for regulators to require SSRAs. We believe that the new provisions are beneficial in two ways: (1) They provide notice to the regulated community and public that an SSRA may be necessary to support a source's permit; and (2) they remind the permitting agencies of the importance of evaluating whether an SSRA would be necessary on a site-specific basis. The new regulatory provision in no way expands or supplements the authority on which EPA had previously relied—i.e., omnibus and § 270.10(k), thus it does not provide any more or less authority to permit authorities (i.e., lower or raise the hurdle) to require SSRAs. We agree that, because the proposed language provides permitting authorities with no greater authority than the omnibus authority, it is somewhat duplicative of § 270.10(k). However, as noted, EPA believes this provision offers important benefits to both the agency and the regulated community, and as explained further below, EPA has adopted a slightly modified version of the proposal pursuant to RCRA § 3004(a) and § 3005(b). See also discussion in subsection F.

Another common view expressed by commenters is that, although extensive risk assessments that have been performed for more than a decade, showing lack of risk to human health and the environment, EPA continues to require SSRAs without a technical evaluation of the historical results. To the contrary, EPA Regional permit writers have found that certain chemicals (especially dioxin and mercury)[235] pose excess risk in certain circumstances—even under the Interim Standards—and consequently find it necessary to assess risk to human health and the environment based on site-specific conditions at the facility. In EPA Regions 7 and 10 for example, some facilities have RCRA risk-based permit conditions that establish more frequent sampling or limits on feed rate for specified metals to ensure that ecologically sensitive areas are not adversely impacted.

Many commenters also state that CAA § 112(f) residual risk process is the appropriate method to assess risk for hazardous waste combustors complying with MACT, not RCRA risk assessments. Specifically, one commenter argued that EPA lacked statutory authority to rely on the omnibus provisions to require SSRA and SSRA-based controls on the grounds that § 112(f) of the Clean Air Act establishes a specific provision to control any residual risk from combustor emissions. We disagree with commenters for two reasons. First, as we explained in the 1999 final rule preamble, the omnibus provision is a RCRA statutory requirement and the CAA does not override RCRA. Promulgation of the MACT standards, therefore, does not duplicate, supersede, or otherwise modify the omnibus provision or its applicability to the sources covered by today's rule. Second, the SSRA under RCRA is usually conducted prior to issuance of the final permit. The CAA residual risk determination is generally made eight years after promulgation of the MACT standards for a source category. Accordingly, a permit authority currently facing a permit decision could not rely on these yet unwritten residual risk standards to resolve its identified concern that the MACT standard may not be sufficiently protective at an individual site. In addition, even though we believe that § 3005(c)(3) and its associated regulations provide the authority to require and perform SSRAs and to write permit conditions based on SSRA results, we are not relying on these provisions as the authority for § 270.10(l). Rather, we are relying on §§ 3004(a) and (q) and 3005(b). See 69 FR 21327.

With respect to the costs incurred when conducting an SSRA, several commenters raised the concern that our approximations do not include portions of actual costs (e.g., data gathering, QA/QC, and third party consultants, risk assessors, and plant personnel time to coordinate and review SSRA efforts and collect facility data), thus resulting in artificially low costs. Commenters cited additional reasons why they feel that EPA's cost estimates are too low including our assumptions that: (1) SSRAs are a one-time or infrequent cost; (2) most SSRAs fall under ''normal'' versus ''unusual'' situations; and (3) the cost of conducting a risk burn during a

[235] Dioxin is a common risk driver due to ongoing uncertainty in cancer and other health effects levels for chlorinated dioxins and furans. Mercury is also a common risk driver due to uncertainties implicit in the quantitative mercury analysis. See discussion in Part Seven, Section II. and 65 FR 52997. Thus, it is not uncommon for permit authorities to require risk-based RCRA permit limits (based on risk assessment results) to control emissions of these pollutants.

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trial burn adds only 20% more to the cost.

Regarding the comment that we did not include actual costs for our estimates of overall costs to conduct an SSRA, we agree that some costs were overlooked. We did include the costs related to conducting an SSRA under ''normal'' and ''unusual'' conditions, SSRA data collection in conjunction with a regular performance burn, and a full independent risk burn including protocol, sampling, analysis, and report. However, we did not capture facility time associated with data collection and management related to the SSRA. Consequently, we have revised our cost estimate for performing these activities; see chapter 4 of the background document entitled, Assessment of the Potential Costs, Benefits, and Other Impacts of the Hazardous Waste Combustion MACT Replacement Standards—Final Rule, October 12, 2005.

In response to the broader comment that our cost estimates are too low (for several reasons mentioned previously), we agree that our estimate of a 20% additional cost to conduct a risk burn with a trial burn may have been conservative and therefore, we have adjusted our previous estimate to include a range of 20% to 40%. The total SSRA cost range has also been updated from $141K–$370K to $157K–$815K.[236] With respect to our assumption that the majority of SSRAs are conducted under ''normal'' conditions (lending to overall lower cost estimates), we do believe that the majority of future SSRAs will fall under the ''normal'' conditions.[237] We believe this is appropriate due to: lack of new facilities coming on-line for which there is no previous test data; availability of commercial modeling software; and finalization of the ''Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities'' guidance, or ''HHRAP'' guidance. However, we do recognize that some facilities can be more complex than others in the hazardous waste combustion universe. Therefore, we have identified a portion of facilities that are likely to incur ''unusual'' costs for a future SSRA and have revised our cost analysis to reflect inclusion of these higher-cost facilities. See background document, Assessment of the Potential Costs, Benefits, and Other Impacts of the Hazardous Waste Combustion MACT Replacement Standards—Final Rule, October 12, 2005.

Also, we maintain our assumption that SSRAs generally represent a one-time cost unless a facility significantly changes its operations or if receptors change such that an increase in risk is anticipated as a result. Even so, as explained earlier in subsection B., we would anticipate that the risk assessment would not have to be entirely redone. It may be as limited as collecting relevant new data for comparison purposes, leading to a decision not to repeat any portion of a risk assessment. Or, it may be more inclusive such that modifications would be made to specific inputs to or aspects of the risk assessment using data from a previous risk assessment, risk burn or comprehensive performance test. With respect to chemical weapons demilitarization facilities, we recognize that due to their specialized waste streams and multiple treatment units, SSRAs, in many cases, are not one-time events and as a result, their SSRA costs are relatively high. The high costs can be attributed to the necessity for each chemical weapons demilitarization facility to perform surrogate trial burns and then agent trial burns for each furnace and each agent campaign (e.g., GB (Sarin), VX, and HD (Sulfur Mustard)). For example, a chemical weapons demilitarization facility would conduct GB trial burns on all the furnaces and then complete destruction of the GB stockpile, followed by VX trial burns and VX stockpile and finally, the HD trial burns and the HD stockpile. This effectively extends the input to the risk assessment of the trial burn data over most of the operational life of the facility.

Last, several commenters raised the concern that EPA's proposal to codify the authority to require SSRAs on a case-by-case basis and add conditions to RCRA permits based on SSRA results, violates the due process protections afforded under the current structure, where SSRAs are required and performed pursuant to RCRA § 3005(c)(3) omnibus authority. Commenters were further concerned that the proposed language in § 270.10(l) would remove existing procedural safeguards by allowing the Agency to require a very expensive SSRA before the draft permit is even issued, thus violating EPA's own procedural standards as well as due process. It appears as though commenters believe that the procedures (and procedural protections) currently applicable whenever an SSRA is conducted are unique to circumstances in which the permitting authority proceeds under the authority of RCRA § 3005(c)(3)—the ''omnibus'' provision. This is incorrect. All of the specific procedural requirements the commenters have raised would be applicable whether the permitting authority proceeded under § 270.10(l), as EPA proposed, or pursuant to RCRA § 3005(c)(3) and § 270.10(k), as is the current practice.

All of the requirements established in Part 124 continue to apply, whether EPA proceeds under § 270.10(l) or under § 270.10(k). As we discussed in the proposal, the basis for the decision to conduct a risk assessment, or to request additional information to evaluate risk or determine whether a risk assessment is necessary, must be included in the administrative record for the facility and made available to the public during the comment period for the draft permit. See 40 CFR 124.7 [statement of basis]; 124.9 [administrative record for draft permit]; 124.18 [administrative record for final permit]. If the facility, or any other party, files comments on a draft permit decision objecting to the permitting authority's conclusions regarding the need for a risk assessment, the permitting authority must respond fully to the comments. Any permit conditions determined to be necessary based either on the SSRA, or because the facility declined to conduct an SSRA, also must be documented and supported in the administrative record.

The commenters' concern that § 270.10(l) allows the permitting authority to require the SSRA prior to the issuance of a draft permit, and therefore the applicant would have no opportunity to comment or challenge that determination, is equally unfounded. There is effectively no practical or substantive distinction between the circumstance when a permit authority communicates the decision that an SSRA is necessary to issue the permit prior to issuing the draft permit, or as part of the draft permit. In either case, if a facility refuses to provide a risk assessment or data to support a risk assessment requested under this provision, the regulations at part 124 make clear that the appropriate recourse is for the permit authority to deny the permit (See 40 CFR 124.3(d); 124.6(b) and 270.10(c). The basis for the denial would essentially be the same in either case—that the information before the agency gives rise to a concern that the MACT may not be sufficiently protective,

[236] The high end of this range applies only to those systems operating under ''unusual conditions'' (the available data suggest that there are only five such facilities).

[237] Normal conditions assume use of previously collected performance burn data, use of standard commercial modeling software that meet Agency guidance, and limited interactions with State and Federal oversight authorities. Unusual conditions assume the need for site-specific modeling, extensive interactions with stakeholders and regulators, an extended time frame, and targeted ecological analyses.

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which the agency is unable to dispel based on the information before it. Consequently, the permit authority cannot determine that the permit meets RCRA's standard for permit issuance. An as noted above, all of the requirements of Part 124 would apply to actions taken in accordance with § 270.10(l). For additional discussion on this issue, please refer to the Response to Comments background document for this final rule.[238]

Despite the many reasons offered by commenters opposing our proposal, we continue to believe that our proposed approach is appropriate. As discussed in the proposal (69 FR 21327) and in the previous subsection, although the Phase 1 Replacement and Phase 2 standards provide a high level of protection (i.e., they are generally protective) to human health and the environment, thereby allowing us to nationally defer the RCRA emission requirements to MACT, additional controls may be necessary on an individual source basis to ensure that adequate protection is achieved in accordance with RCRA. Until today, we have relied exclusively upon RCRA § 3005(c)(3) and its associated regulations at § 270.10(k) when conducting or requiring an SSRA. We continue to believe that § 3005(c)(3) and its associated regulations provide the authority to require and perform SSRAs and to write permit conditions based on SSRA results. In fact, as the next subsection will explain, EPA will likely continue to include permit conditions based on the omnibus authority in some circumstances when conducting these activities, and state agencies in states with authorized programs will continue to rely on their own authorized equivalent. However, because SSRAs are likely to continue to be necessary at some facilities, we are finalizing the authority to require them on a case-by-case basis and add conditions to RCRA permits based on SSRA results under the authority of RCRA §§ 3004(a) and (q) and 3005(c). Therefore, we are finalizing §§ 270.10(l) and 270.32(b)(3) with some minor modifications to provide further clarification of the Agency's intent.

D. How Will the New SSRA Regulatory Provisions Work?

The new regulatory provisions are finalized under both base program authority (§ 3004(a) and § 3005(b)) and HSWA authority (§ 3004(q)). That is, changes made to regulations applicable to boilers are promulgated under HSWA authority, whereas changes made to regulations applicable to incinerators are promulgated under non-HSWA authority. Consequently, when it is determined that an SSRA is needed, the applicability of these provisions will vary according to the type of combustion unit (whether it is regulated under 3004(q), or only 3004(a) and 3005(b)), and the authorization status of the state. Depending on the facts, the new authority would be applicable, or the omnibus provision would remain the principal authority for requiring SSRAs and imposing risk-based conditions where appropriate. See 69 FR 21327.

According to the state authorization section of this preamble (see Part Five, Section IV.), EPA does not consider these provisions to be either more or less stringent than the pre-existing federal program, since they simply make explicit an authority that has been and remains available under the omnibus authority and its implementing regulations. Thus, states with authorized equivalents to the federal omnibus authority will not be required to adopt these provisions, so long as they interpret their omnibus authority broadly enough to require risk assessments where necessary.[239]

The provisions of §§ 270.10(l) and 270.32(b)(3) adopted in today's rule are substantially similar to the provisions EPA proposed. Section 270.10(l) continues to explicitly provide that a permit authority has the authority to evaluate, on a case-by-case basis, the need for an SSRA. EPA has also retained its proposed language that explicitly provides that, where an SSRA is determined to be necessary, the permit authority may require a permittee or an applicant to conduct an SSRA, or to provide the regulatory agency with the information necessary to conduct an SSRA on behalf of the permittee/applicant. The final provision also essentially retains the standard laid out in the proposal: that a permit authority may decide that an SSRA is warranted based on a conclusion that additional controls beyond those required pursuant to 40 CFR parts 63, 264, 265, or 266 may be needed to ensure protection of human health and the environment under RCRA. In § 270.32(b)(3), EPA has also explicitly codified the authority for permit authorities to require that the applicant provide information, if needed, to make the decision of whether an SSRA should be required.

However, EPA has adopted some further clarifications to the final provisions in response to comments. In response to comments that the regulatory language EPA had proposed still fails to provide the regulated community with adequate notice that an SSRA might be required, and what that might entail, EPA has included additional language to address those issues. Specifically, EPA has included a sentence stating that the information required under § 270.10(l) can include the information necessary to evaluate the potential risk to human health and/or the environment resulting from both direct and indirect exposure pathways. EPA has also added language to remind permit authorities that the determination that the MACT standards may not be sufficiently protective is to be based only on factors relevant to the potential risk from the hazardous waste combustion unit at the site, and has provided a list of factors to guide the permit authority in making that determination. See subsections E. and F. for further discussion. The applicability language of §§ 270.19, 270.22, 270.62, and 270.66 also has been amended to allow a permit authority that has determined that an SSRA is necessary to continue to apply the relevant requirements of these sections on a case-by-case basis and as they relate to the performance of the SSRA after the source has demonstrated compliance with the MACT standards.

As previously noted, the requirements at 40 CFR Part 124 continue to apply to actions taken to implement § 270.10(l). Thus, if the permitting authority concludes that a risk assessment or additional information is necessary for a particular combustor, the permitting authority must provide the factual and technical basis for its decision in the permit's administrative record and must make it available to the public during the comment period for the draft permit. If the facility or any other party files comments on a draft permit decision objecting to the permitting authority's conclusions regarding the need for an SSRA, the authority must respond fully to the comments. In addition, the SSRA must be included in the administrative record and made available to the public during the comment period. Any additional conditions and limitations determined to be necessary as a result of the SSRA must be documented and supported in the administrative record as well.[240]

[238] See final Response to Comment to the HWC MACT Standards, Volume 5, Miscellaneous.

[239] Authorized states are required to modify their programs only when EPA enacts federal requirements that are more stringent or broader in scope than existing federal requirements. This applies to regulations promulgated under both HSWA and non-HSWA authorities.

[240] Additional clarification on the appropriate use of the SSRA policy and technical guidance is provided in the April 10, 2003 memorandum from Marianne Lamont Horinko entitled "Use of the Site-

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E. What Were Commenters' Reactions to EPA's Proposed Decision Not To Provide National Criteria for Determining When an SSRA Is or Is Not Necessary?

In the proposal, we stated that we were not proposing national criteria (e.g., guiding factors) for determining when an SSRA is necessary. Although we had developed a list of qualitative guiding factors for permit authorities to consult when considering the need for an SSRA in the September 1999 final rulemaking (revised from the April 1996 NPRM), we never intended for them to comprise an exclusive list for several reasons. Mainly, we felt that the complexity of multi-pathway risk assessments precluded the conversion of the qualitative guiding factors into more definitive criteria. See 69 FR 21328.

Commenters generally agreed that the risk assessment guidance and policy should not be codified. They agreed in principle that it is important to keep the decision to require an SSRA flexible because factors vary from facility to facility. However, several commenters raised the concern that the proposed language of § 270.10 (l) was too vague. For example, one commenter suggested that any additional guidance clarifying how risk assessments should be performed and that providing standards or goals to be achieved by the operating conditions would be helpful. Another commenter felt that EPA should identify specific factors that the regions and authorized states should consider, and specific criteria that should be met, before requiring an SSRA or additional emission controls or other standards. We agree with commenters that additional guidance would be beneficial and have taken a number of actions in this regard. First, EPA is adopting a more detailed regulatory provision that provides a non-exclusive list of guiding factors for permit authorities to use in determining whether the MACT will be sufficiently protective at an individual site, and consequently, whether an SSRA is warranted. Section 270.10(l) now requires that the permit writer's evaluation of whether compliance with the standards of 40 CFR part 63, Subpart EEE alone is protective of human health or the environment be based on factors relevant to the potential risk from a hazardous waste combustion unit, including, as appropriate, any of the specifically enumerated factors. These factors reflect the eight guiding factors that EPA has discussed in several rule preambles. See 61 FR 17372, 64 FR 52842, and 69 FR 21328. However, EPA has also incorporated a few minor revisions to reflect the standards promulgated today, and to reflect the fact that the factors will be codified.

EPA has revised the language of the factors so that the language is consistent between the provisions. Consistency of phrasing is generally more important in regulations, which are binding, than in guidance. For example, some of the factors listed in the 1999 preamble used the phrase ''presence or absence'' while other used the phrase ''identities and quantities.'' EPA has adopted the phrase ''identities and quantities,'' on the grounds that it more precisely expresses the concept intended by both phrases. EPA has also made minor revisions to reduce redundant text, and to shorten the provisions, in the interests of clarity. For example, rather than addressing the proximity of receptors in two factors, EPA addresses this issue in a single factor. However, nothing contained in either of the original factors was deleted as part of this revision. None of the revisions described here substantively change the issues to be considered from those contained in the original eight guiding factors.

In addition to these minor technical revisions, EPA has included language to clarify that one potentially relevant factor for consideration is the ''identities and quantities of persistent, bioaccumulative or toxic pollutants considering enforceable controls in place to limit those pollutants.'' This reflects changes made between the proposed and final MACT standards (e.g., the proposed rule called for beyond-the-floor dioxin limits for some sources; those were not promulgated in the final rule).

Another change is the EPA has deleted the factor that listed ''concerns raised by the public.'' The regulation will allow the decision to be based on any one of the listed factors, and public concern, unaccompanied by an identifiable risk, would not provide an adequate basis for determining that an SSRA was warranted.

Finally, as discussed previously in subsection B., EPA has added an additional factor to indicate that a previously conducted risk assessment would be relevant in evaluating changes in conditions that may lead to increased risk. The factor reads as follows: ''Adequacy of any previously conducted risk assessment, given any subsequent changes in conditions likely to affect risk.'' See § 270.10(l)(1).

One commenter raised the concern that the eight guiding factors the Agency specified in its **Federal Register** notice at 64 FR 52842 (September 30, 1999) did not adequately focus on the central question of whether there are likely to be emissions that would be uncontrolled under the Subpart EEE final rule. They argued that, as an example, under guiding factor #5, if the waste containing highly toxic constituents are being addressed by the Subpart EEE standards, the fact that there might be such wastes should not justify an SSRA. The commenter apparently misunderstands that the factors were not intended to function as stand-alone criteria for requiring an SSRA—i.e., to use their example, the commenter believes that the mere fact that highly toxic constituents are present in the waste would justify an SSRA without consideration of whether the MACT emission standards were sufficiently protective. This is an incorrect reading of EPA's proposed regulation. Rather, the factors were always intended to function as considerations that might be relevant to the determination of whether the MACT was sufficiently protective. However, the regulatory structure EPA has adopted in the final rule makes perfectly clear that the critical determination is that ''compliance with the standards of 40 CFR part 63, Subpart EEE alone may not be protective of human health or the environment.'' Further, the provision states that this determination is to be based only on factors relevant to the potential risk from the hazardous waste combustion unit, including, as appropriate, the listed factors. EPA believes that these provisions make clear that the determination of whether to require an SSRA is to be based on consideration of the conditions at the facility site, including, for example, an evaluation of all enforceable controls in place to limit emissions. Further discussion of EPA's revised provisions can be found in subsection F.

Second, as discussed in more detail below, EPA is issuing a revised risk assessment guidance document that we believe will provide additional insight to help users. While clearly delineating between risk management and risk assessment, the HHRAP explains in great detail a recommended process for performing and reporting on cost-effective, scientifically defensible risk assessments. It includes numerous recommended defaults, while at the same time is flexible enough to incorporate site-specific values. Although the HHRAP provides numerous recommendations, it remains merely guidance and consequently leaves the final decisions up to the permitting authority. We believe that

Specific Risk Assessment Policy and Guidance for Hazardous Waste Combustion Facilities.'' (See Docket # OAR–2004–0022–0083).

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the revised HHRAP guidance will provide further assistance to permit writers, risk assessors and facilities in determining whether or not to conduct an SSRA and what and how much information is required for the SSRA.

F. What Are EPA's Responses to the Cement Kiln Recycling Coalition's Comments on the Proposal and What is EPA's Final Decision on CKRC's Petition?

In the proposal, we provided a lengthy discussion in response to CKRC's petition for rulemaking (69 FR 21325–21331). In its petition, CKRC presented two requests with respect to SSRAs: (1) That EPA repeal the existing SSRA policy and technical guidance because CKRC believes that the policy and guidance ''are regulations issued without appropriate notice and comment rulemaking procedures''; and (2) after EPA repeals the policy and guidance, ''should EPA believe it can establish the need to require SSRAs in certain situations, CKRC urges EPA undertake an appropriate notice and comment rulemaking process seeking to promulgate regulations establishing such requirements.'' Additionally, CKRC stated that it does ''not believe that these SSRAs are in any event necessary or appropriate'' and that they disagree with EPA's use of the RCRA omnibus provision as the authority to conduct SSRAs. Finally, CKRC raised three general concerns: (1) Whether an SSRA is needed for hazardous waste combustors that will be receiving a RCRA permit when the combustor is in full compliance with the RCRA boiler and industrial furnace regulations and/or with the MACT regulations; (2) how an SSRA should be conducted; and (3) what is the threshold level for a ''yes'' or ''no'' decision that additional risk-based permit conditions are necessary. We believe our tentative decision in the proposal addressed each request and concern presented in their petition. However, in its comments, CKRC has restated many of the same issues with new emphasis. Thus, we believe it is appropriate to address their major comments in the following paragraphs.[240a]

1. Whether SSRAs Are Necessary for Facilities in Full Compliance With BIF or MACT Regulations

In its comments, CKRC continues to question the need for any SSRAs at facilities that are in full compliance with the MACT EEE standards. CKRC also states that ''[our] Petition challenged EPA to explain why, if there is any need for SSRAs at all under RCRA, there is a rational basis for why it has limited the entire SSRA program to hazardous waste combustors.'' They argue that, ''The point is that if the ''omnibus'' words in RCRA mean what EPA says they mean for hazardous waste combustors, why do they not mean the same thing for all of the other TSD facilities that also pose the same kind of ''what-if'' hypotheticals that EPA throws out in its preamble?''

As discussed above in subsection B., and in greater detail below, EPA believes that risk assessments will continue to be necessary at some facilities. For example, based on the inconclusive results from the national risk assessment conducted for the 1999 final rule and the comparative risk analysis conducted for today's rule, EPA is not able to conclude that all MACT standards will be sufficiently protective for every facility (e.g., non-dioxin PICs not previously modeled, no numerical dioxin/furan emission standard for solid fuel-fired boilers, liquid fuel-fired boilers with wet or no APCDs, and hydrochloric acid production furnaces, etc.). EPA also provided examples of site-specific factors that might lead risk assessors to decide that the MACT standards may not be sufficiently protective, and therefore an SSRA may be necessary (e.g., if a source's emissions are comprised of persistent bioaccumulative or toxic contaminants). EPA also discussed this issue at length in both the 2004 proposal, and the 1999 rule preamble. See 69 FR 21326 and 64 FR 52842. Given these uncertainties, the SSRA provides significant support for the Agency's 1006(b) determination supporting the elimination of separate RCRA emission standards for MACT EEE facilities.

We disagree that our discussion of standards (and site-specific factors) that may warrant a risk evaluation at certain types of facilities are mere ''what-if'' hypotheticals. The examples that we discussed in both the earlier preambles and above were based on the 1999 national risk assessment and a comparative risk analysis, which concluded that either there was not enough information to make a definitive protectiveness determination or that uncertainty in cancer and other health effects levels of dioxin and furans, for instance, make it difficult to draw conclusions about potential risks. Furthermore, the discussions with respect to the protectiveness of certain standards (i.e., some are less stringent today than the 1999 standards) in subsection B., present a reasonable basis for permitting authorities to consider whether or not risk should be evaluated. In support of our position that the examples we have provided in the 1999 final rule preamble, the 2004 proposed rule preamble, and this final rule, are more than ''what-if'' hypotheticals, we have placed copies of completed risk assessments where risk-based limits were found to be necessary in the docket for today's final rule (see OAR–2004–0022).

The CKRC fails to acknowledge that there are many aspects of hazardous waste combustors and the combustion process itself, which make this category of TSD facilities different from others, and which factor heavily into our SSRA policy. Consider that many combustion facilities feed a wide array of waste streams comprised of many hazardous constituents. The combustion of these constituents results in complex chemical processes (which are difficult to predict) occurring throughout the combustion unit. The end product is stack emissions comprised of a variety of compounds different from those that enter the process, and thus are difficult to predict because they can vary greatly based on the many variables of the individual combustion unit, making them difficult to address (*i.e.*, there are no specific emissions standards to limit certain compounds such as products of incomplete combustion). For example, in attempting to maximize the destruction of organic compounds, products of incomplete combustion are often generated as a consequence. Further, due to stack dispersion, hazardous waste combustors have the potential to affect several square miles. Other types of TSD facilities' operations typically do not encompass such complex processes or have the potential to adversely affect receptors for several square miles.

It should be noted that hazardous waste combustors are not the only type of TSD subjected to site-specific evaluations of risk. We take a site-specific approach to regulating miscellaneous units under Part 264, subpart X. Because it is not possible to develop performance standards and emission limits for each type of treatment unit that may fall under this broad category, we rely on general environmental performance standards to meet our mandate under §§ 3004 (a) and (q) that standards governing the operation of hazardous waste facilities be protective of human health and the environment. For example, § 264.601(c) requires ''Prevention of any release that may have adverse effects on human

[240a] CKRC provided numerous comments organized by subtitles. Rather than relying on this format in the preamble, we have organized the comments and responses according to the concerns initially raised in the petition, and consistent with the discussion presented in the proposal.

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health or the environment due to migration of waste constituents in the air, considering: * * * (6) the potential for health risks caused by human exposure to waste constituents; and * * *'' For all intents and purposes, subparts X units are subject to SSRAs as well.

In addition, the question of whether an SSRA continues to be necessary is partly a function of the fact that EPA is seeking to rely on CAA MACT standards in order to eliminate RCRA emissions standards for these facilities. As noted above, because the MACT is technology-based, and because of uncertainties in our national risk assessments, permit writers' ability to conduct an SSRA in individual cases provides important support for our deferral.

RCRA §§ 3004(a) and (q) mandate that standards governing the operation of hazardous waste combustion facilities be protective of human health and the environment. To meet this mandate, we originally developed national combustion standards under RCRA, taking into account the potential risk posed by direct inhalation of the emissions from these sources. With advancements in risk assessment science since promulgation of the original national standards (*i.e.*, 1981 for incinerators and 1991 for boilers and industrial furnaces), it became apparent that the risk posed by indirect exposure (*e.g.*, ingestion of contaminants in the food chain) to long-term deposition of metals, dioxins/furans and other organic compounds onto soils and surface waters should be assessed in addition to the risk posed by direct inhalation exposure to these contaminants. We also recognized that the national assessments performed in support of the original hazardous waste combustor standards did not take into account unique and site-specific considerations which might influence the risk posed by a particular source. Therefore, until EPA was able to revise its regulations, to ensure the RCRA mandate was met on a facility-specific level for all hazardous waste combustors, we strongly recommended that site-specific risk assessments (SSRAs), including evaluations of risk resulting from both direct and indirect exposure pathways, be conducted as part of the RCRA permitting process. In those situations where the results of an SSRA showed that a facility's operations could pose an unacceptable risk (even after compliance with the RCRA national regulatory standards), additional risk based, site-specific permit conditions could be imposed pursuant to RCRA's omnibus authority, § 3005(c)(3).

Rather than establish separate emission standards under RCRA, EPA decided to coordinate its revisions to the RCRA emissions standards for hazardous waste combustors with the adoption of the MACT standards pursuant to § 112(d) of the CAA. See 64 FR 52832. In the rulemaking establishing the MACT standards for incinerators, cement kilns and lightweight aggregate kilns (Phase 1 sources), relying on RCRA § 1006(b), EPA determined that in most cases, the MACT standards would be sufficiently protective that separate RCRA emission standards and operating conditions would not need to be included in the facility's RCRA permit. However, for a variety of reasons, EPA lacked sufficient factual basis to conclude that a complete deferral of RCRA requirements could be supported for all facilities.

Section 1006(b) conditions EPA's authority to reduce or eliminate RCRA requirements on the Agency's ability to demonstrate that the integration meets RCRA's protectiveness mandate (42 U.S.C. 6005(b)(1)). See *Chemical Waste Management* v. *EPA*, 976 F.2d 2, 23, 25 (D.C. Cir. 1992). To support its RCRA § 1006(b) determination, EPA conducted a national evaluation of both direct and indirect human health and ecological risks to determine if the MACT standards would satisfy the RCRA mandate to protect human health and the environment. That evaluation, however, did not quantitatively assess the proposed standards with respect to mercury and nondioxin products of incomplete combustion. This was due to a lack of adequate information regarding the behavior of mercury in the environment and a lack of sufficient emissions data and parameter values (*e.g.*, bioaccumulation values) for nondioxin products of incomplete combustion. Since it was not possible to suitably evaluate the proposed standards for the potential risk posed by mercury and nondioxin products of incomplete combustion, in order to support our 1006(b) determination, we continued to recommend that SSRAs be conducted for some facilities as part of the permitting process until we could conduct a further assessment once final MACT standards were promulgated and implemented. Specifically, we recommended that for hazardous waste combustors subject to the Phase 1 MACT standards—hazardous waste burning incinerators, cement kilns and light-weight aggregate kilns—permitting authorities should evaluate the need for an SSRA on a case-by-case basis. We further stated that while SSRAs are not anticipated to be necessary for every facility, they should be conducted where there is some reason to believe that operation in accordance with the MACT standards alone may not be protective of human health and the environment. For hazardous waste combustors not subject to the Phase 1 standards, we continued to recommend that SSRAs be conducted as part of the RCRA permitting process. See 64 FR 52841. As discussed in subsection B., EPA believes that SSRAs may continue to be necessary for some Phase 1 facilities. For the Phase 2 sources, our comparative risk analysis generally indicates that, although the MACT standards for Phase 2 sources are appreciably more stringent than the current RCRA BIF standards, an SSRA may be necessary to confirm that a facility will operate in a way that is protective of human health and the environment.

Thus, for both Phase 1 and Phase 2 sources, we continue to believe that SSRAs may be necessary for some facilities.[241] We generally believe the MACT standards will be protective; in most cases they are substantially more protective than the existing RCRA part 264, 265, and 266 requirements. However, because HWCs manage hazardous waste and process it by burning and emitting the by-products into the air, a multitude of potential exposure pathways exist. These exposure pathways can also vary substantially based on site-specific factors associated with an individual combustion unit and the surrounding site. Such factors make it difficult for the Agency to conclude that a single, national risk assessment provides adequate factual support for its determination that the technology-based MACT standards will be sufficiently protective. This is further complicated by the fact that, for certain parameters, the Agency lacked sufficient information to quantitatively assess the risk, but is relying on a combination of quantitative and qualitative assessments of the MACT standards' protectiveness.

Nonetheless, EPA does not believe that the uncertainty is so great that it would preclude a deferral under 1006(b) for the affected categories of facilities; nor does EPA believe that these uncertainties necessarily support requiring a risk assessment for all such facilities. Conditions at the facility

[241] As discussed in section B., we expect that facilities that have previously conducted an SSRA will not need to conduct another in consideration of today's final standards. Only those facilities newly subject to the RCRA permitting requirements, or existing sources where changes in conditions could lead to increased risk, may need to conduct or modify an existing SSRA.

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might confirm that the MACT standards are sufficiently protective, without the need for a facility-wide risk assessment. For example, if the results of the MACT testing demonstrated that the facility's dioxin emissions fall below the levels estimated in the database EPA used for its comparative risk assessment, the uncertainties in EPA's comparative risk assessment would not, by itself, support a decision to require an SSRA. Such decisions require an evaluation of the conditions at the site, and EPA believes it important to retain the flexibility for permit authorities to take these conditions into account. Accordingly, EPA believes that the regulatory structure adopted in today's rule strikes the appropriate balance between these competing factors.

In response to EPA's statement in the proposal that non-HAP emissions, which were beyond the direct scope of MACT, may pose risk which could necessitate an SSRA (69 FR 21326), CKRC pointed out that the same could be said for other types of TSDs, such as landfills, land treatment systems, etcetera, and EPA has not addressed this point in its preamble. As previously noted, combustion units are distinct from other types of TSDs due to the wide array of waste streams being fed to the unit, the complex chemical processes throughout the combustion unit, stack emissions comprised of a wide variety of compounds that are difficult to address, and the potential to impact receptors for several square miles due to stack dispersion. A further distinction is that EPA is seeking to rely on the MACT standards to eliminate national RCRA stack emissions standards under § 1006(b). Unless EPA can affirmatively demonstrate that RCRA's protectiveness standards are met, the Agency cannot eliminate RCRA requirements. A number of uncertainties remain concerning the protectiveness of the MACT standards based on the uncertainties remaining in the supporting national risk assessment and comparative analysis, and the variability of site-specific factors from one facility to another. Permitting authorities' ability to resolve these uncertainties through the use of the SSRA, where appropriate, provides important support for the Agency's 1006(b) finding. Furthermore, as we have noted, under omnibus, to the extent permitting authorities believe there are problems with other types of TSDs, they can impose requirements and request additional information, including an SSRA in accordance with § 270.10(k). Also as previously noted, Part 264, subpart X specifically incorporates site-specific consideration of risk into its regulatory framework.

Next, CKRC comments that EPA has a non-discretionary duty under CAA § 112(f) to address and take care of any ''residual risk'' from MACT facilities in the future in any event. We discussed why we do not believe that the residual risk process should or can take the place of an SSRA under RCRA in subsection C. of this SSRA preamble, as well as in the 1999 rule preamble (64 FR 52843). In short, because the residual risk standards have not yet been established, permit writers cannot rely on this process in reaching current permitting decisions or in acting on currently pending permit applications.

2. Codification of EPA's Technical Guidance

In response to our explanation in the proposal that risk assessment guidelines should be flexible and reflect current science, CKRC gave three comments: (1) Not a word of the current SSRA guidelines has been changed in 3 years; (2) it is easy to write regulations that have provisions that might be applied differently in different situations, and at least many basic, fundamental points can go in regulations, while some details can be in guidance—EPA writes regulations accompanied by ''fill in the small details'' guidance all the time; and (3) EPA seems to have no real problems with regulatory fixes anyway. In addition, CKRC provides several comments related to the previous three throughout their comment document, which are addressed below.

None of these comments address the specific issue EPA raised, which is that, while it certainly is possible to codify our risk assessment guidance, for a variety of reasons, we disagree that it would be appropriate to issue these technical recommendations as a regulation. As we previously explained, risk assessment—especially multi-pathway, indirect exposure assessment—is a highly technical and evolving field. Any regulatory approach EPA might codify in this area is likely to become outdated, or at least artificially constraining, shortly after promulgation in ways that EPA cannot anticipate now. In support of this, we noted specific examples of problems we experienced in implementing the BIF regulations. See 69 FR 21330. Further, we explained that at the time of codification, BIF risk assessments were not intended to address indirect routes of exposure, thus making the parameters easier to implement. Today, however, risk assessments are more complex due to the necessary inclusion of multi-pathway and indirect exposure routes. Given the complexity of multi-pathway and indirect exposure assessments and the fact that risk science is continuously evolving, it would be difficult and again, overly constraining, to codify risk parameters today. We note as well, in this regard, that several commenters agreed that codification of EPA's risk assessment guidance would be too constraining for both the agency and the regulated community.

We also believe that a guidance approach is consistent with the fact that permit authorities must make site-specific decisions whether to do risk assessments at all. We think that it makes little sense to allow this kind of flexibility regarding whether to do a risk assessment and for what purposes, while prescribing how one must be conducted if one is required. In fact, permitting authorities, in some cases, have developed their own guidance methodologies responsive to the specific needs associated with their facilities. For example, North Carolina, Texas, and New York have each developed their own risk assessment methodologies. Further, facilities that choose to conduct SSRAs themselves can choose alternative approaches in applying methodologies as well. We think this flexibility employed in the field supports our judgment that risk assessment methodologies should not be codified. CKRC's comments failed to address any of these issues.

Turning to the remainder of CKRC's specific points—CKRC's assertion that the technical guidance has not been amended in the past three years is inaccurate. A revised HHRAP guidance, that has been amended to take into account the technical recommendations from both the public comments and peer review, is published in conjunction with this rule. In addition, as noted above, in some cases, permitting authorities have developed their own methodologies responsive to the specific needs associated with their facilities.

With respect to CKRC's third point, the regulatory corrections made to the MACT rules were necessary either to fix an error or omission or to resolve potential legal issues. To codify technical tools and chemical information pertinent to the risk process simply is not prudent, as this information is continually changing and would almost always be out of date. Granted, when this information is presented in guidance, it can just as easily become outdated, however, facilities and risk assessors are free to use the most up-to-date air modeling tools and toxicity values available (i.e., they would not be bound to regulations requiring the use of obsolete tools and

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information). We continue to believe that publishing our technical recommendations as regulation would remove much of the flexibility that is important in evaluating risk on a site-specific basis.

CKRC discounts EPA's statement that codification of risk assessment is the exception arguing that ''Neither TSCA or CERCLA, however, specifically commands EPA to define the type of information necessary for a permit application through the rulemaking process as RCRA does. Moreover, the TSCA and CERCLA examples EPA cites are not analogous to the situation where a permit applicant can be denied a permit—or at least strung through months or years of tortuous and costly submissions, revision, and resubmission—to obtain a permit.''

Even if TSCA and CERCLA were not considered to be analogous, that does not change EPA's fundamental rationale that codification of highly technical risk assessment guidance is not appropriate. EPA does not believe that RCRA § 3005(b) requires EPA to codify an exhaustive list of every possible piece of information that might be required in a permit. To some extent, that is the reason for having a permit process—to allow site specific conditions to be taken into account. Nevertheless, EPA has revised part 270, pursuant to RCRA § 3004(a) and § 3005(b) to specifically provide that a risk assessment may be necessary, where there is reason to believe that the MACT standards may not be sufficiently protective. This was done wholly to address the petitioner's concern that the current regulations do not adequately provide notice that an SSRA might be necessary as part of a permit application. This provision, while it does not provide as much detail as the petitioner wishes, clearly ''defines the type of information necessary for a permit application.''

CKRC complains that the Agency did not address in its proposed response the petitioner's discussion of the ''strong case law compelling the conclusion that 'guidance' documents EPA has issued for conducting SSRAs must be subjected to notice-and-comment rulemaking.'' EPA has chosen not to respond to CKRC's legal interpretation because we believe that it is clear that the guidance documents do not impose mandatory requirements, and therefore need not be issued by notice and comment rulemaking. Nevertheless, EPA notes that in the proposal, the Agency explained that we were in the process of reviewing the guidance documents, and, to the extent we found language that could be construed as limiting discretion, we committed to revise the documents to make clear that they are non-binding. See 69 FR 21329. We specifically noted that CKRC indicated in its petition that, in its view, the documents contain language that could be construed as mandatory. While EPA does not necessarily agree, and believes that, in context, it is clear that the recommendations in the documents are discretionary, EPA nonetheless reviewed the documents to ensure that they are carefully drafted. Consequently, under the standards articulated in *Appalachian Power Co.* v. *EPA*, 208 F.3d 1015 (D.C. Cir. 2000) and subsequent case law, the final HHRAP guidance is truly guidance and does not require notice-and-comment rulemaking. The HHRAP explains in great detail an acceptable process for performing and reporting on cost-effective, scientifically defensible risk assessments. It includes numerous recommended defaults, while at the same time provides the risk assessor or facility full opportunity to incorporate site-specific values in place of the defaults. The HHRAP offers numerous recommendations, but requires nothing. EPA has placed a copy of the final guidance document in the docket for today's action (see OAR–2004–0022).

CKRC believes that EPA's technical guidance imposes information requirements upon the RCRA permit applicant that are not contained in any regulations and in fact exceed by orders of magnitude any information requirements contained in the part 270 regulations. We disagree that anything contained in HHRAP is ''required'' in any way. Moreover, to the extent any individual facility believes the information requested is inappropriate or unnecessary, they can challenge that as part of the permitting process.

Lastly, CKRC argues that ''The procedures EPA has been using to issue and revise the SSRA guidance do not by any measure comply with the full panoply of procedures and protections offered by the APA process. Most critically, when EPA merely solicits comments on draft guidance documents, it has no duty to respond to comments and provide a rational basis and justification in defense of its choices in the face of comments. EPA is essentially running its entire SSRA program on the basis of ''draft'' guidance versions for which EPA has never to this day prepared any response to comments.'' As previously noted, EPA believes the final HHRAP is merely guidance and therefore, EPA is not required to proceed through notice and comment rulemaking pursuant to § 553 of the APA. However, because we want the HHRAP guidance to be useful and clear, we have solicited public review and comment. As a result, it has been improved over the years by including revisions to the guidance based upon feedback from users of the guidance and from experience in the field. A response to comments document has been prepared and released along with the final HHRAP and final MACT rules, even though the Agency was not required to do so. More to the point, because it is only guidance, sources will have the opportunity to raise questions or comments on anything in the guidance as part of the permitting process and the permitting authority will be required to respond to those comments as part of the permitting process. See 40 CFR part 124. Sources will also have the right to challenge the responses or use of the guidance as part of the permitting process.

3. Codification of Criteria for Determining That Additional Risk-Based Permit Conditions or an SSRA Is Necessary

CKRC argues that EPA's proposed regulatory changes should not be considered as a partial grant because EPA has not codified specific criteria in the proposed regulations for permit authorities to use to decide whether to require an SSRA; to set the risk levels that are deemed protective; or to otherwise provide any further definition as to what it means to protect human health and the environment.

In its petition, CKRC requested that after we repeal the policy and guidance (per the first request), ''should EPA believe it can establish the need to require SSRAs in certain situations, CKRC urges EPA to undertake an appropriate notice and comment rulemaking process seeking to promulgate regulations establishing such requirements.'' As discussed at length in both the proposal (69 FR 21325–21327) and the preceding paragraphs, we believe that we have established certain circumstances where the MACT standards may not be protective and that an SSRA may be warranted, based on relevant site-specific factors associated with an individual combustion unit. Consequently, we are finalizing regulations that explicitly authorize permitting authorities to conduct or require an SSRA on a site-specific basis. This, in our view, grants the second of CKRC's requests. Our response directly addresses a number of CKRC's concerns: (1) Through a notice and comment rulemaking process, EPA has established circumstances in which an SSRA may be necessary; and (2) EPA's regulations will now explicitly

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acknowledge that an SSRA might be necessary as part of the permitting process, thereby addressing the petitioner's concern that EPA's past approach of relying on RCRA's omnibus authority to implement this policy violates the requirements of RCRA § 3005(b). And as discussed further below, EPA has codified criteria for permit authorities to use to determine whether to require an SSRA.

While it does not provide exactly what CKRC requested, the regulated community has had a full opportunity to comment on the need for an SSRA both as part of the 1999 rulemaking and, again, as part of this rulemaking to adopt the provisions of § 270.10(l), which contain an explicit reference to the potential need for an SSRA as part of the permitting process pursuant to RCRA § 3004(a) and § 3005(b). As previously explained, § 270.10(k) does not explicitly mention the potential for an SSRA to be required. Although the rule does not identify a priori that an SSRA will be required in an individual circumstance, but defers that determination to the permitting process, the final rule reflects EPA's findings that an SSRA is not anticipated to be necessary in every circumstance—only where site-specific conditions give the permit authority reason to believe that additional controls beyond those required pursuant to 40 CFR parts 63, 264, 265, or 266 may be necessary to protect human health and the environment.

CKRC argues that EPA's decision not to codify national criteria renders the regulation impermissibly vague, and therefore, ''in their view totally deficient as a legal matter.'' The petitioner argues that the rule is essentially ''a bootstrap attempt to avoid rulemaking requirements by establishing 'rules' that give no more guidance or direction than general terms in the statute and in no way channel the decision maker's discretion or put the public on notice of anything.'' According to CKRC, this unbridled discretion is manifest in three ways: (1) No criteria explain how a permit writer is to decide whether to require an SSRA; need merely to conclude ''reason to believe''; (2) there are absolutely no limits on what type of information or assessments the permit writer may demand and the proposed reg. does not even hint at what type of information or assessments might be demanded; and (3) there is not a word of guidance or specification as to what it means to ''ensure protection of human health and the environment.'' The petitioner argues that as a consequence, the proposed § 270.10(l) would be struck down as a ''standardless regulation.''

EPA disagrees that the provisions at § 270.10(l) are impermissibly vague, or otherwise inconsistent with the cases the petitioner cites. In the cited cases the courts found that the regulated entity bore the entire burden of determining how to comply with the challenged regulation in the complete absence of a government-generated standard or guidance. See *Maryland* v. *EPA*, 530 F.2d 215, 220 (4th Cir. 1975); *South Terminal Corp* v. *EPA*, 504 F.2d 646, 670 (1st Cir. 1974). This is entirely distinct from the regulations codified at § 270.10(l).

In § 270.10(l) EPA identified the standard for when a risk assessment may be necessary: where the regulatory authority identifies factors or conditions at the facility that indicate that the MACT standards may not be sufficiently protective, and defers the articulation of the more precise requirement to the permitting process, where the onus falls on the permitting authority to identify the basis for its determination. Until the permitting authority provides this further guidance, the regulated entity incurs no obligation. The mere fact that specific factors or facility conditions that form the basis for the determination that an SSRA is warranted will be subsequently identified through the permitting process does not invalidate the regulation. See *Ethyl Corp* v. *EPA*, 306 F.3d 1144, 1149–1150 (D.C. Cir. 2002).

The regulation also identifies the categories of information that might be required for MACT EEE facilities: The information must be necessary to determine whether additional controls are needed to ensure protection of human health and the environment; it can include the information necessary to evaluate the potential risk from both direct and indirect exposure pathways; or it can include the information necessary to determine whether such an assessment is necessary. Here as well, EPA's reliance on the permitting process to provide further specification of the required information is not improper.

Moreover, as discussed above in subsection C., in response to commenters' concerns, EPA has revised § 270.10(l) to provide more detail, both with respect to the basis for the determination that an SSRA is necessary, and with respect to the type of information the permit authority might need. EPA has added language to remind permit authorities that the determination that the MACT standards may not be sufficiently protective is to be based only on factors relevant to the potential risk from the hazardous waste combustion unit at the site. EPA has also added language to § 270.10(l) to identify guiding factors for permitting authorities to consult in determining whether the MACT will be sufficiently protective at an individual site. Although the list of guiding factors is not all-inclusive, they offer a structure for risk managers (as well as the regulated community) to use to frame the evaluation of whether a combustor's potential risk may or may not be acceptable.

Finally, we note that, unlike the circumstances in the cited cases, § 270.10 is promulgated in the context of an existing permitting regime. The regulatory standards at 40 CFR part 124 provide further structure for both the regulated community and the permit authority. For similar reasons, EPA disagrees that the cited cases compel the Agency to establish risk levels that are deemed protective, or to otherwise provide any further definition as to what it means to protect human health and the environment. We discussed at length throughout the proposal the reasons we believe it would not be appropriate to codify either an exclusive set of national criteria for determining that an SSRA (or additional risk-based permit conditions) would be necessary, or a uniform risk level. The decision to require an SSRA is inherently site specific, thus permitting authorities need to have the flexibility to evaluate a range of factors that can vary from facility to facility. See 69 FR 21328–21331. CKRC has neither presented new factual or policy reasons that would cause the Agency to reconsider the tentative decisions presented in the proposal, nor specifically addressed the issues underlying EPA's decision. Instead, the petitioner has merely reiterated the concerns presented in its petition and its general disagreement with EPA's decision.

EPA also disagrees that its new regulatory structure grants permit writers unbridled discretion for many of the same reasons that EPA does not believe that § 270.10(l) is impermissibly vague. As EPA has previously explained, the requirements at Part 124 continue to apply to actions taken to implement § 270.10(l). Moreover, the language of § 270.10(l) makes clear that the onus initially falls on the permitting authority to identify the basis for its conclusion that the MACT standards may not be sufficiently protective. As both part 124 et. seq., and EPA's preamble discussions make clear, facilities will continue to have the opportunity to comment on and challenge the determination. See §§ 124.10, 124.11, and 124.19. The

regulatory structure adopted in § 270.10(l) mirrors the structure Congress established in sections 3004 and 3005; although 3004 directs EPA to establish national standards, section 3005 recognizes that those standards will be applied on a case-by-case basis through the permitting process, to allow site-specific conditions to be taken into account, and to supplement those standards as necessary.

EPA has also provided recommendations through guidance on how an SSRA can be conducted. Although the recommendations are not binding, they provide risk managers (as well as the facility) with a starting point from which to determine whether a combustor's potential risk may or may not be acceptable.

CKRC argues that it appears that rather than following the statutory authorities and requirements to review and amend regulations every 3 years as necessary (RCRA § 2002(b)), EPA decided to take the easy way out and impose, through non-rulemaking ''guidance'', massive, costly, and confusing requirements leaving unbridled discretion to its permit writers.

We disagree that the Agency has attempted to avoid rulemaking in this context. EPA has conducted several rulemakings to amend our regulations. The first was in 1999, when we adopted revised emission standards under the authority of both § 112(d) of the CAA and RCRA to more rigorously control toxic emissions from burning hazardous waste in incinerators, cement kilns, and lightweight aggregate kilns. See 64 FR 52828. At the time, we noted that ''today's rule fulfills our 1993 and 1994 public commitments to upgrade emission standards for hazardous waste combustors.'' We have continued to revise our regulations consistent with and based on the facts before the Agency, taking into account the arguments presented in CKRC's petition. As explained above, we believe that the facts do not support granting all of CKRC's requests. Rather we believe that the MACT standards will generally be protective, and that permit authorities should reach the decision to require an SSRA based on a variety of factors and concerns specific to their sites. In addition, as previously addressed, we believe that our risk assessment guidance should remain as guidance. Several other commenters agree that the guidance should not be codified.

The petitioner argues that the regulation EPA has proposed to adopt is so vague, that it is essentially not a regulation, and that consequently, even if finalized, it would not be sufficient to comply with the requirement in RCRA § 3005(b) to specify in regulations, the information necessary to obtain a permit. They compare the level of detail in § 270.10(l) to the lengthy regulations (codified in 40 CFR part 270) specifying in great detail the information required when one is submitting a RCRA permit application, arguing that ''these regulations cover 75 pages of fine print in Code of Federal Regulations,'' to demonstrate that this regulation would be insufficient under RCRA § 3005(b). In further support of this argument, CKRC cites *Ethyl Corporation* v. *EPA*, 306 F.3d 1144 (D.C. Cir. 2002).

EPA disagrees that its regulations are in any way inconsistent with the decision in *Ethyl Corp.* At issue in that case was a regulation issued pursuant to section 206(d) of the CAA. Section 206(d) provides that EPA ''shall, by regulation, establish methods and procedures for making tests under this section.'' 42 U.S.C. 7525(d). The court found that ''with CAP 2000, [the challenged regulation] the EPA does not claim to have itself articulated even a vague durability test. Rather CAP 2000 requires that 'the manufacturer shall propose a durability program' for EPA approval. 40 CFR 86.182301(a). It thus falls on the forbidden side of the line.'' *Ethyl Corp.*, 306 F.3d at 323–324. The Court distinguished the challenged regulation from the situation in which an agency issues a ''vague'' regulation, and relies on subsequent proceedings to flesh out the specific details. And as the court explained, where ''Congress had not specified the level of specificity expected of the agency, we held that the agency was entitled to broad deference in picking the suitable level.'' 306 F.3d at 323 (citing *American Trucking Associations* v. *DOT*, 166 F.3d 374 (D.C. Cir. 1999) and *New Mexico* v. *EPA,* 114 F.3d 290 (D.C. Cir. 1997).

In § 270.10(l) EPA has articulated the standard for when a risk assessment may be necessary: where the regulatory authority has identified factors or conditions at the facility that indicate that the MACT standards may not be sufficiently protective. EPA has also adopted a list of factors on which permit writers are to rely in reaching this determination. EPA has also identified the categories of information that might be required for MACT EEE facilities: The information must be necessary to determine whether additional controls are needed to ensure protection of human health and the environment; it can include the information necessary to evaluate the potential risk from both direct and indirect exposure pathways; or it can include the information necessary to determine whether such an assessment is necessary. While it does not provide as much detail as the petitioner wishes, this provision unquestionably ''defines the type of information necessary for a permit application.''

Thus, the issue turns on the level of specificity that RCRA § 3005(b) requires, and EPA does not believe that RCRA § 3005(b) requires EPA to publish a list of every possible piece of information that might be required in a permit. Section 3005(b) merely establishes a broad directive that ''each application for a permit under this section shall contain such information as may be required under regulations promulgated by the Administrator,'' and that it shall include the information contained in subsections (1) and (2), leaving to EPA's discretion to determine the level of specificity at which to promulgate regulations. To some extent, this reflects the reason for having a permit process—to allow site specific conditions to be taken into account. The regulatory structure adopted in § 270.10 mirrors the structure Congress established in RCRA § 3004 and § 3005. Despite the petitioner's comparison to the length of part 270, the length of these provisions are not indicative of any determination of the precise level of detail that § 3005(b) requires, but reflects the fact that EPA has adopted requirements specific to individual types of units. Moreover, notwithstanding the petitioner's characterization, the language at § 270.10(l) is comparable to many other provisions in 40 CFR part 270. See, for example: §§ 270.14(b)(8); 270.16(h)(1)–(2); 270.22(a)(6)(i)(C); 270.22(c).

Lastly, CKRC argues that the proposed regulation is particularly problematic, because it extends beyond ''information'' that may already exist. CKRC says that it is one thing to demand that a party go out and gather existing information, but another thing to demand that an applicant conduct ''assessments.'' Moreover, nothing in the regulations prohibits a permit authority from demanding revised assessments, and even more revised assessments. We agree that permit authorities have the authority to require facilities to provide additional information beyond that which already exists. However, based on feedback from EPA Regional permit writers, SSRAs generally represent a one-time cost. We do not expect that facilities that have conducted risk assessments will have to repeat them. As discussed in the 1999 final rule preamble, changes to comply with the MACT standards should not cause an increase in risk for the vast majority of facilities given that the changes, in all

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probability, will be the addition of pollution control equipment or a reduction in the hazardous waste being burned (see 64 FR 52842). Instances where a facility may need to repeat a risk assessment would be related to changes in conditions that would likely lead to increased risk.[242] In such situations, we would anticipate that the risk assessment would not have to be entirely redone. It may be as limited as collecting relevant new data for comparison purposes, leading to a decision not to repeat any portion of a risk assessment. Or, it may be more inclusive such that modifications would be made to specific inputs to or aspects of the risk assessment using data from a previous risk assessment, risk burn or comprehensive performance test. As discussed in subsection B., we have added a new regulatory provision to indicate a previously conducted risk assessment would be relevant in evaluating changes in conditions that may lead to increased risk. The factor reads as follows: ''Adequacy of any previously conducted risk assessment, given any subsequent changes in conditions likely to affect risk.''

4. EPA's Cost Estimates for SSRAs

CKRC raised several objections to our cost estimates for conducting an SSRA, and provided higher cost estimates ($200K to $1M, with upper bound of $1.3M). We suggested in the proposal, that the higher cost figures provided by CKRC were likely incurred prior to the 1998 release of the Human Health Risk Assessment Protocol (HHRAP) guidance document. We believe our lower cost estimates can be attributed to the fact that we based them on the conduct of future SSRAs that will benefit from substantially better guidance and commercially available software.

Multiple issues regarding the cost information we provided in the proposal are raised by CKRC. The first of five issues is that CKRC believes that EPA's methods for calculating costs associated with future SSRAs do not include data gathering costs, QA/QC, third party consultants in addition to risk assessors and plant personnel time to coordinate and review SSRA efforts and collect facility data. We disagree with this statement in part; the estimates developed by the Agency do include data gathering costs, QA/QC, and third-party consultants. (Refer to the proposed rule's support document entitled: Preliminary Cost Assessment for Site Specific Risk Assessment, November 2003, Docket # OAR–2004–0022; and the Assessment of the Potential Costs, Benefits, and Other Impacts of the Hazardous Waste Combustion MACT Replacement Standards—Final Rule, October 12, 2005, for a description of how the estimates were arrived at.) However, we agree with CKRC that the method used to develop SSRA costs does not capture facility time associated with data collection and management related to the SSRA. Consequently, we have adjusted our SSRA cost estimates to account for these activities by incorporating costs associated with time needed for facility data collection and management efforts associated with the SSRA, and will assume that engineering staff are required to perform these tasks.

The second issue concerns the extent to which cement kiln SSRAs are consistent with EPA's ''normal'' assumptions. We do not question the accuracy of the costs submitted by CKRC. However, it is not clear that the costs submitted by CKRC represent typical future costs for SSRA implementation at all facilities in the universe. Certain of the CKRC cost estimates (e.g., those submitted by Ash Grove and Holcim) reflect implementation of SSRAs over a number of years in the 1990s, while SSRA implementation was in its early stages. In other cases (e.g., estimates provided by Solite) costs appear to be consistent with EPA estimates. While we do not dispute the accuracy of these costs, earlier costs are likely to reflect the deliberative process common with early SSRAs.

For the third issue, CKRC's points out that EPA's estimate of 20 percent additional cost for adding a risk burn during a trial burn may be low; CKRC asserts that additional test costs can add up to 40 percent depending on the circumstances. We agree with this and have adjusted the range of total SSRA costs as necessary to assure that a range of additional test costs for separate risk burns (20 to 40 percent incremental cost) are included. For revised figures, see background document, Assessment of the Potential Costs, Benefits, and Other Impacts of the Hazardous Waste Combustion MACT Replacement Standards—Final Rule, October 12, 2005.

CKRC's fourth issue is that EPA does not appear to include more than evaluations of stack emissions in its estimates of SSRA costs. We disagree with this comment. The estimates of SSRA costs developed by the Agency reflect total contractor costs for performing an SSRA at a facility under different sets of conditions, and are not limited to stack emissions.

In the fifth cost-related issue, CKRC asserts that EPA's average estimates might be reasonable if the SSRA process were limited to the submission and acceptance of one SSRA effort. CKRC contends, however, that its members' experiences with SSRAs have involved coordination with state and regional offices and multiple revisions and submissions. Again, we do not question the experiences and costs of specific facilities. However, we anticipate that the 2003 Memorandum, Use of the Site-Specific Risk Assessment Policy and Guidance for Hazardous Waste Combustion Facilities, and the Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities guidance, which is finalized and released in conjunction with today's rule, will provide facilities and regulators with a clearer understanding of SSRA policy and guidance and will support a more efficient SSRA process. EPA's future SSRA cost estimates are based on current or recent cost data from multiple practitioners, and likely reflect a more efficient process than that experienced by some CKRC members in the 1990s.

X. Permitting

As discussed in the proposal, we believe that the permitting approach we adopted in the 1999 final rule is still the most appropriate means to avoid duplication to the extent practicable and to streamline requirements. Thus, both Phase 1 and Phase 2 sources will comply with their RCRA emission limits and operating requirements until they demonstrate compliance with the MACT standards by conducting a comprehensive performance test (CPT), submitting a Notification of Compliance (NOC) documenting compliance to the Administrator or delegated state, and then requesting to have their RCRA permits modified to remove the duplicative RCRA requirements (unless a sunset clause had been added previously that inactivates specified requirements upon compliance with MACT).[243] Ultimately, the MACT air emissions and related operating requirements will reside in the CAA Title V permit, while all other aspects

[242] For example, hazardous waste burning cement kilns that previously monitored hydrocarbons in the main stack may elect to install a mid-kiln sampling port for carbon monoxide or hydrocarbon monitoring to avoid restrictions on hydrocarbon levels in the main stack. Thus, their hydrocarbon emissions may increase. (64 FR 52843, footnote 29.) Another example would be if the only change at a facility relates to the exposed population; what was acceptable in a previous risk assessment may not be any longer.

[243] Although we expect that the vast majority of Phase 1 sources will have had their RCRA permits modified by the time this rule is promulgated, we acknowledge that there may be a few permits yet to be modified.

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of the combustion unit and the facility (*e.g.*, corrective action, general facility standards, other combustor specific concerns such as material handling, risk-based emission limits and operating requirements, and other hazardous waste management units) will remain in the RCRA permit. A new pictorial timeline has been provided to highlight milestones of the MACT compliance process. See figure 1 at the end of this section.

A. What is the Statutory Authority for the RCRA Requirements Discussed in this Section?

EPA is finalizing amendments to modify RCRA permits in today's rule pursuant to sections 1006(b), 2002, 3004, 3005 and 7004(b) of RCRA. 42 U.S.C. §§ 6905(b), 6912, 6924, 6905, and 6074. Our approach is likewise consistent with section 112(n)(7) of the Clean Air Act which indicates that EPA should strive to harmonize requirements under section 112 and RCRA requirements for hazardous waste combustion sources. With respect to the regulatory framework that is discussed in this section, we are finalizing the process to eliminate the existing RCRA stack emissions national standards for hazardous air pollutant for Phase 2 sources as we had done for Phase 1 sources in the 1999 final rule. That is, after submittal of the NOC established by today's rule and, where applicable, once RCRA permit modifications are completed at individual facilities, RCRA national stack emission standards will no longer apply to these hazardous waste combustors (unless risk-based permit conditions are determined necessary).

We originally issued emission standards under the authority of section 3004(a) and (q) of RCRA, which calls for EPA to promulgate standards ''as may be necessary to protect human health and the environment.'' We believe that the final MACT standards are generally protective of human health and the environment, and that separate RCRA emission standards are not needed to protect human health and the environment. See Part Seven, How Does the Final Rule Meet the RCRA Protectiveness Mandate? for a discussion of this topic. RCRA section 1006(b) directs EPA to integrate the provisions of RCRA for purposes of administration and enforcement and to avoid duplication, to the maximum extent practicable, with the appropriate provisions of the Clean Air Act (and other federal statutes). This integration must be done in a way that is consistent with the goals and policies of these statutes. Therefore, based on its findings regarding the protectiveness of the MACT standards, and pursuant to section 1006(b), EPA is generally eliminating the existing RCRA stack emission standards to avoid duplication with the new MACT standards. The amendments made today to allow new combustion units to comply with the MACT standards upon start-up, versus the RCRA stack emissions national standards, are based on the principle of avoiding duplication between programs.

We are not stating that RCRA permit conditions to control emissions from these sources will never be necessary, only that the national RCRA standards appear to be unnecessary. Under the authority of RCRA's ''omnibus'' clause section 3005(c)(3); (see §§ 270.32(b)(2) and (b)(3)), RCRA permit authorities may impose additional terms and conditions on a site-specific basis as may be necessary to protect human health and the environment. Thus, if MACT standards are not protective in an individual instance, RCRA permit writers will establish permit limits that are protective.

In RCRA, Congress gave EPA broad authority to provide for public participation in the RCRA permitting process. Section 7004(b) of RCRA requires EPA to provide for, encourage and assist public participation in the development, revision, implementation, and enforcement of any regulation, guideline, information, or program under the Act.

B. Did Commenters Express any Concerns Regarding the Current Permitting Requirements?

Generally speaking, commenters favor maintaining the permitting approach and requirements referred to above. This approach was finalized in the 1999 rule and has been implemented, and in a few cases is currently being implemented, for Phase 1 sources complying with the Interim Standards Rule. However, several commenters raised similar concerns regarding certain aspects of the transition process from RCRA to MACT and Title V permitting.

1. Removal of Duplicative RCRA Permit Conditions

One comment is in regard to Phase 1 sources that have been fully transitioned (i.e., have had duplicative RCRA permit conditions and requirements removed or that have been ''sunsetted'') to compliance with the Interim Standards that may need to make upgrades to comply with the revised Phase 1 MACT Standards. The concern is that Phase 1 sources needing to make upgrades for MACT should be able to do so without a RCRA permit modification (unless risk-based conditions are present). We agree with the commenters that as long as the technology upgrades (e.g., equipment changes to upgrade air pollution control equipment) do not affect any remaining conditions in the RCRA permit, the regulations do not require a permit modification. For those Phase 1 sources that need to make upgrades to comply with the revised standards, they should address the specific upgrades in their draft Notification of Intent to Comply (NIC) and during the informal NIC public meeting so that the regulatory authority and public are aware of the source's activities and plans for compliance. We encourage early communication between the source and the RCRA permit writer to ensure a common understanding of whether a RCRA permit modification will be needed.

Additionally, Phase 1 sources must comply with the provisions of § 63.1206(b)(5) for changes in facility design. We do not anticipate that upgrades made to comply with the Replacement Standards will adversely affect a source's compliance with the Interim Standards. Therefore, consistent with § 63.1206(b)(5)(ii), sources must document the change in their operating record, revise their NOC and resubmit it to the permitting authority (per § 63.9(h)), and, as necessary, revise their start-up, shutdown, and malfunction plan.[244]

Several commenters felt that we should re-emphasize the importance of removing duplicative RCRA permit conditions and requirements. We agree with the commenters that this is an important action for regulatory agencies. In addition to comments received, we also have learned through the implementation process for the Interim Standards, that some state agencies are not removing duplicative requirements from the RCRA permit. We have clearly stated in several preambles and guidance documents that we believe it is appropriate to retain only the RCRA risk-based conditions that are more stringent than the applicable MACT limits (i.e., if the RCRA condition has been determined to limit risk to an acceptable level and is necessary to protect human health and the environment) in the RCRA permit after

[244] The requirements in § 63.1206(b)(5)(ii) call for sources to revise (as necessary) the performance test plan, DOC, NOC, and start-up, shutdown, and malfunction plan. For sources complying with the Interim Standards, it is not necessary to revise the performance test plan or the DOC, since they were developed in preparation for compliance with the Interim Standards.

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compliance with MACT.[245] However, we also acknowledge that in certain cases it may not be clear which compliance requirement is more stringent. For example, standards under MACT are expressed as concentration based limits (micrograms/dry standard cubic meter) while certain RCRA standards are expressed as mass emission rate limits (grams/second). Also, averaging times between the two programs differ: MACT requires hourly rolling averages whereas RCRA requires instantaneous values. This is an unfortunate consequence of moving compliance from a risk-based program to a technology-based program. Because we cannot definitively say when a RCRA requirement is more stringent than a MACT requirement and consistently apply it to all sources, we are relying on sources and permitting agencies to work together to determine which requirement is more stringent. If the MACT requirement is determined to be more stringent, the permitting agency can remove the requirement from the RCRA permit.

In adopting a permitting approach to place the MACT air emissions and related operating requirements in the CAA Title V permit and to keep all other aspects of the combustion unit and the facility in the RCRA permit, our intent was and still is, to minimize duplication to the extent practicable and to eliminate the potential for dual enforcement. We view it as an unnecessary duplication of effort between programs as well as an unnecessary expenditure of resources and costs for both facilities and regulatory authorities to maintain a RCRA permit and a Title V permit that contain duplicative requirements, when there are viable mechanisms (i.e., Class 1 modification procedure at 270.42 Appendix I, section A.8, or Class 2 or 3 if a state has not adopted the Class 1 procedure) in place to avoid doing so.

Nevertheless, we believe that states should have the flexibility to decide how they will allocate their resources, which is why we did not include a single transition approach for implementing agencies to follow in the 1999 rule or in today's rule. So, in such cases where a state agency chooses not to adopt the transition language (i.e. the Class 1 modification procedure at 270.42 Appendix I, section A.8) into their state requirements (e.g., because the state's procedures are broader in scope or more stringent than the federal requirements) or is unable to reach an agreement between its RCRA and air programs regarding which standards are more stringent, the Title V permitting authority should document these issues, including any continuing RCRA permit requirements, in the title V permit's statement of basis (40 CFR §§ 70.7(a)(5) and 71.7(a)(5)). This will help to ensure that the source is clear regarding its compliance obligations, which is a main goal of the Title V program. Further, for purposes of clarification and as a matter of courtesy, we urge regulatory authorities that choose to impose dual compliance requirements, to also provide a written justification to the source explaining the reasons for their decisions.

2. Transition of Interim Status Phase 2 Units From RCRA to CAA Permits

In response to our discussion in the proposal regarding RCRA permitting for interim status Phase 2 units (69 FR 21324), two commenters suggest that EPA establish policy and/or regulation that discourage further RCRA permitting work for interim status Phase 2 sources. Their comments are directed our statement in the proposal that the RCRA combustion permitting procedures in 40 CFR part 270 also continue to apply until you demonstrate compliance. As noted in this statement, we intended for Phase 2 sources to continue to be subject to RCRA permitting requirements for air emissions standards and related operating parameters, including trial burn planning and testing, until they have demonstrated compliance with the MACT standards by conducting a comprehensive performance test and submitting an NOC to the Agency. However, we also provided several factors that should be taken into consideration when determining whether to proceed with the RCRA permit process such as: the facility's permit status at the time the MACT rule becomes final, the facility's anticipated schedule for MACT compliance, the priorities and schedule of the regulatory agency, and the level of environmental concern at a given site (69 FR 21324).

To support their position, the commenters noted that time and resources would be conserved and duplicative and overlapping activities could be minimized if Phase 2 sources were permitted solely via Title V. Also, they argued that it would avoid expending resources to modify the RCRA permit once the source has demonstrated compliance with MACT. We agree with commenters that every effort should be made to conserve resources and avoid duplication to the extent possible. However, we do not believe it is appropriate to establish policy or regulation that permitting authorities must suspend the RCRA permit process (whether it pertains to interim status or renewals), especially in cases where considerable time and effort has been invested and the permit is close to final issuance. As before, we strongly encourage sources and regulatory authorities to work together to establish an approach that will provide for the most practical transition. For example, we strongly recommend that sunset provisions be included in a permit that will be issued well in advance of compliance with MACT to avoid duplication and a later modification to remove the duplicative RCRA conditions. Also, it would make more sense to transition a source to MACT compliance prior to issuing the RCRA permit if it will comply with MACT early.

3. Transition From Compliance With the Interim Standards to the Replacement Standards

A specific question that has been raised relates to the applicable standards and operating parameters that the source must comply with during the period between the rule's effective date for the Phase 1 Replacement Standards and submission of their new NOC. Upon the publication date of the rule, the Replacement Standards (and Phase 2 Standards) will become effective and sources will have 3 years to come into compliance. During this 3-year period, Phase I sources' existing title V permits will either be reopened to include the Replacement Standards, or the permitting authority will have incorporated the Replacement Standards during permit renewal. In this example, a Phase 1 source's Title V permit has been reopened, revised, or renewed and includes the Replacement Standards, the compliance date has not yet passed, no new documentation of compliance (DOC) for the replacement standards has been included in the operating record, and the source has not yet conducted a comprehensive performance test and submitted a new NOC (therefore it still has an NOC containing the operating parameters for compliance with the Interim Standards).

In the above scenario, the question asked is whether the source should comply with the Interim Standards in the current NOC or the Replacement Standards in the Title V permit. The

[245] As an example, a RCRA permit could specify a higher minimum operating temperature than what is necessary for the facility to achieve compliance with MACT. The lower minimum operating temperature under MACT may be sufficient, unless the RCRA permit authority determines that the higher RCRA temperature is necessary to limit risk to an acceptable level for that facility. There should be a connection between the RCRA limit and protection of human health and the environment when retaining a RCRA limit.

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source should comply with the Interim Standards until the compliance date of the Replacement Standards. Although the Title V permit now includes the Replacement Standards, the permit will also include the Replacement Standards' future compliance date. With regard to the transition from the Interim Standards NOC to the Replacement Standards DOC, we are revising the regulations at § 63.1211(c) to render the NOC, which documented compliance with the Interim Standards, inapplicable upon inclusion of the DOC for the Replacement Standards in the operating record by the compliance date. Thus, the source will not be placed in a situation where it must continue to ensure compliance with the operating parameters established in the NOC for the Interim Standards, while seeking to comply with the Replacement Standards and operating parameters in its DOC. Although it can be assumed that the source would still be able to comply with its Interim Standard-based NOC because the Replacement Standards are the same as or more stringent than the Interim Standards, we believe that the revision to render the previous NOC inapplicable provides a clearer and more sensible approach.

4. Changes to Title V Permits

Both the Replacement Standards and the Phase 2 Standards will necessitate permit reopenings or revisions to some existing title V permits; other permits will incorporate the requirements upon renewal. 40 CFR §§ 70.7 and 71.7 include the requirements for Title V permit revisions, reopenings, and renewals. Also, approved Title V permitting authorities may have additional requirements. Please refer to the appropriate permitting authority and its individual Title V permits program to determine the necessary requirements and procedures.

With respect to incorporating minor revisions into the Title V permit, one commenter had asked, for example, whether revisions made to the NOC to reflect minor operating changes could be incorporated into the permit by reference rather than through the reopening procedures. Determining the appropriate Title V permit reopening or revision requirements is based on the nature of the change and the source specific permit terms and conditions, and is therefore difficult to generalize. We recommend that sources work with their Title V permit authorities to determine the appropriate requirements and procedures that are applicable to any specific situation. However, we would like to note that, when incorporating requirements by reference into the Title V permit is appropriate, this does not necessarily obviate the need for permit revisions if the material incorporated by reference is subsequently revised. For more information on incorporation by reference, please refer to the Office of Air Quality Planning and Standards' ''White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program'' (March 5, 1996), Section II.E.2.c. This paper can be found at: *http://www.epa.gov/ttn/oarpg/t5/memoranda/wtppr-2.pdf.*

C. Are There Any Changes to the Proposed Class 1 Permit Modification Procedure?

In the NPRM, we proposed a new Class 1, with prior Agency approval, permit modification procedure to help further minimize potential conflicts between the RCRA permit requirements and MACT requirements. See 69 FR 21384 and proposed § 270.42(k). During implementation of the Interim Standards for Phase 1 sources, it became evident that there are two significant instances where RCRA permit limits may overlap with MACT requirements: during initial (and future) performance testing and during the period between placement of the documentation of compliance (DOC) in the operating record and the final modification of the RCRA permit after receipt of the NOC. We discussed several existing approaches (e.g., a class 2 or 3 modification, request for approval submitted via the RCRA trial burn plan or coordinated MACT/RCRA test plan, or through a temporary authorization) for addressing these instances, noting that none provided an optimal solution.

All commenters agreed that the new Class 1 modification procedure is the appropriate and most efficient method to enable specific RCRA permit conditions to be waived during instances of overlap referred to above. However, a few commenters were concerned with the requirements in proposed § 270.42(k)(2)(ii) and (k)(3), that require sources to submit their permit modification request upon approval of the test plan and the requirement for the Director to approve or deny the request within 30 days, or within 60 days with an extension. This timeframe is feasible only for those sources that have received approval of their test plans at least 60 days prior to their scheduled date for commencing their performance test. We acknowledged the potential impracticality of this requirement in the proposal, but at the time believed that few sources, if any, would conduct their performance tests without an approved test plan. While this still may be true, we have learned that sources who received extensions for testing (so that they would have an approved plan), typically commenced their test shortly after approval. Consequently, this still would not allow enough time to review and approve the permit modification before the test begins. Thus, the new Class 1 modification would be of no benefit to facilities that conduct their tests without an approved test plan, or to facilities that received extensions and need to begin their tests upon or shortly after approval of the test plan. Also, we found one other circumstance where the timeframes could be problematic: If a permitting agency has allowed sources to begin pretesting/testing upon approval of the test plan. Again, a source would not be able to have RCRA permit requirements waived in time to begin its test.

We agree with commenters that the proposed requirements in 270.42(k)(2)(ii) and (iii) do not provide any flexibility to waive RCRA permit limits for sources that (1) do not have an approved test plan but choose to conduct their test; (2) are granted an extension to their test date because they do not yet have an approved test plan; and (3) may begin testing upon approval of their test plans. Our original intent to require prior Agency approval for the new Class 1 permit modification procedure was to ensure that the proposed test conditions would be sufficiently protective when specific RCRA requirements are waived and that a source has met the regulatory requirements for performance test plans. We still believe that review and approval is an important step; however, we also believe it should not be a barrier and therefore, should occur in advance of a source commencing its performance test. As a result, we have revised the proposed regulatory language in 270.42(k)(2)(i) to specify that sources submit their permit modification requests with their test plans, to allow potentially up to one year for approval (*i.e.,* the performance test plan is due one year before the test is to begin). Also, so that approval does not impede the commencement of the performance test, we have revised the proposed language in 270.42(k)(2)(ii) so that the Director can choose whether to issue approval of the permit modification request contingent upon approval of the performance test plan.[246] In that respect,

[246] In all likelihood, we anticipate that the RCRA permit authority will have reviewed the modification request along with the test plans, worked with its Air counterparts and the source to resolve any concerns, and have prepared the permit

Continued

the RCRA permit authority would continue to have an extra measure of assurance in circumstances that may demand it.

D. What Permitting Approach Is EPA Finalizing for New Units?

1. Why Did EPA Propose a Separate Permitting Approach?

As discussed in the proposal, the current RCRA regulations at §§ 264.340, 265.340, 266.100, 270.19, 270.22, 270.62, and 270.66 do not address how or when new combustion units will comply with the MACT standards. Consequently, the part 270 regulations imply that a new unit must obtain a complete RCRA permit before it can demonstrate compliance with the MACT standards. It was never our intent for new units to develop a trial burn plan and provide suggested conditions for the various phases of operation in the RCRA permit application, given that these conditions will become inactive or need to be removed from their permits upon demonstrating compliance with MACT. To rectify our previous omission, we suggested several options that would allow units newly entering the RCRA permit process [247] (and that will comply with the Subpart EEE requirement upon start-up) to forego certain RCRA permit requirements and performance standards. In developing the options that would enable new units to forego certain RCRA requirements, we noted the importance of public participation opportunities under the MACT/CAA framework equivalent to those provided under the RCRA framework. Thus, each option was constructed in such a way that would streamline the RCRA requirements, but continue to provide early and frequent public participation commensurate with the requirements of the RCRA Expanded Public Participation Rule (60 FR 63417, December 11, 1995).

2. What Options Did EPA Propose for Permitting New Units?

In our preferred approach, we proposed that new units not be required to develop a trial burn plan and provide suggested conditions for the various phases of operation in their RCRA permit application. Instead, new units would only be required to address the remaining RCRA activities at the facility in their permit application (or modification request) including corrective action, general facility standards, other combustor specific concerns such as materials handling, risk-based emission limits and operating requirements, and other hazardous waste management units. While this approach appears to be ideal from the standpoint of reducing the regulatory burden to sources and RCRA permit authorities, we noted that even though a new unit will be required to meet the RCRA public participation requirements as part of the permit application process, the operations and emission information specific to the combustor would no longer be provided. Thus, we focused on certain compliance activities under the MACT/CAA framework (i.e., the Notification of Intent to Comply requirements) that would allow for combustor-specific information to be made available to the public as it would have been under the full RCRA permit process.

Regarding the three additional approaches or ''options'', each considered a different point in the RCRA permit process where a new unit could ''transition'' to compliance with the MACT standards (see 69 FR 21319). Under the first option, a new unit could transition to MACT compliance after it had submitted its RCRA Part B application. The Part B however, would not include the trial burn plan information. The new unit would only be required to discuss the compliance activities related to the combustor as part of the RCRA informal public meeting. In the second option, we proposed that a new unit would transition after its RCRA permit has been issued. Here, the new unit would be required to develop a trial burn plan which provided its proposed operations and emissions information and to discuss its compliance activities via the RCRA informal public meeting. Then, a permit would be issued, but it would not contain operating and emissions requirements in order to avoid a future modification to remove them. For the third option, the transition point would have been after the new unit places the DOC in its operating record, which is the compliance point for MACT. This option is more inclusive than the second because it requires the new unit to have a draft permit that covers the construction and shakedown period.

3. Which Option Is EPA Finalizing?

For today's final rule, we are adopting our preferred, proposed approach: new units will not be required to follow the full RCRA permitting process for establishing combustor operations and emissions. Thus, new units are not subject to the combustor-specific RCRA permit requirements and performance standards (i.e., to develop a trial burn plan, provide suggested conditions for the various phases of operation in their permit application, and subsequently operate under those conditions). However, because these units remain hazardous waste treatment units, they are still required to obtain a RCRA permit, or to modify an existing RCRA permit to include a new unit, prior to construction. They need only address the remaining hazardous waste management activities at the facility in their permit application (or modification request) including corrective action, general facility standards, other combustor specific concerns such as materials handling, risk-based emission limits and operating requirements, and other hazardous waste management units. As we noted in the previous section and will discuss again more thoroughly in the next section, we are relying on the NIC process to provide the public with the combustor-specific information that previously would have been provided under the full RCRA permit process.

Almost all commenters supported our preferred approach to not require that new units complete the full RCRA permit process and to rely on the NIC requirements and the MACT/CAA framework to provide a level of public participation that is commensurate with the requirements under RCRA. Commenters generally agreed that our preferred approach achieves this goal while streamlining the RCRA permit process for new units. One commenter felt that the Title V and New Source Review programs (NSR) provide sufficient requirements to regulate new combustion units. We disagree that either or both of those programs fully address the hazardous waste and public participation components commensurate with that provided by the approach we are finalizing today. For instance, a unit may be constructed and operating before a Title V permit is issued, which directly conflicts with RCRA's early public participation requirements. Also, in some instances, public participation may not be a required component of state issued NSR permits (see footnote regarding public participation and SIPs below). However, we do believe that the NSR program will play an important role regarding the exchange of information, as we will discuss in the section below. With respect to the remaining three options presented in the proposal (69 FR 21319–

modification approval prior to issuance of the test plan approval.

[247] Units ''newly'' entering the RCRA permit process refers to a newly constructed facility, thus newly constructed hazardous waste combustion unit; an existing facility that constructs a new unit; or an existing facility that converts a non-hazardous fuel combustion unit to a hazardous waste fuel combustion unit.

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21320) that suggested a transitional approach (i.e., each option explored progressive points in the RCRA permit process where facilities could transfer over to MACT without fully completing the RCRA process), nearly all commenters were in agreement that they would require more work to implement than is necessary and consequently oppose them.

4. How Will Permitting for New Units Work?

In the proposed rule, we created an approach that utilizes the NIC requirements and the MACT/CAA framework with the intent of ensuring that the requirements of the RCRA Expanded Public Participation Rule would continue to be fulfilled. The four requirements for public participation as they relate to hazardous waste combustion units are: (1) Permit applicants must hold an informal public meeting before applying for a permit; (2) permit agencies must announce the submission of a permit application which will tell community members where they can view the application while the agency reviews it; (3) permitting agencies may require a facility to set up an information repository at any point during the permitting process if warranted; and (4) permitting agencies must notify the public prior to a trial (or test) burn.

As discussed in the preamble to the proposal (69 FR 21318), we believe that the NIC process addresses the first two RCRA public participation requirements. The NIC process requires a source to make its draft NIC, which discusses the source's plan for coming into compliance with the MACT standards, available for public review and to hold an informal public meeting to discuss the activities contained in the NIC. While the NIC process gives the public an early opportunity to participate in the unit's compliance planning process early on, a few components are still missing before we can consider the first 2 RCRA public participation requirements to be fulfilled under the MACT framework. One component is that there is no permit action associated with the NIC requirements. However, the NSR program can provide a permit mechanism that will determine whether or not a source may be constructed.[248] The steps associated with obtaining an NSR permit, or a ''pre-construction'' permit, are similar, but not necessarily identical to that required under RCRA. They are: (1) Preparation of the permit application (sources must provide the location, design, construction, and operation information) and participation in pre-application meetings; (2) issuance of permit application completeness determination by the State; (3) development and negotiation of draft permit; (4) opportunity for public notice and comment on the draft permit; (5) response of permitting authority to public comments; (6) possible administrative and judicial appeals; and (7) permit issuance/denial.[249]

A second component is that the NIC does not provide the information on the proposed combustor operations or emissions information that would normally be available as part of the RCRA process. To address these gaps between RCRA and MACT, we are requiring an approach similar to that which was proposed. New sources must: (1) Prepare a draft NIC and make it available to the public at the same time as their RCRA pre-application meeting notice; (2) provide a draft of their comprehensive performance test (CPT) plan (to the public) to coincide with the draft NIC and RCRA pre-application meeting notices; and (3) hold their NIC public meeting with their RCRA informal public meeting. The first two requirements ensure that the public is provided with most of the same information that would have been available via the RCRA trial burn plan prior to the source burning hazardous waste. Other information not required by the NIC or CPT plan, such as the combustion unit's design specifications will, in most cases, be available to the public through the NSR permit application. We recommend that sources submit a copy of their NSR permit application to the RCRA permit authority so that this information is readily available for development of the RCRA permit. The third requirement allows the public to inquire and comment on both the new unit's proposed activities and operations. By requiring new sources to develop, notice, and hold a combined public meeting that encompasses the NIC, draft CPT plan, and RCRA pre-application notice information, the public will be provided with all information related to the combustor's compliance plans as well as its operating plans and emissions estimates prior to burning hazardous waste. See new requirements in § 63.1212.

With respect to the requirements we are finalizing today, we received only one comment that expressed concern. The concern is that the requirement to submit the CPT plan is too early in the compliance process. For example, the RCRA application is submitted approximately 2–3 years before start-up whereas the CPT plan is required 1.5 years after the final NIC is due.[250] The commenter feels that the facility would not have enough time to learn about the ''detailed nuances of the system''. However, the commenter does note that it is possible to submit the CPT plan, but it will not be as complete or refined as it would be if it was submitted according to the deadline for existing units. We agree with the commenter that a considerable amount of planning is required of the source to be able to draft the CPT plan at such an early stage, but we are only requiring that a draft of the CPT plan be made available, with the final CPT plan due 6 months prior to the source's compliance date. Moreover, at this early stage, we liken the development of the draft CPT plan to the development of the trial burn plan. Even though it may not be as complete or refined as it will be when the final CPT plan is due, we believe that it will still be of benefit to the public and the regulatory authority, but also to the source in terms of advance planning for the design of the unit through start-up of the unit.

The components thus far, have satisfied the first (2) two RCRA public participation requirements. The third RCRA public participation requirement enables a regulatory authority to evaluate the need for and require a facility to establish and maintain an information repository. The establishment of an information repository is typically required only when there are concerns or unique information needs of a community. The purpose of the information repository is to make information regarding the facility (and combustion unit) available to the public during the permit issuance process and during the life of the permit. In the preamble, we noted that

[248] We believe that the majority of new units will be classified as major sources for NSR permitting (requiring either prevention of significant deterioration or nonattainment permits), however, those that do not, will likely be required to obtain a minor NSR permit. In few cases, new sources (e.g., newly constructed as opposed to modified) may not be required to obtain an NSR permit if its potential to emit does not exceed the NSR threshold level.

[249] With respect to numbers 4 and 5, many States omitted the public participation steps in their federally approved SIPs. This was the reason why Sierra Club had been opposed to our efforts to simply rely on NSR permitting to provide public participation opportunities that would have been otherwise provided under the traditional RCRA permit process for new units. Today, however, many SIPs have been revised to address public participation requirements.

[250] Comprehensive performance test plans are required to be submitted one year in advance of the scheduled test. The submittal date would be as late as 2.5 years after the effective date of the rule assuming no extensions are granted.

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although the Title V permit process contains a provision that any materials relevant to the permit decision be made available to interested persons (see § 70.7(h)(2) and § 71.11(d)), the information may not be made available until well after the combustor is constructed and operating. Consequently, we have chosen to adopt additional provisions under the NIC requirements that parallel the requirements of § 124.33.

We had proposed two options that would allow a regulatory authority to require, on a case-by-case basis, a source to establish an information repository specific to the combustor. The first option was to place such a provision in the NIC regulations and the second option was to amend the applicability language in § 124.33 to include combustion sources that will comply with Part 63, subpart EEE upon start-up. Two commenters felt that the second option would create problems as far as organization (i.e., by modifying the RCRA regulations to include a provision solely for new units complying with MACT). We agree that the second option could be confusing and that it would be more appropriate to keep all new requirements for new units in one set of regulations. Therefore, we are finalizing a provision that will allow for an information repository to be established specific to the combustor (recall that a repository established pursuant to the RCRA permit will include documents relevant to the facility only), if deemed appropriate, under the NIC regulations. See new § 63.1212(c). Under the NIC regulations, the repository could include the NIC, test plans, draft Title V permit and application, reports, et cetera.

The fourth and final RCRA public participation requirement to be fulfilled is for the regulatory authority to notify the public of an impending trial burn or test burn. As discussed in the RCRA Expanded Public Participation Rule, the RCRA permit authority will typically provide the notice at least 30 days in advance of the test (60 FR 63426, December 11, 1995). Similarly, the MACT regulations require an existing or new unit to provide notice to the public that the CPT plan (and the continuous monitoring system performance evaluation test plan) is available for review. The regulations in § 63.1207(e)(2) fulfill this requirement. Although the CPT plan may not be approved before the public is notified, the intent is to provide notice to the public of a future test. We believe that the MACT regulations provide public notice of the test plans that are commensurate with the RCRA regulations and thus, no additional regulatory revisions or amendments are needed.

4.a. Process for New Units Seeking an Initial RCRA Permit

We anticipate that the process for new units seeking an initial permit will work as follows. Any new unit would begin the process by developing and compiling the information necessary for the RCRA draft permit (e.g., information required for the part A application at § 270.13, the relevant general information for the part B application according to Part 270) and the applicable NSR permit.[251] The information needed to compile the draft NIC and draft CPT plan would be gathered simultaneously, as if the source were developing the trial burn plan. When the source has compiled its RCRA permit application, draft NIC and draft CPT plan, it would submit a RCRA pre-application meeting notice at least 30 days prior to the date scheduled for the RCRA informal public meeting according to §§ 124.31(b) and (d). At the time of the RCRA pre-application meeting notice, the source would also issue notice of the NIC public meeting (at least 30 days prior to the NIC meeting) according to § 63.1210(c)(3), so that the two meetings can occur at the same time. In order for the public to be able to view all information relevant to the combustor before the combined RCRA pre-application and NIC public meeting, the source would make the draft NIC and draft CPT plan available to the public for review at the same time the notices for the meetings are issued. To aid the RCRA permit authority in its development of the draft RCRA permit (*i.e.*, mainly for purposes of evaluating risk), we strongly recommend that the source also provide copies of the draft NIC, draft CPT plan, and NSR application (if applicable) to the RCRA permit authority. It is our hope that the availability of information will expedite the development of the draft permit. All notices should be presented to the public in sufficient time to allow for a combined RCRA informal public meeting and NIC public meeting.

Following the combined public meeting, the source will submit its RCRA permit application and the RCRA regulatory authority will prepare and issue a draft permit. The public will then have an opportunity to comment on the draft permit and request a public hearing. Upon resolution of any issues surrounding the draft permit, a final RCRA permit will be issued. The RCRA process is the same as before, but should be reasonably shorter. Finally, the new unit may begin burning hazardous waste when it can assure it will operate in compliance with the MACT standards (*i.e.*, by placing a documentation of compliance in its operating record on the day it begins burning hazardous waste). See new regulatory language at § 63.1212(c). To aid readers in understanding the above process, we have included a pictorial timeline. Please see figure 2.

Finally, it may also be feasible to combine an NSR pre-application meeting and public notice of the draft NSR permit with the process described above. Thus, we recommend that sources work closely with their Air and RCRA permit agencies so that the NSR public notices and meetings may be coordinated with the RCRA and NIC notices and meetings so time and resources are efficiently utilized.

4.b. Process for New Units Modifying an Existing RCRA Permit

The process of adding a new unit to an existing permit is accomplished through a Class 3 permit modification (see § 270.42 (c) for requirements). The requirements governing public notices of the draft NIC, draft CPT plan, and holding a combined public meeting are essentially the same as new units seeking an initial permit. The process is as follows. The source prepares and submits its RCRA permit modification request (and if applicable, NSR application). It must then publish a notice of the modification request seven days later, followed by a public meeting no earlier than 15 days after publication of the notice for the modification request, and no later than 15 days before the close of the 60-day comment period. As with new units that are submitting an initial RCRA permit application, it is also important for sources seeking to modify their permit to coordinate their NIC public meeting with their RCRA permit modification public meeting. This is made possible due to the flexibility of the NIC public meeting; it can be held any time prior to the 10 month deadline. After the combined public meeting and the close of the comment period, the permit authority will either grant or deny the modification request. If approved, the source may then begin construction or modification of the unit. To aid readers in understanding the timing of the

[251] Because the information required for NSR permit is less comprehensive than a RCRA permit, it allows for a much shorter time period for issuance. The average time for issuing a PSD permit, for example, after receiving an application is slightly more than 7 months, but varies depending upon public involvement and negotiation of the application content. USEPA. Docket A–2001–19, Document II–A–01. *NSR 90-Day Review Background Paper*, June 22, 2001.

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above process, we have included a pictorial timeline. Please see figure 2.

Again, it may be feasible to combine an NSR pre-application meeting and public notice of the draft NSR permit with the process described above. Thus, we recommend that sources work closely with their Air and RCRA permit agencies so that the NSR public notices and meetings may be coordinated with the RCRA and NIC notices and meetings so time and resources are efficiently utilized.

E. What Other Permitting Requirements Were Discussed in the Proposal?

At proposal, we discussed where most Phase 1 sources would be in terms of their transition from their RCRA permit requirements to compliance with the MACT Interim Standards (see 69 FR 21321). The transition process was discussed with respect to both the RCRA permit and the Title V permit. However, when we discussed the Title V permit requirements in the proposal, we did not elaborate on the transition between the Interim Standards and Replacement Standards. Because we believe that such a discussion would be helpful to readers, we have included general information describing how the transition process would work for most sources in Section B. Did Commenters Express any Concerns Regarding the Current Permitting Requirements?, subsections 3 and 4.

For Phase 2 sources, we proposed the same permitting approach as we did for Phase 1 sources. Today, we are finalizing as proposed, the following for Phase 2 sources: (1) the new Phase 2 emissions standards will be placed only in the CAA regulations at 40 CFR part 63, subpart EEE, and be implemented through the air program; (2) with few exceptions, the analogous standards in the RCRA regulations no longer apply once a facility demonstrates compliance with the MACT standards in subpart EEE and any duplicative requirements have been removed from the RCRA permit; and (3) the new standards will be incorporated into operating permits issued under Title V of the CAA rather than be incorporated into RCRA permits. Consequently, we are finalizing the proposed changes to §§ 270.22 and 270.66 to implement the above. Also applicable to Phase 2 sources via today's final rule are the changes and additions we finalized in the 1999 final rule for Phase 1 sources. These include a streamlined RCRA permit modification procedure to allow sources to make upgrades to comply with MACT (§§ 270.42(j) and 270.42 appendix I, section L.9), a second streamlined RCRA permit modification procedure to remove conditions from a permit that are no longer applicable (§ 270.42 appendix I, section A.8), an addition to § 270.235 to specify conditions for start-up, shutdown, and malfunction plan and integrate them with the CAA program, and an amendment to the interim status regulations at § 270.72 to exempt interim status facilities from the reconstruction limitation when making upgrades to comply with MACT.

Also, we are finalizing three new permitting changes that are applicable to both Phase 1 and 2 sources. Two have been discussed previously in this section and are: (1) A new streamlined RCRA permit modification procedure designed to reduce overlap during the transition from RCRA to MACT (§§ 270.42(k) and 270.42, appendix I, L.10); and (2) regulatory provisions stating that new units are no longer subject to the full array of RCRA combustion permitting requirements. The third change is discussed above in Section IX. Site-Specific Risk Assessment Under RCRA and finalizes our response to a petition for rulemaking with respect to site-specific risk assessments (SSRAs). As part of this change we have decided to adopt regulatory language that specifically provides clarification of authority for RCRA permit writers to evaluate the need for and, where appropriate, require SSRAs and to add conditions to RCRA permits that they determine, based on the results of an SSRA, are necessary to protect human health and the environment.

Last, as explained in part four section II.A, we are finalizing our decision to regulate emissions of dioxin/furans, mercury, polycyclic organic matter, and polychlorinated biphenyls from Phase 2 area sources under section 112(d).[252] This means that Phase 2 area sources are subject to MACT standards only for these hazardous air pollutants (HAP) in the final rule. To reiterate, they are: Dioxin/furans, mercury, and polycyclic organic matter (controlled by the surrogates DRE and carbon monoxide/hydrocarbon). For the remaining HAP (hydrogen chloride and chlorine gas and metals other than mercury), Phase 2 area sources may either comply with the MACT standards for Phase 2 major sources or continue complying with the RCRA standards and requirements of their RCRA permit.

In the 2004 proposal, we stated that we were not making a positive area source finding for Phase 2 area sources as we have for Phase 1 area sources (69 FR 21212 and 21325). Regardless of this, however, the Phase 2 area sources are still subject to the requirement to obtain a Title V permit because they are subject to section 112 standards under this subpart. See § 502(a) of the CAA and 40 CFR §§ 70.3(b)(2) and 71.3(b)(2).

It is important to note that the Title V applications for the Phase 2 area sources will need to contain emissions information relative to all regulated air pollutants (to determine applicable requirements, fees, etc.) that are being emitted from the units subject to the MACT standards, not just the specific HAP pollutants regulated by the MACT standards (see §§ 70.5(c)(3)(i) and 71.5(c)(3)(i)). Although, the permit itself would contain standards only for the HAP subject to MACT standards (the § 112(c)(6) HAP). A Phase 2 area source which chooses to control hydrogen chloride, chlorine gas, and metals other than mercury by continuing to comply with the relevant RCRA standards and the requirements of its RCRA permit should note this choice in its Title V application and cite to the relevant requirements of this subpart. This will help ensure that the permitting authority is aware that these requirements apply in lieu of the MACT standards for Phase 2 major sources. The permitting authority should also document this choice in the statement of basis for the source's Title V permit. See §§ 70.7(a)(5) and 71.7(a)(5). Finally, for the units at a source which are subject to the subpart EEE MACT standards, all CAA applicable requirements to which these units are subject, *e.g.*, State Implementation Plan requirements, not just the relevant Subpart EEE requirements, must be included in the Title V permits issued to these sources. See §§ 70.3(c)(2) and 71.3(c)(2). For more information regarding § 112(c)(6) and how it relates to Phase 2 area sources, see Part Four, Section II.A., ''Area Source Boilers and Hydrochloric Acid Production Furnaces''.

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[252] As explained in the Comment Response Document vol. V, although § 502(a) allows EPA to exempt area sources from title V permitting requirements if EPA finds that those requirements would be (among other things) ''unnecessarily burdensome'', we believe that Title V requirements remain appropriate for these sources given the highly toxic nature of the HAP and the importance of affording opportunity for public participation as provided for in the Title V permit issuance process.

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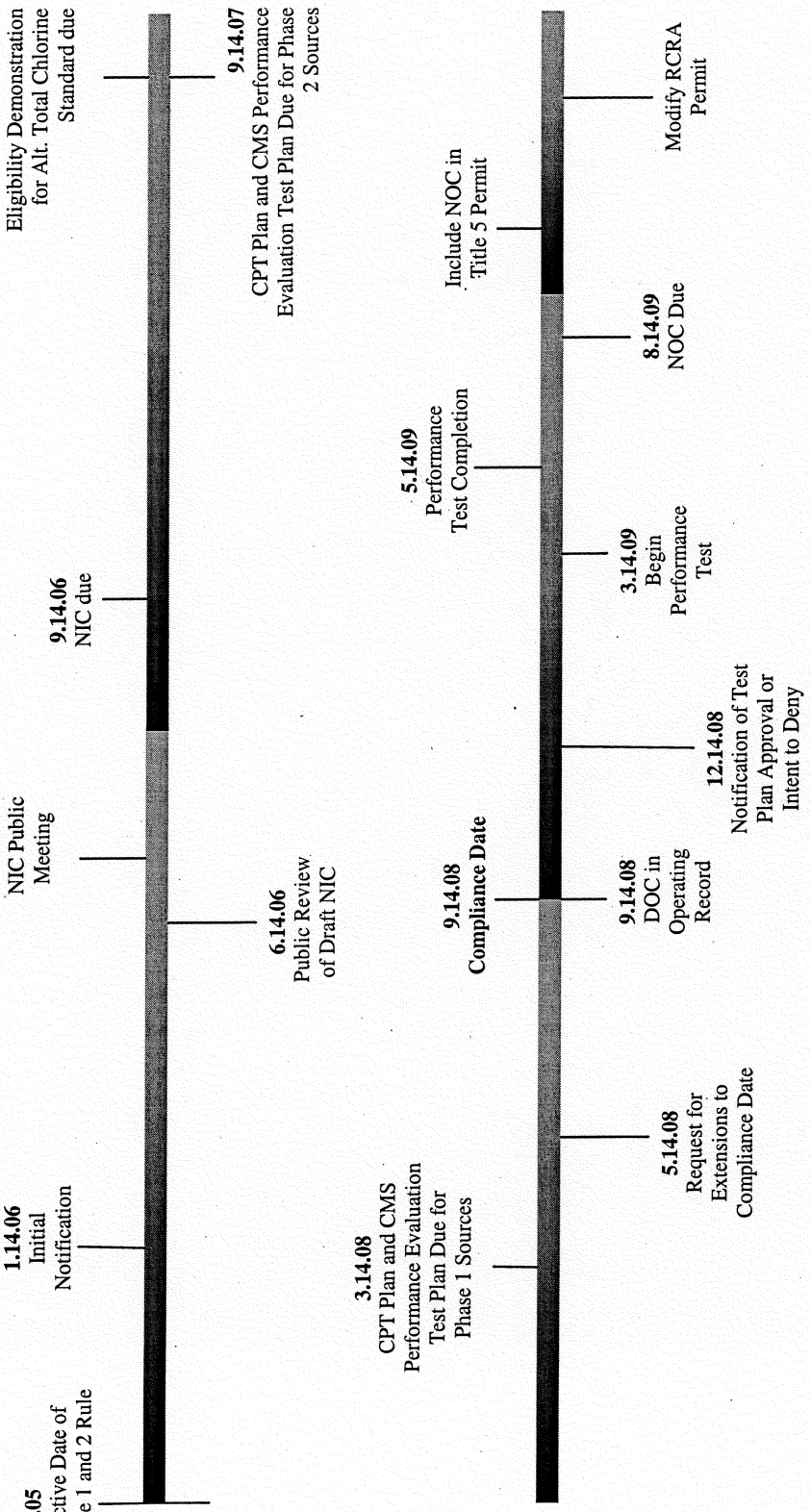
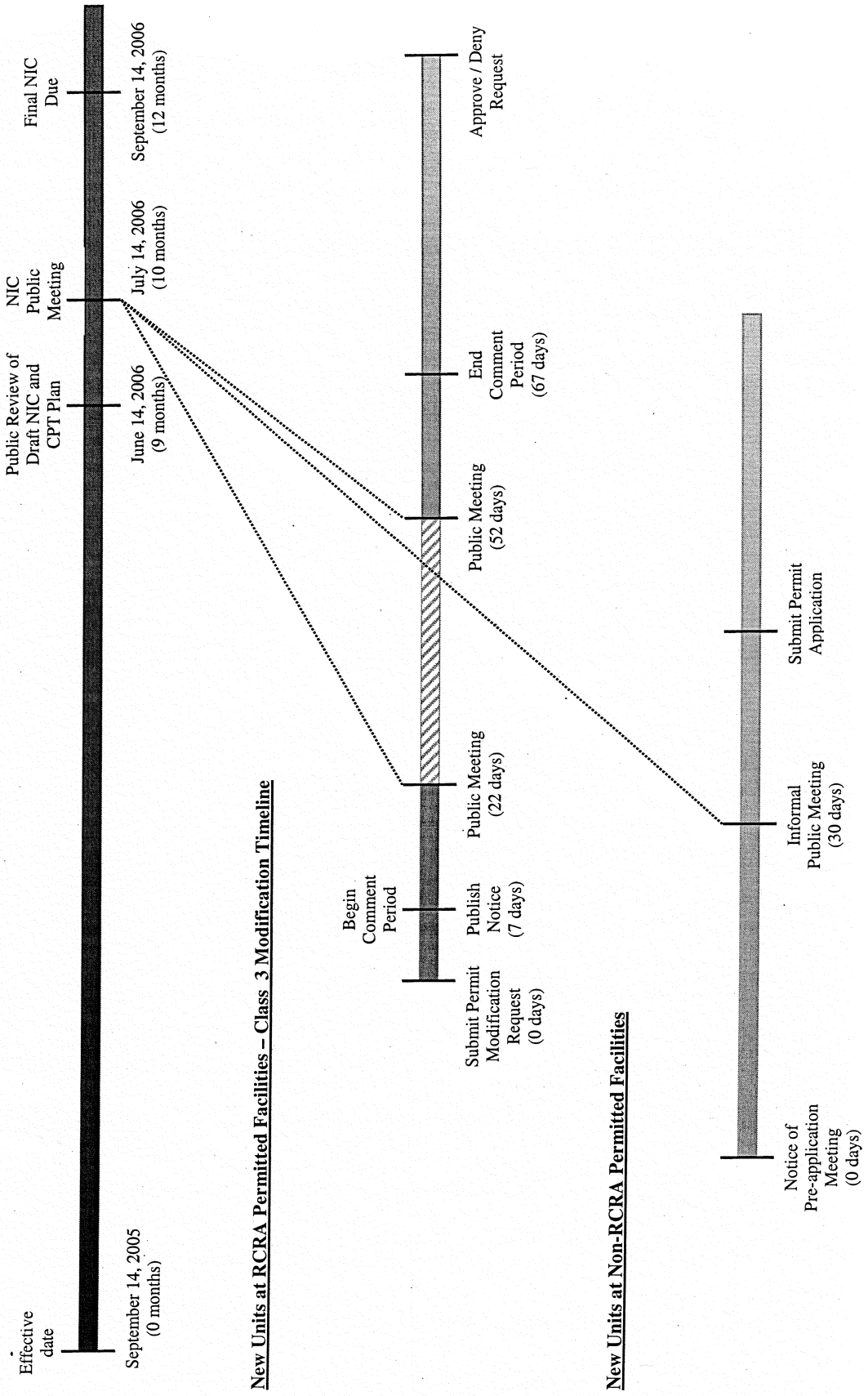
Figure 1. Time Line for Phase 1 Replacement Standards and Phase 2 Standards[253]



[253] Because of the variability of the Title V program requirements, most Title V permit actions (application due dates, revisions, reopenings, etc.) are not included in this timeline. Please refer to the particular source's current Title V permit status, the Title V regulations, and the individual permitting authority's Title V program requirements.

Figure 2. NIC and CPT Plan Time Line for New Units



Part Five: What Are the CAA Delegation Clarifications and RCRA State Authorization Requirements?

I. Authority for This Rule

Today's rule amends the promulgated standards located at 40 CFR part 63, subpart EEE. It amends the standards for the Phase 1 source categories—incinerators, cement kilns, and lightweight aggregate kilns that burn hazardous waste, and it also amends subpart EEE to establish MACT standards for the Phase 2 source categories—boilers and hydrochloric acid production furnaces that burn hazardous waste. Additionally, this rule amends several RCRA regulations located in 40 CFR part 270 to reflect changes in applicability, addition of a new permit modification procedure, and additions related to site-specific assessments and permitting.

II. CAA Delegation Authority

Before discussing the clarifications being finalized today, it is important to first highlight a few key aspects of delegation authority. Recall from the proposal that a state, local, or tribal (S/L/T) agency must be delegated authority under CAA section 112(l) before it can exercise the delegable provisions' authorities. The delegable authorities can be found in 40 CFR 63.91(g)(1)(i), also known as Category I Authorities. A S/L/T agency that has applied for and received delegation authority can approve: test plans, requests for minor and in most cases, intermediate changes to monitoring and test methods, performance test waivers, and several other Category I Authorities. Please note that even though a S/L/T agency may have an approved Title V permit program, it cannot exercise delegable authorities or be the primary enforcement authority if it has not received delegation authority under CAA section 112(l). Moreover, when a S/L/T agency has not taken delegation of a section 112 standard, the agency can only incorporate the section 112 standard's requirements into its Title V permits, (and then implement and enforce these requirements through its title V permits) when it has adequate authority under State, local, or tribal law which allows it to conduct the above actions without delegation. See, *e.g.*, the proposed Federal Plan for Commercial and Industrial Solid Waste Incinerators, November 25, 2002 (67 FR 70640, 70652). Please also refer to 69 FR 21335 of the proposal and the fact sheet entitled, Clean Air Act Delegation for the HWC NESHAP at: *http://www.epa.gov/epaoswer/hazwaste/combust/toolkit/factshts.htm* to learn more about the advantages of receiving delegation authority.

Also, we would like to point out that there are several delegation options that S/L/T agencies can receive. Regardless, many S/L/T agencies choose the ''straight delegation'' option when applying for delegation approval. Straight delegation means that these agencies have agreed to implement and enforce federal MACT standards as they have been written in the promulgated requirements. As a result, many EPA Regions and states have established memoranda of agreement that essentially provide automatic delegation of each future MACT, as opposed to the state applying for delegation of each future MACT, which requires a rulemaking to implement. For more information related to the delegation options and procedures, please refer to the fact sheet, Clean Air Act Delegation for the HWC NESHAP at: *http://www.epa.gov/epaoswer/hazwaste/combust/toolkit/factshts.htm* and EPA's delegation website at: *http://www.epa.gov/ttnatw01/112(l)/112-lpg.html.*

III. Clarifications to CAA Delegation Provisions for Subpart EEE

In the proposal, we discussed the need to provide additional clarification for the delegable and non-delegable authorities within Subpart EEE based upon our implementation experience with the Phase 1 Interim Standards and the Clarifications to Existing National Emissions Standards for Hazardous Air Pollutants Delegation' Provisions final rule published on June 23, 2003 (68 FR 37334). Although the June 23, 2003 final rule provided clarification and streamlined the delegable provisions for each existing NESHAP, it overlooked several non-delegable and delegable authorities within Subpart EEE. It provided clarification on the non-delegable authorities of Subpart EEE as they relate to major alternatives to the standards themselves and to test methods, monitoring, or recordkeeping and reporting under the General Provisions.[254] However, it omitted major alternatives specific to Subpart EEE such as: test methods under §§ 63.1208(b) and 63.1209(a)(1); monitoring under § 63.1209(a)(5) and; recordkeeping and reporting under § 63.1211(a) through (d). Therefore, the following paragraphs will explain which authorities in Subpart EEE are delegable and are not delegable to S/L/T agencies that have been delegated authority and will provide some examples of or references to alternative requests associated with each delegable or non-delegable provisions authority.

To review, the regulations at 40 CFR 63.90 define three types of alternative requests. Alternative requests or ''changes'' to a particular delegable or non-delegable provision are classified as major, intermediate, or minor depending upon the degree (*i.e.*, potential to be nationally significance, potential to reduce the stringency of the standard, etc.) of change being requested. An alternative request that qualifies as a major change is not delegable to S/L/T agencies, even when they have delegation authority. These requests must be sent to the EPA Region or, if it concerns a test method under §§ 63.7(e)(2)(ii) and (f), 63.1208(b) and 63.1209(a)(1) or a standard under §§ 63.1200, 63.1206(a), or 63.1216–63.1221, then it must be sent to our Office of Air Quality Planning and Standards (OAPQS).[255] An alternative request that qualifies as an intermediate or minor change is delegable. However, the EPA Region may choose whether or not they will delegate authority to S/L/T agencies to approve intermediate and, even some minor changes during the delegation approval process. In addition to the regulations, the guidance document entitled, How to Review and Issue Clean Air Act Applicability Determinations and Alternative Monitoring (EPA 305–B–99–004, February 1999) provides a listing of delegable and non-delegable authorities in Tables 1 and 2, as well as descriptions and examples of major, intermediate, and minor changes in Attachment 1.

A. Alternatives to Requirements

Any change to a promulgated standard is considered a major change and as noted above, must be sent to OAQPS (see contact information in footnote). The reason why a change to a standard must be sent to EPA Headquarters is because the change must be established through national rulemaking, regardless of the degree of change sought. Thus, only OAQPS can approve alternative requests for changes to standards. Additionally, any change to applicability requirements and compliance dates (*e.g.*, requirements that ensure that the standards are achieved as EPA intended) are also

[254] For example, the final rule included approval of alternatives to requirements in §§ 63.1200, 63.1203, through 63.1205, and 63.1206(a); approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f); approval of major alternatives to monitoring under § 63.8(f) and; approval of major alternatives to recordkeeping and reporting under § 63.10(f).

[255] For contact information, please visit *www.epa.gov/ttn/emc/staffdir.html.*

considered major and also must be sent to OAQPS for approval. Specific to Subpart EEE, alternative requirement requests including those pursuant to §§ 63.1200, 63.1206(a), or 63.1216–63.1221 are considered major changes and consequently are non-delegable. The regulations at § 63.1214(c) correctly identified the requirements in Subpart EEE, however we have revised them today (as we proposed) to reflect the new sections that house the Phase 1 Replacement Standards and Phase 2 Standards.

There are a few exceptions to the above, however. Subpart EEE incorporates specific provisions for sources to request alternative standards which are delegable because they have been established through rulemaking. In fact, several alternative standards are self-implementing meaning that the source only need specify in their DOC which standard it will comply with. The alternative to the particulate matter standard in § 63.1206(b)(14) and the emissions averaging standards for cement kilns with in line kiln raw mills and preheater or preheater/precalciner kilns with dual stacks in § 63.1204(d) and (e) are three examples. There are also alternative standards that sources may petition to comply with. They include: Alternatives to the standards for existing and new LWAKs at § 63.1206(9) and cement kilns at § 63.1206(b)(10) and the alternative risk-based standard for total chlorine at § 63.1215. Sources choosing to comply with these alternative standards must receive approval from their delegated S/L/T agency prior to implementing them.[256] With respect to changes to compliance dates, requests under § 63.1213 specifically allow sources to request an extension to the compliance date for the installation of pollution prevention or waste minimization controls. Again, because this provision has been specified in subpart EEE, it is not considered a major change and is delegable.

B. Alternatives to Test Methods

With respect to test methods, we noted above that the final delegations rule stated that major alternatives to the test methods at §§ 63.7(e)(2)(ii) and (f) were not delegable. Therefore, as we proposed, it is necessary to add major alternatives to 63.1208(b), which specifies the test methods sources must use to determine compliance with subpart EEE. Also, we are adding the CEMS monitoring requirement under § 63.1209(a)(1). It is regarded as a test method because it serves as a benchmark method for demonstrating compliance with the emission standards. Both sections are delegable to S/L/T agencies as long as they have been delegated authority and as long as the alternative requests comprise minor or intermediate changes. However, a major change to either of these test method sections must be sent to OAQPS for approval.[257] Only OAQPS can approve major changes to test methods because they are designated in the standard as the means for determining compliance with an emission standard. The proposed revisions to § 63.1214 are finalized today to include major alternatives to test methods under §§ 63.1208(b) and 63.1209(a)(1) as non-delegable authorities.

C. Alternatives to Monitoring

For monitoring, the final delegations rule stated that major alternatives to monitoring at § 63.8(f) were not delegable, but did not reference monitoring specific to subpart EEE. In subpart EEE, the monitoring requirements are located in § 63.1209. This section also includes two provisions specific to alternative monitoring, thus removing some of the ''guesswork'' when trying to discern whether a request for change is minor, intermediate, or major. One is located at § 63.1209(a)(5), Petitions to use CEMS for other standards and the other is located at § 63.1209(g)(1), Alternative monitoring requirements other than continuous emissions monitoring systems. Each is discussed in the following paragraphs.

In the proposal, we explained that a request to use other monitoring in lieu of a CEMS is always considered a major change due to CEMS generally being considered a more accurate measure of compliance. However, if a source requests to use a CEMS in lieu of a required operating parameter, it may be considered an intermediate change. Since publication of the proposal, performance specifications have been promulgated for PM CEMS (and mercury CEMS).[258] Consequently, today we view requests per § 63.1209(a)(5) to use PM CEMS as intermediate changes to monitoring. Although the implementation of PM CEMS according to PS–11 (69 FR 1786 and 40 CFR part 60, Appendix B; January 12, 2004) and Procedure 2 (see also 40 CFR part 60, Appendix F) is largely ''self-implementing,'' sources wishing to apply to use of PM CEMS should develop and submit QA/QC plans specifying audit frequencies to account for site-specific stack conditions. We believe that other site-specific issues that may need to be addressed prior to use of the CEMS, such as a source's request to deviate from PS–11 or a source's selection of the correct correlation curve(s), are properly addressed under EPA's established policies and procedures for alternative method requests. We believe that a petition to use PM CEMS under § 63.8(f) is still the appropriate mechanism, but that sources can submit their petitions to their delegated S/L/T agency for review and approval, and we recommend that EPA Regional offices work with these agencies to monitor implementation. Thus, with the exception of petitions to use PM CEMS in lieu of an operating parameter which is considered an intermediate change, we are finalizing our proposed revision to § 63.1214(c) to include major alternatives to monitoring under § 63.1209(a)(5) as a non-delegable authority.

Section 63.1209(g)(1), Alternative monitoring requirements other than continuous emissions monitoring systems, contains the other alternative monitoring provision. This provision allows sources to request alternative monitoring methods to monitor compliance, except for those standards that must be monitored with a CEMS (e.g., those in § 63.1209(a)(1)), and to request a waiver of an operating parameter limit. We provided several examples of alternative parameter monitoring for which a request may be submitted under this section in the proposal at 69 FR 21337. They include use of: a different detector, different monitoring location, a different method as recommended by the manufacturer, or a different averaging period that is more stringent than the applicable standard. In the proposal, we stated that we believe the majority of requests submitted pursuant to § 63.1209(g)(1) are not major and discussed in the preamble amending the language in § 63.1209(g)(1) so that these types of changes could be reviewed and approved by the delegated S/L/T agency. However, when we added

[256] The alternative risk-based standard for total chlorine at § 63.1215 requires sources to submit their eligibility demonstration to both the delegated S/L/T agency and to the Risk and Exposure Assessment Group in Research Triangle Park, NC for review, even though the delegated S/L/T agency can grant or deny approval.

[257] For contact information, please visit *www.epa.gov/ttn/emc/staffdir.html.*

[258] Although performance specifications have been promulgated for mercury CEMS, there has not been as much experience in implementing these devices for hazardous waste combustion sources (or similar sources) as there has been for PM CEMS at this time. Therefore, we believe it appropriate to continue sending requests to use mercury CEMS in lieu of an operating parameter to the appropriate EPA Region for review and approval.

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language to § 63.1209(g)(1) to allow for the above, we inadvertently referred to an approved Title V program instead of a S/L/T agency which has taken delegation of subpart EEE. We have corrected and finalized the proposed language. Therefore, whether minor or intermediate, requests under § 63.1209(g)(1) may be sent to your delegated S/L/T agency for review and approval.

Please note that 63.1209(g)(1) cannot be used when requesting major changes to the monitoring required by the standard. Such changes typically involve new unproven monitoring methods. Unproven monitoring methods refer to those where the technology or procedures are not generally accepted by the scientific community (§ 63.90(a)). If you are uncertain whether your request constitutes a new unproven monitoring method, which is considered a major change, you should submit your request to your EPA Region. The regulatory language in 63.1209(g)(1) has been revised to reflect this clarification.

D. Alternatives to Recordkeeping and Reporting.

As with the others, the final delegation provisions' rule only cited the waiver of recordkeeping and reporting requirements of § 63.10(f) as a non-delegable provision. Thus, it is necessary to add the relevant subpart EEE recordkeeping and reporting requirements of § 63.1211. Section 63.1211 is delegable in its entirety to S/L/T agencies unless an alternative request is determined to be a major change. An alternative request that is a major change, such as decreases in record retention for all records, must be sent to your EPA Region for review and approval. Similar to the monitoring section, § 63.1211 contains a specific alternative provision. Section 63.1211(d) Data Compression, allows sources to request to use data compression techniques to record data from CMS and CEMS on a frequency less than that required by § 63.1209. We view the alternative request to be a minor change because available guidance provides criteria for defining fluctuation and data compression limits. See 64 FR 52961 and 52962, September 30, 1999. Therefore, requests submitted under 63.1211(d) can be consistently evaluated by delegated S/L/T agencies. Section 63.1214(c) has been revised to specify that major alternatives to 63.1211(a)—(c) are non-delegable authorities.

E. Other Delegation Provisions

Although not discussed in the proposal, it is important to note that issuing applicability determinations is another delegable authority. The EPA document How to Review and Issue Clean Air Act Applicability Determinations and Alternative Monitoring (EPA 305–B–99–004, February 1999) provides guidance regarding who has the lead for issuing applicability determinations. In general, Regions may delegate the authority to issue applicability determinations to S/L/T agencies when the determinations are routine in nature. However, delegation of authority for certain applicability determinations should be retained by the Regions. These include applicability determinations that: (1) Are unusually controversial or complex; (2) have bearing on more than one state or district (are multi-Regional); (3) appear to create conflict with previous policy or determinations; (4) are a legal issue which has not previously been considered (a matter of first impression); or (5) raise new policy questions. It is recommended that Regional offices require notification when S/L/T agencies issue applicability determinations.

IV. RCRA State Authorization and Amendments to the RCRA Regulations

Under section 3006 of RCRA, EPA may authorize qualified states to administer their own hazardous waste programs in lieu of the federal program within the state. Following authorization, EPA retains enforcement authority under sections 3008, 3013, and 7003 of RCRA, although authorized states have primary enforcement responsibility. The standards and requirements for state authorization are found at 40 CFR Part 271.

Prior to enactment of the Hazardous and Solid Waste Amendments of 1984 (HSWA), a State with final RCRA authorization administered its hazardous waste program entirely in lieu of EPA administering the federal program in that state. The federal requirements no longer applied in the authorized state, and EPA could not issue permits for any facilities in that state, since only the state was authorized to issue RCRA permits. When new, more stringent federal requirements were promulgated, the state was obligated to enact equivalent authorities within specified time frames. However, the new federal requirements did not take effect in an authorized state until the state adopted the federal requirements as state law.

In contrast, under RCRA section 3006(g) (42 U.S.C. 6926(g)), which was added by HSWA, new requirements and prohibitions imposed under HSWA authority take effect in authorized states at the same time that they take effect in unauthorized states. EPA is directed by the statute to implement these requirements and prohibitions in authorized states, including the issuance of permits, until the state is granted authorization to do so. While states must still adopt HSWA related provisions as state law to retain final authorization, EPA implements the HSWA provisions in authorized states until the states do so.

Authorized states are required to modify their programs only when EPA enacts federal requirements that are more stringent or broader in scope than existing federal requirements. RCRA section 3009 allows the states to impose standards more stringent than those in the federal program (see also 40 CFR 271.1). Therefore, authorized states may, but are not required to, adopt federal regulations, both HSWA and non-HSWA, that are considered less stringent than previous federal regulations.

We discussed in the proposal which RCRA regulations we intended to amend and their impact on state authorization procedures. Today, we are finalizing those amendments in §§ 270.10, 270.22, 270.32, 270.42, 27062, 270.66, and 270.235. In addition, we are amending the regulations in §§ 264.340 and 266.100 to reflect changes that have been made based upon comments. Today's amendments fall under both HSWA and non-HSWA authorities. That is, changes made to regulations applicable to boilers and industrial furnaces are promulgated under HSWA authority, whereas changes made to regulations applicable to incinerators are promulgated under non-HSWA authority. [259] All of the amendments made today are considered to be either less stringent or equivalent to the existing Federal program, which means that states are not required to adopt and seek authorization for these provisions regardless of whether they are finalized under non-HSWA or HSWA authorities. Nevertheless, we strongly encourage states to become authorized for today's amendments.

[259] When new requirements and prohibitions (that are more stringent than the previous federal regulations) are imposed under non-HSWA authority, the new federal requirements do not take effect in an authorized state until the state adopts the federal requirements as law. Conversely, when imposed under HSWA authority, the new federal requirements are federally enforceable in an authorized state until the necessary changes to a state's authorization are approved by EPA.

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Experience has shown that when states have been authorized for previous amendments (i.e., those finalized in the 1999 rule) that were intended to facilitate the transition from the RCRA program to MACT and the CAA Title V program, the process has proven to be less cumbersome. For a more detailed discussion of non-HSWA and HSWA authorities with respect to how and when they take effect, please refer to the proposal's preamble discussion at 69 FR 21338.

Several RCRA sections that have been enacted as part of HSWA apply to today's rule: 3004(o), 3004(q), and 3005(c)(3). Thus, if a state is not authorized for the boiler and industrial furnace regulations, these provisions are federally enforceable in an authorized state until the necessary changes to a state's authorization are approved by us. See RCRA section 3006, 42 U.S.C. 6926. We are adding today's requirements to Table 1 in 271.1(j) where rulemakings promulgated pursuant to HSWA authority are identified.

Part Six: Impacts of the Final Rule

I. What Are the Air Impacts?

Table 1 below shows the emissions reductions achieved by the final rule for all existing hazardous waste combustors. For Phase I sources—incinerators, cement kilns, and lightweight aggregate kilns—the emission reductions represent the difference in emissions between sources controlled to today's standards and estimated emissions when complying with the interim MACT standards promulgated on February 13, 2002. Thus, the significant emissions reductions already achieved by the interim standards are not reflected in the estimates shown in Table 1.[260] For Phase II sources—solid fuel boilers, liquid fuel boilers, and hydrochloric acid production furnaces—the reductions represent the difference in emissions between today's standards and the current baseline of control provided by 40 CFR part 266, subpart H.

Nationwide baseline HAP and particulate matter emissions from hazardous waste combustors are estimated to be approximately 12,650 tons per year at the current baseline level of control. Depending on the number of facilities demonstrating compliance with health-based compliance alternatives for total chlorine, the total reduction of HAP and particulate matter for existing sources could be between approximately 2,260 and 3,380 tons per year. A discussion of the emission estimates methodology and results are presented in ''Technical Support Document for HWC MACT Replacement Standards, Volume V: Emission Estimates and Engineering Costs'' that is available in the docket.

TABLE 1.—NATIONWIDE ANNUAL EMISSIONS REDUCTIONS OF HAP AND OTHER POLLUTANTS

Pollutant	Estimated emission reductions (tons per year)
Dioxin/furans[1]	0.20
All HAP metals	19.5
Mercury	0.21
Semivolatile metals (Cd, Pb)	2.9
Low volatile metals (As, Be, Cr)	6.5
Other metals (Co, Mn, Ni, Sb, Se)	9.9
HCl and chlorine gas[2]	1220
Particulate matter	2,140

[1] Dioxin/furan emission reductions are expressed as grams TEQ per year.

[2] We are promulgating health-based compliance alternatives for total chlorine for hazardous waste combustors other than hydrochloric acid production furnaces in lieu of the MACT technology-based emission standards (see Part Four, Section VII of the preamble for details). Given that a number of sources may elect to comply with the health-based compliance alternatives, the estimated reductions of total chlorine represent an upper bound estimate.

II. What Are the Water and Solid Waste Impacts?

We estimate that water usage for existing sources will increase between 400 million and 1.6 billion gallons per year as a result of today's rule. The upper range estimate represents the water usage assuming no sources elect to comply with the health-based compliance alternatives for total chlorine, while the lower range estimate represents water usage assuming all sources elect the alternative. Water usage increases are estimated for reducing combustion gas temperatures with evaporated spray coolers for dioxin/furan control as well as for new particulate matter and acid gas air pollution control equipment. The increased water usage will also result in an increase in wastewater generation. Depending on the number of sources that elect to comply with the health-based compliance alternatives for total chlorine, we also estimate that up to 775 million gallons of wastewater may be generated.

We estimate that the generation of solid waste will increase between approximately 8,700 tons and 12,200 tons per year depending on the number of sources that elect to comply with the health-based compliance alternatives for total chlorine. Of these totals, approximately 250 tons per year will be classified as hazardous waste subject to RCRA Subtitle C regulations. We estimate the remainder—between 8,450 and 11,950 tons per year—will be classified and managed as a non-hazardous industrial waste subject to Subtitle D of RCRA. The costs associated with these disposal and water requirements are accounted for in the annualized compliance cost estimates. A discussion of the methodology used to estimate impacts is presented in ''Technical Support Document for HWC MACT Replacement Standards, Volume V: Emission Estimates and Engineering Costs'' that is available in the docket. We note that the nonair quality health and environmental impacts effects for both floor and beyond-the-floor options are discussed in the technical support document and are part of our consideration of such factors under section 112(d)(2).

III. What Are the Energy Impacts?

We estimate that the national annual energy usage as a result of this rule will increase between approximately 73 million and 85 million kilowatt hours (kWh) depending on the number of sources that elect to comply with the health-based compliance alternatives for total chlorine. The increase results from the electricity required to operate air pollution control equipment installed to meet the standards. The increase energy usage costs are accounted for in the annualized compliance cost estimates. A discussion of the methodology used to estimate impacts is presented in ''Technical Support Document for HWC MACT Replacement Standards, Volume V: Emission Estimates and Engineering Costs.'' We note that the energy effects for both floor and beyond-the-floor options are discussed in the technical support document and are part of our consideration of such factors under section 112(d)(2).

IV. What Are the Control Costs?

Control costs, as presented in this section, refer only to engineering, operation, and maintenance costs associated with unit/system upgrades necessary to meet the final standards. These costs do not incorporate any market-based adjustments. All costs presented in this section are annualized estimates in 2002 dollars.

[260] USEPA, ''Final Technical Support Document for HWC MACT Standards, Volume V: Emission Estimates and Engineering Costs,'' Section 3, July 1999.

We estimate there are a total of 267 sources [261] that may be subject to requirements of this final rule. Of this total, there are 116 boilers (104 liquid fuel boilers plus 12 solid fuel boilers), 92 on-site incinerators, 25 cement kilns, 15 commercial incinerators, nine (or seven) lightweight aggregate kilns, and ten hydrochloric acid (HCl) production furnaces.

Total national private sector engineering costs for the final standards are estimated at $40.2 million per year.[262] This estimate reflects total non market adjusted upgrade costs (engineering, plus administrative and permitting), excluding chlorine control costs.[263] All Phase II sources combined (liquid fuel boilers, coal fired boilers, and HCl production furnaces) represent 86 percent of this total. The average private sector engineering cost, *excluding* permitting and administrative, is projected to be highest for liquid fuel boilers, at $256,300 per source. Coal fired boilers are second at approximately $170,246 per source. Total engineering costs to cement kilns and HCl production furnaces are estimated to average $113,600, and $16,645 per source, respectively. Commercial incinerators are projected to experience engineering costs averaging $12,300 per source. On-site incinerators and LWAKs will face the lowest engineering costs at $10,200 and $3,330, respectively.

For all Phase I sources (141 sources; commercial incinerators, on-site incinerators, cement kilns, and lightweight aggregate kilns), total average annualized non market-adjusted compliance costs (*including* permitting and administrative [264]) are estimated at $39,700 per source. The combined Phase II sources (126 sources; solid and liquid fuel-fired boilers and hydrochloric acid production furnaces) have total average annualized non market-adjusted compliance costs of approximately $274,500 per source. Across all sectors covered by today's rule (Phase I and Phase II sources), total annualized compliance costs were found to average $150,500 per source.

Private sector engineering costs (control) costs have also been assessed on a per ton (U.S.) basis. Captive energy recovery sources (solid and liquid fuel-fired boilers, and hydrochloric acid production furnaces) burned a total of 944,667 tons of hazardous waste in 2003. These facilities are projected to experience the highest average incremental control costs, at approximately $37 per ton of waste burned. Commercial energy recovery sources (cement kilns and LWAKs), burning an estimated 999,076 tons in 2003, are projected to experience average incremental control costs of approximately of $3.00 per ton. Captive (on-site) and commercial incinerators burn an estimated 925,828 tons and 447,524 tons per year, respectively. These sources are estimated to experience average incremental engineering costs of $2.15 per ton and $0.80 per ton, respectively.

The aggregate control costs presented in this section do not reflect the anticipated real world cost burden on the economy. Any market disruption, such as the requirements in this final rule, will cause a short-term disequilibrium in the hazardous waste burning market, resulting in a natural economic process designed to reach the new market equilibrium. Actual cost impacts to society are more accurately measured by taking into account market adjustments in the targeted industry, plus secondary (societal) costs. Total market-adjusted costs plus secondary costs are commonly termed Social Costs, and are generally less than total engineering costs due to efficiencies implemented during the market adjustment process. Social Costs theoretically represent the total real world costs of all goods and services society must give up in order to gain the added protection to human health and the environment. Social Costs are presented in Part VI of this Section.[265]

V. What Are the Economic Impacts?

Economic impacts may be measured through several factors. This section presents estimated economic impacts relative to market exits, waste reallocations, and employment impacts. Economic impacts presented in this section are distinct from social costs, which correspond only to the estimated monetary value of market disturbances.

A. Market Exit Estimates

The hazardous waste combustion industry operates in a dynamic market, with systems entering and exiting the market on a routine basis. Our analysis defines ''market exit'' as ceasing to burn hazardous waste. We have projected post-rule hazardous waste combustion system market exits based on economic feasibility only. Social, liability, and informational issues are not incorporated into our market exit analysis.

Market exit estimates are derived from a breakeven analysis designed to determine system viability. This analysis is subject to several assumptions, including: Cost assumptions concerning the per sector baseline cost of hazardous waste burning, cost estimates for necessary pollution control devices (including operation and maintenance), prices for combustion services, and estimated waste quantities burned at these facilities. It is important to note that, for most sectors, exiting the hazardous waste combustion market is not equivalent to closing a plant. (Actual plant closure may occur only in the case of a commercial incinerator closing all systems.)

We estimate that 39 systems, representing about 15 percent of the total affected universe, may stop burning hazardous waste in response to the final standards. Approximately 59,000 tons of hazardous waste may be diverted from these closed systems.

These estimates assume no chlorine controls are put in place as a direct result of the rule.[266] Of the estimated 39 market exits, 26 are projected to be on-site incinerators and 8 are liquid fuel boilers. Three commercial incinerator systems may exit the market in response to the final rule. However, these systems are considered economically marginal in the baseline. Two coal-fired boiler systems are also projected to exit the market. No cement kilns, lightweight aggregate kilns, or HCl production furnaces are projected to exit the market as a result of the final rule. Market exit estimates were found to be identical

[261] For purposes of this discussion, a source is defined as the air pollution control system associated with one or more hazardous waste combustion unit(s). A facility may operate one or more sources. Note that this total includes two LWAK units limited by system burn constraints. Exclusion of these two units results in a total of 265 independent sources.

[262] Not included here are total annual government costs. These costs, with or without chlorine control, are approximately $0.5 million/year.

[263] We are finalizing the incorporation of section 112(d)(4) of the Clean Air Act to establish risk-based standards for total chlorine for hazardous waste combustors (except for hydrochloric acid production furnaces). The low-end of this cost range assumes all facilities emit total chlorine levels below risk-based levels of concern. Under this scenario, no total chlorine controls are assumed to be necessary. The total engineering cost with chlorine control is estimated at $46.7 million/year.]

[264] See Exhibit 4–3 in the economic assessment background document.

[265] Beyond-the-Floor standards were assessed for all floors. These findings are available in Appendix F and G of the engineering background document: See: Final Technical Support Document for HWC MACT Standards, Volume V—Emissions Estimates and Engineering Costs.

[266] Even though we are allowing sources (except hydrochloric acid production furnaces) to invoke § 112(d)(4) in lieu of MACT chlorine control requirements, we have not attempted to estimate the following: (1) The total number of sources that may elect to implement this provision, and, (2) what level of control may be necessary following a § 112(d)(4) risk-based determination, since this would vary on a site-by-site basis.

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when the cost of chlorine control is included in the model.

B. Waste Reallocations

Some on-site combustion systems (sources) may no longer be able to cover their hazardous waste burning costs as a result of final rule requirements. These sources are projected to divert or reroute their wastes to different hazardous waste combustion sources (usually some type of commercial unit).[267] For multiple system facilities, this diversion may include on-site (non-commercial) waste consolidation among fewer systems at the same facility. Under current market conditions, non-combustion alternatives are generally not economically feasible, and in any case, would normally be unable to achieve the RCRA Land Disposal Restriction Treatment standards, which are based on the performance of combustion technology (which optimizes destruction of organic HAP).

As mentioned above, our economic model indicates that approximately 59,000 tons (U.S.) of hazardous waste may be reallocated. This figure represents approximately 1.8 percent of the total 2003 quantity of hazardous waste burned at all sources. On-site consolidations account for nearly 24 percent (13,915 tons) of all diverted waste. Commercial incinerators are projected to receive the vast majority (42,722 tons, or 73 percent) of all off-site waste reallocations. Cement kilns and LWAKs are projected to receive the remaining reallocation (2,289 tons). Currently, there is more than adequate capacity to accommodate all off-site hazardous waste diversions.

C. Employment Impacts

Today's rule is projected to induce employment shifts across all affected sectors. These shifts may occur as specific combustion facilities find it no longer economically feasible to keep all of their systems running, or to stay in the hazardous waste market at all. When this occurs, workers at these locations may lose their jobs or experience forced relocations. At the same time, the rule is projected to result in positive employment impacts, as new purchases of pollution control equipment stimulate additional hiring in the pollution control manufacturing sector, and as additional staff are required at selected combustion facilities to accommodate reallocated waste and/or various compliance activities.

1. Employment Impacts—Dislocations (Losses)

Employment dislocations in the combustion industry are projected to occur when facilities consolidate waste into fewer systems, or when a facility exits the hazardous waste combustion market altogether. Operation and maintenance labor hours are expected to be reduced for each system that stops burning hazardous waste. For each facility that completely exits the market, employment dislocations may also include supervisory and/or administrative personnel.

Total employment dislocations resulting from implementation of the final standards are estimated at 310 full-time-equivalent (FTE) jobs. On-site incinerators account for about 62 percent of this total, followed by commercial incinerators (about 24 percent), and liquid-fuel boilers (about 12 percent). The large number of on-site incinerators drives the impacts within this sector.

2. Employment Impacts—Positive

In addition to employment dislocations, our analysis indicates that today's rule may also result in positive employment impacts. These positive impacts are projected to occur to both the air pollution control industry and to combustion firms as they hire personnel to accommodate reallocated waste and/or comply with the various requirements of the rule. Hazardous waste combustion sources are projected to need additional operation and maintenance personnel for the new pollution control equipment and other compliance activities, such as new reporting and record keeping requirements.

The total annual positive employment impact associated with the final standards is estimated at 323 FTEs. Positive employment impacts to the air pollution control industry[268] are projected at 93 FTEs, or about 29 percent of this total. At 183 jobs, liquid-fuel boilers are projected to experience the greatest positive employment impact among all combustors.

While it may appear that our analysis suggests overall net positive employment impacts, such a conclusion would be inappropriate. Because the positive employment impacts and employment dislocations occur in different sectors of the economy, they should not be added together. Doing so would mask important distributional effects of the rule. In addition, these employment estimates reflect within sector impacts only and therefore do not account for potential displacements across sectors. This may occur if investment funds are diverted from other areas of the larger economy.

VI. What Are the Social Costs and Benefits of the Final Rule?

The value of any regulatory action is traditionally measured by the net change in social welfare that it generates. Our economic assessment conducted in support of today's final rule evaluated compliance (control) costs, and economic impacts, as discussed above. The Assessment also analyzed social costs, benefits, small entity impacts, and other impacts (e.g., children's health, unfunded mandates). To conduct this analysis, we examined the current combustion market and practices, developed and implemented a methodology for examining compliance and social costs, applied an economic model to analyze industry economic impacts (discussed above), examined benefits, and followed appropriate guidelines and procedures for examining equity considerations, children's health, and other impacts. The data applied in this analysis were the most recently available at the time of the analysis. Because our data were limited, the findings from these analyses should be more accurately viewed as national estimates.

A. Combustion Market Overview

The hazardous waste industry consists of three key segments: hazardous waste generators, fuel blenders/intermediaries, and hazardous waste burners. Hazardous waste is combusted at four main types of facilities: commercial incinerators, on-site incinerators, waste burning kilns (cement kilns and lightweight aggregate kilns), and industrial boilers. Commercial incinerators are generally larger in size and designed to manage virtually all types of solids, as well as liquid wastes. On-site incinerators are more often designed as liquid-injection systems that handle liquids and pumpable solids. Waste burning kilns and boilers generally burn hazardous wastes to generate heat and power for their manufacturing processes.

As discussed above, we have identified a total of 267 hazardous waste burning sources (systems) currently in operation in the United States. Liquid fuel-boilers account for 104 sources, followed by on-site incinerators at 92 sources. Cement kilns, hydrochloric acid production furnaces, and commercial incinerators account for 25, 10, and 15 sources, respectively. Solid

[267] This analysis includes the cost of waste transport to alternative combustion sources, burning fees, and purchase of alternative fuels (if appropriate).

[268] Manufacturers and distributors of air pollution control devices are projected to increase sales as a result of this action.

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fuel boilers and lightweight aggregate kilns make up the remainder, at 12 and nine systems, respectively. These 267 sources are operated at a total of 145 different facilities. A single facility may have one or more combustion systems. Facilities with multiple systems may have different types of hazardous waste burning units. Combustion systems operating at chemical manufacturing facilities (NAICS 325) were found to account for about 70 percent of the total number of facilities and manage about 58 percent of all hazardous waste burned in 2003.

The EPA Biennial Reporting System (BRS) reports a total demand for all combusted hazardous waste, across all facilities, at 3.32 million tons (U.S. ton) in 2003. Commercial energy recovery (cement kilns and lightweight aggregate kilns) burned about 30 percent of this total. Hazardous waste destruction at on-site incinerators and commercial incinerators accounted for 28 percent and 13 percent, respectively. Captive energy recovery accounted for the remainder, at 29 percent of the total.

About 65 percent of all hazardous waste burned in 2003 was organic liquids. This is followed by solids (14 percent), inorganic liquids (11 percent), and sludges (10 percent). Hazardous gases were found to represent a negligible portion, at about 0.08 percent of the total quantity burned in 2003. In terms of hazardous waste generating sources, the Basic Organic Chemical Manufacturing e sector (NAICS 325) generated approximately 32 percent of all hazardous waste burned in 2001, followed by pesticides and agricultural chemicals, business services, organic fibers, medicinal chemicals, pharmaceuticals, plastics materials and resins, petroleum, and miscellaneous.

Companies that generate large quantities of uniform hazardous wastes generally find it more economical and efficient to combust these wastes on-site using their own noncommercial systems. Commercial incineration facilities manage a wide range of hazardous waste streams generated in small to medium quantities by diverse industries. Cement kilns, lightweight aggregate kilns, and boilers derive heat and energy by burning high-Btu (solvents and organics) liquid hazardous wastes.[269] Sometimes these wastes are blended with fossil fuels where system operators choose to not derive all of their energy input from hazardous waste.

Regulatory requirements, liability concerns, and economics influence the demand for hazardous waste combustion services. Regulatory forces influence the demand for combustion by mandating certain hazardous waste treatment standards (land disposal restriction requirements, etc.). Liability concerns of waste generators affect combustion demand because combustion, by destroying organic wastes, greatly reduces the risk of future environmental problems. Finally, if alternative waste management options are more expensive, hazardous waste generators will likely choose to send their wastes to combustion facilities in order to increase overall profitability.

Throughout much of the 1980s, hazardous waste combustors enjoyed a strong competitive position and generally maintained a high level of profitability. During this period, EPA regulations helped stimulate a greatly expanded market. In addition, federal permitting requirements, as well as powerful local opposition to siting of new incinerators, constrained the entry of new combustion systems. As a result, combustion prices rose steadily, ultimately reaching record levels in 1987. The high profits of the late 1980s induced many firms to enter the market, in spite of the difficulties and delays anticipated in the permitting and siting process.

Hazardous waste markets have changed significantly since the late 1980s. In the early 1990s, substantial overcapacity resulted in fierce competition, declining prices, poor financial performance, numerous project cancellations, system consolidations, and facility closures. Since the mid 1990s, several additional combustion facilities have closed, while many of those that have remained open have consolidated their operations. Available (prior to this final rule) excess commercial capacity is currently estimated at about 21 percent of the total 2003 quantity combusted.

B. Baseline Specification

Proper and consistent baseline specification is vital to the accurate assessment of incremental costs, benefits, and other economic impacts associated with today's rule. The baseline essentially describes the world absent the rule. The incremental impacts of today's rule are evaluated by predicting post MACT compliance responses with respect to the baseline. The baseline, as applied in this analysis, is the point at which today's rule is promulgated. Thus, incremental cost and economic impacts are projected beyond the standards established in the February 13, 2002 Interim Standards Final Rule.

C. Analytical Methodology and Findings—Social Cost Analysis

Total social costs include the value of resources used to comply with the standards by the private sector, the value of resources used to administer the regulation by the government, and the value of output lost due to shifts of resources away from the current market equilibrium. To evaluate these shifts in resources and changes in output requires predicting changes in behavior by all affected parties in response to the regulation, including responses of directly-affected entities, as well as indirectly-affected private parties.

For this analysis, social costs are grouped into two categories: Economic welfare (changes in consumer and producer surplus), and government administrative costs. The economic welfare analysis conducted for today's rule uses a simplified partial equilibrium approach. In this analysis, changes in economic welfare are measured by summing the changes in consumer and producer surplus. This simplified approach bounds potential economic welfare losses associated with the rule by considering two scenarios: Compliance costs assuming no market adjustments, and market adjusted compliance costs.

The annualized private sector compliance (engineering) costs of $40.2 million, as presented in Section IV, assume no market adjustments. Our best estimate of total social costs incorporates rational market adjustments and all government costs. Under this scenario, increased compliance (engineering) costs are examined in the context of likely incentives hazardous waste combustion facilities have to continue burning, and the competitive balance in the market.

Total annualized market-adjusted net private-sector costs are estimated at $22.1 million.[270] In addition to the net private sector costs, total annual government costs are approximately $0.50 million. Thus, our best estimate of total social costs of this final rule is $22.6 million per year.

The $22.1 million figure incorporates a net gain to selected Phase I sources and an estimated $3.6 million cost

[269] Many cement kilns are also able to burn a certain level of non liquid waste.

[270] We are finalizing alternative risk-based total chlorine standards for hazardous waste combustors (ecept for hydrochloric acid production furnaces). The net private sector costs of $22.1 million/year may be considered a lower-bound estimate that assumes facilities emit total chlorine (TCI) below risk-based levels of concern (i.e., no TCI controls are assumed to be necessary). Total net private sector market-adjusted costs would increase to approximately $28.1 million per year if we were to assume all sources were to comply with technology-based TCI standards (as opposed to the risk-based standards).

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(price) increase to pre-existing customers of commercial hazardous waste combustion facilities. On-site incinerators are projected to experience total market-adjusted cost increases of approximately $1.5 million/year. All phase II sources account for approximately $31.9 million in increased costs. Our economic model indicates that, of the Phase I source categories, commercial incinerators, cement kilns, and LWAKs would experience net gains following all market adjustments. The total net gain for these three source categories is estimated at $14.8 million per year. Commercial incinerators would receive about 98 percent of the total gain ($14.5 million/year). Gains to commercial facilities occur due to marginally higher prices, increased waste receipts, and relatively low upgrade costs, when compared to the other sources.

D. Analytical Methodology and Findings—Benefits Assessment

This section discusses the monetized and non monetized benefits to human health and the environment potentially associated with today's final rule. Monetized human health benefits are derived from reductions in particulate matter (PM) and dioxin/furan exposure, and are based on a Value of Statistical Life (VSL) estimate of $6.2 million.[271] Non monetized benefits are associated with human health, ecological, and waste minimization factors.

1. Monetized Benefits

Total monetized human health benefits for the final standards are estimated to range from $5.61 million/year to $6.31 million/year. This estimate includes human health benefits associated with avoided PM and dioxin/furans exposure. The range is driven by alternative discount rate assumptions (no discount rate, 3 percent, or 7 percent) for mortality valuation. PM benefits represent 99 percent of the total monetized human health benefits.

Particulate Matter

Results from our risk assessment extrapolation procedure[272] are used to evaluate incremental human health benefits potentially associated with particulate matter emission reductions from hazardous waste combustion facilities. This analysis applied avoided human health benefits factors from the March 2004 Assessment document,[273] combined with more recent emissions estimates for particulate matter.

Reduced PM emissions are estimated to result in monetized human health benefits of approximately $6.29 million per year. This is an undiscounted figure. Avoided PM morbidity cases account for $3.42 million of this total, and include: respiratory illness, cardiovascular disease, chronic bronchitis, work loss days, and minor restricted activity. Chronic bronchitis accounts for approximately 89 percent of the total value of avoided PM morbidity cases. All morbidity cases are assumed to be avoided within the first year following reduced PM emissions and are not discounted under any scenario.

Avoided premature deaths (mortality) are valued at $2.87 million per year, undiscounted. Assuming a discount rate of three and seven percent, PM mortality benefits would be $2.52 million and $2.19 million, respectively. Our discounted analysis of PM mortality benefits assumes that 30 percent of premature mortalities occur during the first year, 50 percent occur evenly from the second through the fifth years, and the remaining 20 percent occur evenly from the sixth through the twentieth years.[274] Due to limitations in the risk analysis, this assessment of PM benefits does not consider corresponding health benefits associated with the reduction of HAP metals carried by the PM.

Dioxin/furan—Dioxin/furan emissions are projected to be reduced by a total of 0.2 grams per year under the final standards. In the July 23, 1999 Addendum to the Assessment, cancer risk reductions linked to consumption of dioxin-contaminated agricultural products accounted for the vast majority of the 0.36 cancer cases per year that were expected to be avoided due to the 1999 standards. Cancer risk reductions associated with the final standards are expected to be less than 0.36 cases per year, but greater than zero.

At this time, the Agency is still using a cancer risk slope factor of 1.56×10^5 [mg/kg/day]$^{-1}$ for dioxin. This cancer slope factor is derived from the Agency's 1985 health assessment document for polychlorinated dibenzo-p-dioxins[275] and represents an upper bound 95th percentile confidence limit of the excess cancer risk from a lifetime exposure. For the past several years the Agency has been conducting a reassessment of the human health risks associated with dioxin and dioxin-like compounds. In October of 2004 this reassessment[276] was delivered to the National Academy of Sciences (NAS) for review.

Evidence compiled from this draft reassessment indicates that the carcinogenic effects of dioxin/furans may be six times as great as believed in 1985, reflecting an upper bound cancer risk slope factor of 1×10^6 [mg/kg/day]$^{-1}$ for some individuals. Agency scientists' more likely (central tendency) estimates (derived from the ED_{01} rather than the LED_{01}) result in slope factors and risk estimates that are within 2–3 times of the upper bound estimates (i.e., between 3×10^5 [mg/kg/day]$^{-1}$ and 5×10^5 [mg/kg/day]$^{-1}$) based on the available epidemiological and animal cancer data. However, risks could be as low as zero for some individuals. Use of the alternative upper bound cancer risk slope factor could result in a higher human health monetized health benefit associated with premature cancer deaths avoided in response to the final standard for dioxin/furans. The assessment of upper bound cancer risk using this alternative slope factor should not be considered current Agency policy. The standards for dioxin in today's final rule were not based on this draft reassessment.

Total non-discounted human health benefits associated with projected dioxin reductions are estimated at $0.02 million/year. These benefits may range from $0.01 million/year to nearly zero, applying a discount rate of 3 percent and 7 percent, respectively. Our discounted estimates incorporate an assumed latency period of 21 and 34 years from exposure to death.

2. Non-Monetized Benefits

We examined, but did not monetize human health benefits potentially associated with reduced exposure to lead, mercury, and total chlorine. Non monetized ecological benefits

[271] Monetized benefits associated with avoided premature mortality reflect a VSL range of $1.1 million to $11.4 million, with a central VSL estimate of $6.2 million. These values are derived from willingness-to-pay based VSL estimates presented in U.S. EPA, Regulatory Impact Analysis for the Final Clean Air Interstate Rule, March 2005.

[272] Inferential Risk Analysis in Support of Standards for Emissions of Hazardous Air Pollutants from Hazardous Waste Combustors.

[273] Assessment of the Potential Costs, Benefits, and Other Impacts of the Hazardous Waste Combustion MACT Replacement Standards: Proposed Rule, March 2004 (Chapter 6), and Addendum to the Assessment.

[274] See: U.S. EPA. March 2005. Regulatory Impact Analysis for the Final Interstate Air Quality Rule.

[275] USEPA, 1985. Health Assessment Document for Polychlorinated Dibenzo-p-Dioxins. EPA/600/8-84/014F. Final Report. Office of Health and Environmental Assessment. Washington, DC. September, 1985.

[276] U.S.EPA. Exposure and Human Health Reassessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds National Academy Sciences (NAS) Review Draft, December 2003. [**Note:** Toxicity risk factors presented in this document should not be considered EPA's official estimate of dioxin toxicity, but rather reflect EPA's ongoing effort to reevaluate dioxin toxicity].

potentially associated with reductions in dioxin/furan; selected metals, total chlorine, and particulate matter were also examined. Finally, waste minimization is examined as a non-monetized benefit.

Lead—The final standards are expected to reduce lead emissions by approximately 2.5 tons per year. In comparison, the 1999 standards were expected to reduce lead emissions by 89 tons per year, and were expected to reduce cumulative lead exposures for two children, ages zero to five, to less than 10 μg/dL. The lead benefits associated with these final standards are therefore expected to be modest. The final standards will also result in reduced lead levels for children of sub-populations with especially high levels of exposure. Children of subsistence fishermen, commercial beef farmers, and commercial dairy farmers who face the greatest levels of cumulative lead exposure may also experience comparable reductions in overall exposure as a result of the MACT standards.

Mercury—The HWC MACT final standards are expected to reduce mercury emissions by approximately 0.21 tons per year, approximately 93 percent less than the four-ton reduction expected under the 1999 Standards. We do not attempt to quantify the mercury-related benefits associated with today's final standards. However, because the reduction in mercury emissions represents a fraction of the reduction expected under the 1999 Standards, the mercury-related benefits of the final standards are likely to be less than the corresponding benefits under the 1999 Standards.

To characterize the benefits associated with reduced mercury emissions, the 1999 Assessment measured changes in hazard quotients for populations living near hazardous waste combustion facilities. For any given population, the hazard quotient is the ratio of the actual level of exposure to a safe level of exposure. A hazard quotient greater than one implies that a population is potentially at risk. The exposure quotient analysis in the 1999 Assessment found that the measurable benefits of reduced mercury emissions under the 1999 Standards were likely to be small because baseline exposures were relatively low. In addition, many of the studies examining the adverse health effects of mercury are inconclusive. Over the past several years, however, scientists have conducted three large-scale studies of individuals in the Faroe Islands, New Zealand, and the Seychelles Islands examining the relationship between mercury exposure in women and the neuro-development of their unborn children.[277] The New Zealand and Faroe Islands studies both found a statistically significant relationship between maternal methylmercury exposure and IQ decrements in the unborn children of these women. In its 2000 report on the toxicological effects of methylmercury, the National Research Council suggested that integrating the results of all three studies could be useful for risk assessment purposes.[278] Such an integrative risk assessment, later published by Ryan et al. in 2005, served as the basis of the Agency's health effects analysis for the Clean Air Mercury Rule (CAMR).[279] The regulatory impact analysis for CAMR summarizes several of the adverse health effects that may be linked to mercury and reviews the epidemiological literature examining the link between these effects and exposure to mercury.[280]

Total Chlorine—We were not able to quantify the benefits associated with reductions in total chlorine emissions. Total chlorine is a combination of hydrogen chloride and chlorine gas. The final standards are projected to reduce total annual chlorine emissions by about 107 tons per year[281] (HCl production furnaces only). Hydrogen chloride is corrosive to the eyes, skin, and mucous membranes. Acute inhalation can cause eye, nose, and respiratory tract irritation and inflammation, and pulmonary edema. Chronic occupational inhalation has been reported to cause gastritis, bronchitis, and dermatitis in workers. Long term exposure can also cause dental discoloration and erosion. Chlorine gas inhalation can cause bronchitis, asthma and swelling of the lungs, headaches, heart disease, and meningitis. Acute exposure causes more severe respiratory and lung effects, and can result in fatalities in extreme cases. The exposure levels established under 112(d)(4) are expected to reduce chlorine exposure for people in close proximity to hazardous waste combustion facilities, and are therefore likely to reduce the risk of all associated health effects.

Ecological Benefits—We examined ecological benefits through a comparison of the 1999 Assessment and today's final standards. Ecological benefits in the 1999 Assessment were based on reductions of approximately 100 tons per year in dioxin/furans and selected metals. Lead was the only pollutant of concern for aquatic ecosystems, while mercury appeared to be of greatest concern for terrestrial ecosystems. Dioxin/furan and lead emission reductions also provided some potential benefits for terrestrial ecosystems. The final standards are expected to reduce dioxin/furan and selected metal emissions by about 12 percent to 13 percent of the 1999 estimate, resulting in fewer incremental benefits than those estimated for the 1999 Assessment (and later, for the 2002 Interim Standards). However, the 1999 Assessment did not estimate the ecological benefits of MACT standards for hazardous waste burning industrial boilers and HCl production furnaces. These systems were excluded from the universe in 1999 but are part of the universe addressed by today's final standards. As a result, while the total ecological benefits of the final rule are likely to be modest, areas near facilities with boilers may enjoy more significant ecological benefits under the final standards than areas near facilities that have already complied with the 2002 Interim standards.

Mercury, lead, and chlorides are among the HAPs that can cause damage to the health and visual appearance of

[277] Grandjean, P., K. Murata, E. Budtz-Jorgensen, and P. Weihe. 2004. ''Autonomic Activity in Methylmercury Neurotoxicity: 14–Year Follow-Up of a Faroese Birth Cohort.'' Journal of Pediatrics.144:169–76; Kjellstrom, T., P. Kennedy, S. Wallis, A. Stewart, L. Friberg, B. Lind, P. Witherspoon, and C. Mantell. 1989. Physical and mental development of children with prenatal exposure to mercury from fish. Stage 2: Interviews and psychological tests at age 6. National Swedish Environmental Protection Board Report No. 3642; Crump, K.S., T. Kjellstrom, A.M. Shipp, A. Silvers, and A. Stewart. 1998. ''Influence of prenatal mercury exposure upon scholastic and psychological test performance: benchmark analysis of a New Zealand cohort.'' Risk Analysis. 18(6):701–713; Davidson, P.W., G.J. Myers, C. Cox, C. Axtell, C. Shamlaye, J. Sloane-Reeves, E. Cernichiari, L. Needham, A. Choi, Y. Wang, M. Berlin, and T.W. Clarkson. 1998. ''Effects of prenatal and postnatal methylmercury exposure from fish consumption on neurodevelopment: outcomes at 66 months of age in the Seychelles Child Development Study.'' Journal of the American Medical Association. 280(8):701–707; and Myers, G.J., P.W. Davidson, C. Cox, C.F. Shamlaye, D. Palumbo, E. Cernichiari, J. Sloane-Reeves, G.E. Wilding, J. Kost, L.S. Huang, and T.W. Clarkson. 2003. ''Prenatal methylmercury exposure from ocean fish consumption in the Seychelles child development study.'' Lancet. 361(9370):1686–92.

[278] National Research Council of the National Academy of Sciences, Toxicological Effects of Methylmercury. 2000, p. 299.

[279] Ryan, L.M. Effects of Prenatal Methylmercury on Childhood IQ: A Synthesis of Three Studies. Report to the U.S. Environmental Protection Agency, 2005; U.S. EPA. Regulatory Impact Analysis of the Clean Air Mercury Rule: Final Report. March 2005.

[280] U.S. EPA. Regulatory Impact Analysis of the Clean Air Mercury Rule: Final Report. March 2005.

[281] This is a lower bound estimate that assumes all other sources will implement 112(d)(4) and will not move to reduce TCl emissions from current baseline levels.

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plants.[282] While the total value of forest health is difficult to estimate, visible deterioration in the health of forests and plants can cause a measurable change in recreation behavior. Several studies that measure the change in outdoor recreation behavior according to forest health have attempted to place a value on aesthetic degradation of forests.[283] Although these studies are available, additional research is needed to fully understand the effects of these Haps on the forest ecosystem. Thus, these benefits are not quantified in this analysis.

Emissions that are sufficient to cause structural and aesthetic damage to vegetation are likely to affect growth as well. Little research has been done on the effects of compounds such as chlorine, heavy metals (as air pollutants), and PM on agricultural productivity.[284] Even though the potential for visible damage and production decline from metals and other pollutants suggests the final standards could increase agricultural productivity, we have not monetized the benefits of these changes.

3. Waste Minimization Benefits

Facilities that burn hazardous waste and remain in operation following implementation of the final standards are expected to experience marginally increased costs as a result of these standards. This will result in an incentive to pass these increased costs on to their customers in the form of higher combustion prices. In the 1999 Assessment we conducted a waste minimization analysis to inform the expected price change. The analysis concluded that the demand for hazardous waste combustion is relatively inelastic. While a variety of waste minimization alternatives are available for managing hazardous waste streams that are currently combusted, the costs of these alternatives generally exceed the cost of combustion. When the additional costs of compliance with the MACT standards are taken into account, waste minimization alternatives still tend to exceed the higher combustion costs. This relative inelasticity suggests that, in the short term, large reductions in the amount of hazardous waste requiring combustion are not likely to occur. However, over the longer term (*i.e.* as production systems are updated), companies may continue to seek alternatives to expensive hazardous waste-management. This may include process adjustments that result, to some degree in source reduction of hazardous waste and the increased generation of non hazardous waste. To the extent that increases in combustion prices provide additional incentive to adopt more efficient processes, the final standards may contribute to longer term process-based hazardous waste minimization efforts.

No hazardous waste minimization impacts are captured in our quantitative analysis of costs and benefits.[285] A quantitative assessment of the benefits associated with waste minimization may result in double-counting of some of the benefits described earlier. For example, waste minimization may reduce emissions of hazardous air pollutants and therefore have a positive effect on public health. Furthermore, emission reductions beyond those necessary for compliance with the final standards are not addressed in the benefits assessment. In addition, waste minimization is likely to result in specific types of benefits not captured in this Assessment. For example, waste generators that engage in waste minimization may experience a reduction in their waste handling costs and could also reduce the risk related to waste spills and waste management. Finally, waste minimization procedures potentially stimulated by today's action may result in additional costs to facilities that implement these technologies. These factors have not been assessed in our analysis but are likely to at least partially offset corresponding benefits.

4. Conclusion

Total non-discounted monetized human health benefits associated with the final standards are estimated at $6.31 million/year. Annualized discounted benefits were found to range from $5.61 million to $5.95 million/year. The range reflects an alternative discount rate of 3 percent and 7 percent for mortality benefits.

It is important to emphasize that monetized benefits represent only a portion of the total benefits associated with this rule. A significant portion of the benefits are not monetized, as discussed above, due to data and analytical limitations. Specifically, ecological benefits, and human health benefits associated with reductions in chlorine, mercury, and lead are not quantified or monetized. In some regions these benefits may be significant. In addition, specific sub-populations near combustion facilities, including children and minority populations, may be disproportionately affected by environmental risks and may therefore enjoy more significant benefits. Visibility benefits associated with reduced PM are also expected from this final rule. For a complete discussion of the methodology, data, findings, and limitations associated with our benefits analysis the reader is encouraged to review the Assessment document,[286] and the Addendum to the Assessment.

Part Seven: How Does the Final Rule Meet the RCRA Protectiveness Mandate?

As discussed in more detail below, we believe today's final standards are generally protective of human health and the environment. We therefore finalize and apply these standards, in most instances, in lieu of the RCRA air emission standards applicable to these sources.

I. Background

Section 3004(a) of RCRA requires the Agency to promulgate standards for hazardous waste treatment, storage, and disposal facilities as necessary to protect human health and the environment. The standards for hazardous waste incinerators generally rest on this authority. In addition, § 3004(q) requires the Agency to promulgate standards for emissions from facilities that burn

[282] Although the primary pollutants which are detrimental to vegetation aesthetics and growth are tropospheric ozone, sulfur dioxide, and hydrogen fluoride (three pollutants which are not regulated in the MACT standards), some literature exists on the relationship between metal deposition and vegetation health. (Mercury Study Report to Congress Volume VI, 1997) (Several studies are cited in this report.)

[283] See, for example, Brown, T.C. et al. 1989, Scenic Beauty and Recreation Value: Assessing the Relationship, In J. Vining, ed., *Social Science and Natural Resources Recreation Management,* Westview Press, Boulder, Colorado; this work studies the relationship between forest characteristics and the value of recreational participation. Also see Peterson, D.G. et al. 1987, Improving Accuracy and Reducing Cost of Environmental Benefit Assessments. Draft Report to the U.S. EPA, by Energy and Resource Consultants, Boulder, Colorado; Walsh et al. 1990, Estimating the public benefits of protecting forest quality, Journal of Forest Management, 30:175–189., and Homes et al. 1992, Economic Valuation of Spruce-Fir Decline in the Southern Appalachian Mountains: A comparison of Value Elicitation Methods. Presented at the Forestry and the Environment: Economic Perspectives Conference, March 1, 1992 Jasper, Alberta, Canada for estimates of the WTP of visitors and residents to avoid forest damage.

[284] MacKenzie, James J., and Mohamed T. El-Ashry, *Air Pollution's Toll on Forests and Crops* (New Haven, Yale University Press, 1989).

[285] Note that this rule does, in fact, consider hazardous waste feed control. Feed control can be implemented by each source through waste minimization procedures. See: Final Technical Support Document for HWC MACT Standards, Volume V–Emissions Estimates and Engineering Costs.

[286] Assessment of the Potential Costs, Benefits, and Other Impacts of the Hazardous Waste Combustion MACT Final Rule Standards. September 2005.

hazardous waste fuels (e.g., cement and lightweight aggregate kilns, boilers, and hydrochloric acid production furnaces) as necessary to protect human health and the environment. Using RCRA authority, the Agency has established emission (and other) standards for hazardous waste combustors that are either entirely risk-based (e.g., site-specific standards for metals under the Boiler and Industrial Furnace rule), or are technology-based but determined by a generic risk assessment to be protective (e.g., the DRE standard for incinerators and BIFs).

The MACT standards finalized today implement the technology-based regime of CAA § 112(d). There is, however, a residual risk component to air toxics standards. Section 112(f) of the Clean Air Act requires the Agency to impose, within eight years after promulgation of the technology-based standards promulgated under § 112(d) (i.e., the authority for today's final standards), additional controls if needed to protect public health with an ample margin of safety or to prevent adverse environmental effect.

RCRA § 1006(b) directs that EPA ''integrate all provisions of [RCRA] for purposes of administration and enforcement and * * * avoid duplication, to the maximum extent possible, with the appropriate provisions of the Clean Air Act * * * '' Thus, although considerations of risk are not ordinarily part of the MACT process, in order to avoid duplicative standards where possible, we have evaluated the protectiveness of the standards finalized today.

As noted above, under RCRA, EPA must promulgate standards ''as may be necessary to protect human health and the environment.'' RCRA § 3004(a) and (q). Technology-based standards developed under CAA § 112 do not automatically satisfy this requirement, but may do so in fact. See 59 FR at 29776 (June 6, 1994) and 60 FR at 32593 (June 23, 1995) (RCRA regulation of secondary lead smelter emissions unnecessary at this time given stringency of technology-based standard and pendency of § 112(f) determination). If the MACT standards, as a factual matter, are sufficiently protective to also satisfy the RCRA mandate, then no independent RCRA standards are required. Conversely, if MACT standards are inadequate, the RCRA authorities would have to be used to fill the gap.

II. Evaluation of Protectiveness

For the purpose of satisfying the RCRA statutory mandates, the Agency has conducted an evaluation of the degree of protection afforded by the MACT standards being finalized today. We have not conducted a comprehensive risk assessment for this rulemaking as was done for incinerators, cement kilns, and lightweight aggregate kilns in the 1999 MACT rule where we concluded that the promulgated standards were generally protective and therefore, the RCRA standards need not be retained. However, we noted that in certain instances, permit authorities may invoke the omnibus authority (RCRA § 3005(c)(3) and its implementing regulations at § 270.10(k)) if there is some reason to believe that additional controls beyond those required pursuant to 40 CFR parts 63, 264, 265, and 266 may be needed to ensure protection of human health and the environment under RCRA.

For this final rule, we instead compared the risk-related characteristics of the sources covered by the 1999 rule to the sources covered by today's rule (e.g., estimated emissions, stack characteristics, meteorology, and population). For a description of the methodology and technical discussion of its application, see ''Inferential Risk Analysis in Support of Standards for Emissions of Hazardous Air Pollutants from Hazardous Waste Combustors,'' in the docket for today's rule. We performed a large array of statistical comparisons and from these we attempted to make inferences about whether risks would be expected to be about the same, less than, or greater than the risks estimated for 1999 rule. We think the comparative analysis lends additional support to our view that today's final standards are generally protective. We received no comments either in support of or in opposition to our use of the comparative analysis to evaluate the protectiveness of the standards being finalized today or our view that the standards are generally protective.

While we regard the final standards as generally protective, the comparative analysis suggests some concern for solid fuel-fired boilers (SFBs) with regard to the particulate matter standard (and certain metals such as antimony and thallium), mercury, and total chlorine standards (other than the alternative risk-based chlorine standards). The analysis also suggests some concern for hydrochloric acid (HCl) production furnaces with regard to the dioxin/furan standard, where carbon monoxide and total hydrocarbon serve as surrogate control. However, because both SFBs and HCl production furnaces comprise such small source categories (4 SFB facilities and 8 HCl production facilities), it is difficult to reach firm conclusions. For example, for SFBs it was not possible to conduct hypothesis tests that could be considered valid involving correlations among variables for a number of variables in the analysis because of the small number of data points and the power of the tests to detect differences for those that were conducted was very low, which greatly diminishes the value of the results. (Indeed, no differences in correlations were found for SFBs at the 0.1 significance level—the level of significance that was used in the analysis.) Similarly, for HCl production furnaces the power of the tests to detect differences in correlations was quite low. It must be noted that the comparative analysis methodology was not intended for comparisons that involve relatively few facilities because it is grounded in tests of hypotheses and levels of statistical significance which generally require substantial amounts of data to produce firm conclusions. Nevertheless, in consideration of the indications of possible risks for the aforementioned standards, permit authorities may want to consider site-specific factors in determining whether or not the MACT standards are sufficiently protective for facilities that fall into these categories.

The comparative analysis may also raise possible concerns for lightweight aggregate kilns (LWAKs) and liquid fuel-fired boilers (LFBs) with dry APCDs with regard to the dioxin/furan standards, in view of the ongoing uncertainty in cancer and other health effects levels for chlorinated dioxins and furans. In particular, some recent estimates of the carcinogenicity of these compounds that consider both human and animal data, are higher than earlier estimates derived from animal data alone. However, like SFBs and HCl production furnaces, LWAKs and LFBs with dry APCDs both comprise small source categories (3 LWAK facilities and 7 dry APCD LFB facilities). This makes it very difficult to reach firm conclusions and suggests the need to consider site-specific factors in determining whether the MACT standards are sufficiently protective in these instances.

Except as noted, we believe today's final standards provide a substantial degree of protection to human health and the environment. We therefore do not believe that we need to retain the existing RCRA standards for boilers and hydrochloric acid production furnaces (just as we found that existing RCRA standards for incinerators, cement kilns, and lightweight aggregate kilns were no longer needed after the 1999 rule). However, as previously discussed in

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more detail in Part Four, Section IX, site-specific risk assessments may be warranted on an individual source basis to ensure that the MACT standards provide adequate protection in accordance with RCRA.

Part Eight: Statutory and Executive Order Reviews

I. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 [58 FR 51735 (October 4, 1993)] the Agency, in conjunction with OMB's Office of Information and Regulatory Affairs (OIRA), must determine whether a regulatory action is ''significant'' and therefore subject to OMB review and the full requirements of the Executive Order. The Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that this rule is a ''significant regulatory action'' because this action may raise novel legal or policy issues due to the methodology applied in development of the final standards. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations are documented in the public record.

The total social costs for this rule are estimated at $22.6 million per year [287]. This figure is significantly below the $100 million threshold established under point number one above. Thus, this rule is not considered to be an economically significant action. However, in an effort to comply with the spirit of the Order, we have prepared an economic assessment in support of today's final rule. This document is entitled: Assessment of the Potential Costs, Benefits, and Other Impacts of the Hazardous Waste Combustion MACT Final Rule Standards, September 2005. We have also prepared an Addendum to this Assessment entitled: Addendum to the Assessment of the Potential Costs, Benefits, and Other Impacts of the Hazardous Waste Combustion MACT Final Rule Standards, September 2005. This Addendum captures changes made to the rulemaking following completion of the full Assessment document. The Assessment and Addendum were designed to adhere to analytical requirements established under Executive Order 12866, and corresponding Agency and OMB guidance; subject to data, analytical, and resource limitations. Findings presented under Part Six of this Preamble were developed in accordance with this guidance. The RCRA docket established for today's rulemaking maintains a copy of the Assessment and Addendum for public review. Interested persons are encouraged to read both documents to gain a full understanding of the analytical methodology, findings, and limitations associated with this report.

II. Paperwork Reduction Act

We have prepared an Information Collection Request (ICR) document (ICR No. 1773.08) listing the information collection requirements of this final rule, and have submitted it for approval to the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act, U.S.C. 3501 *et seq.* OMB has assigned a control number 2050–0171 for this ICR. This ICR is available for public viewing in the EPA Docket Center, Room B102, 1301 Constitution Avenue NW., Washington, DC. Copy may also be obtained from the EDOCKET on the EPA Web site, or by calling (202) 566–1744. The information collection requirements are not enforceable until OMB approves them.

The public burden associated with this final rule is projected to affect 238 HWC units and is estimated to average 211 hours per respondent annually. The reporting and recordkeeping cost burden is estimated to average $5,640 per respondent annually.

Burden means total time, effort, or financial resources expended by persons to generate, maintain, retain, disclose, or provide information to or for a Federal agency. That includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9. When this ICR is approved by OMB, the Agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved information collection requirements contained in this final rule.

The EPA requested comments (see 70 FR 20748, Apr. 21, 2005) on the need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques.

III. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 et seq., generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act, or any other statute. This analysis must be completed unless the agency is able to certify that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and small governmental jurisdictions.

The RFA provides default definitions for each type of small entity. Small entities are defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's final rule on small entities, I certify that this action will not

[287] This figure includes approximately $0.5 million/year in total government costs. Total social costs would increase to approximately $28.6 million per year if we were to assume all sources were to comply with technology-based TC1 standards.

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have a significant economic impact on a substantial number of small entities. We have determined that hazardous waste combustion facilities are not owned by small governmental jurisdiction or nonprofit organizations. Therefore, only small businesses were analyzed for small entity impacts. For the purposes of the impact analyses, small entity is defined either by the number of employees or by the dollar amount of sales. The level at which a business is considered small is determined for each North American Industrial Classification System (NAICS) code by the Small Business Administration.

Affected individual waste combustors (incinerators, cement kilns, lightweight aggregate kilns, solid and liquid fuel-boilers, and hydrochloric acid production furnaces) will bear the impacts of today's rule. These units will incur direct economic impacts (positive or negative) as a result of today's rule. Few of the hazardous waste combustion facilities affected by this rule were found to be owned by small businesses, as defined by the Small Business Administration (SBA). From our universe of 145 facilities, we identified eight facilities that are currently owned by small businesses. Four of these facilities are liquid boilers, two are on-site incinerators, one is a cement kiln, and one is a lightweight aggregate kiln (LWAK). Our analysis indicates that none of these facilities are likely to incur annualized compliance costs greater than one percent of gross annual corporate revenues. Cost impacts of the final standards were found to range from less than 0.01 percent to 0.46 percent of annual gross corporate revenues.

The reader is encouraged to review our regulatory flexibility screening analysis prepared in support of this determination. This analysis is incorporated as Appendix H of the *Assessment* document, and updated in the *Addendum*.

IV. Unfunded Mandates Reform Act of 1995

Signed into law on March 22, 1995, the Unfunded Mandates Reform Act (UMRA) calls on all federal agencies to provide a statement supporting the need to issue any regulation containing an unfunded federal mandate and describing prior consultation with representatives of affected state, local, and tribal governments.

Today's final rule is not subject to the requirements of sections 202, 204 and 205 of UMRA. In general, a rule is subject to the requirements of these sections if it contains ''Federal mandates'' that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any one year. Today's final rule does not result in $100 million or more in expenditures for any of these categories. The aggregate annualized social cost for today's rule is estimated at $22.6 million.

V. Executive Order 13132: Federalism

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.''

Under Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the regulation.

This final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in the Order. The rule focuses on requirements for facilities burning hazardous waste, without affecting the relationships between Federal and State governments. Thus, Executive Order 13132 does not apply to this rule. Although section 6 of Executive Order 13132 does not apply to this rule, EPA did include various State representatives on our Agency workgroup. These representatives participated in the development of this rule.

VI. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

Executive Order 13175: Consultation and Coordination with Indian Tribal Governments (65 FR 67249, November 9, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' Our Agency workgroup for this rule included Tribal representation. We have determined that this final rule does not have tribal implications, as specified in the Order. No Tribal governments are known to own or operate hazardous waste combustors subject to the requirements of this final rule. Furthermore, this rule focuses on requirements for all regulated sources without affecting the relationships between tribal governments in its implementation, and applies to all regulated sources, without distinction of the surrounding populations affected. Thus, Executive Order 13175 does not apply to this rule.

VII. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045: ''Protection of Children from Environmental Health Risks and Safety Risks'' (62 FR. 19885, April 23, 1997) applies to any rule that: (1) Is determined to be ''economically significant'' as defined under E.O. 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency. Today's final rule is not subject to the Executive Order because it is not economically significant as defined under point one of the Order, and because the Agency does not have reason to believe the environmental health or safety risks addressed by this action present a disproportionate risk to children.

VIII. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This rule is not subject to Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 Fed. Reg. 28355 (May 22, 2001)). This rule, as finalized, will not seriously disrupt energy supply, distribution patterns, prices, imports or exports. Furthermore, this rule is not an economically significant action under Executive Order 12866.

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IX. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This rulemaking involves environmental monitoring or measurement. Both Performance Based Measurement System (PBMS) and specific measurement methods are finalized under this rule. The PBMS approach is intended to be more flexible and cost-effective for the regulated community; it is also intended to encourage innovation in analytical technology and improved data quality. Where allowed, EPA is not precluding the use of any method, whether it constitutes a voluntary consensus standard or not, as long as it meets the performance criteria specified.

X. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898, ''Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations' (February 11, 1994) requires us to complete an analysis of today's rule with regard to equity considerations. The Order is designed to address the environmental and human health conditions of minority and low-income populations. This section briefly discusses potential impacts (direct or disproportional) today's rule may have in the area of environmental justice.

We have recently analyzed demographic data from the U.S. Census, and have previously examined data from two other reports: ''Race, Ethnicity, and Poverty Status of the Populations Living Near Cement Plants in the United States'' (EPA, August 1994) and ''Race, Ethnicity, and Poverty Status of the Populations Living Near Hazardous Waste Incinerators in the United States'' (EPA, October 1994). These reports examine the number of low-income and minority individuals living near a relatively large sample of cement kilns and hazardous waste incinerators and provide county, state, and national population percentages for various sub-populations. The demographic data in these reports provide several important findings when examined in conjunction with the risk reductions projected from today's rule.

We find that combustion facilities, in general, are not located in areas with disproportionately high minority and low-income populations. However, there is evidence that hazardous waste burning cement kilns are somewhat more likely to be located in areas that have relatively higher low-income populations. Furthermore, there are a small number of commercial hazardous waste incinerators located in highly urbanized areas where there is a disproportionately high concentration of minorities and low-income populations within one and five mile radii. The reduced emissions at these facilities due to today's rule could represent meaningful environmental and health improvements for these populations. Overall, today's rule should not result in any adverse or disproportional health or safety effects on minority or low-income populations. Any impacts on these populations are likely to be positive due to the reduction in emissions from combustion facilities near minority and low-income population groups. The Assessment document available in the RCRA docket established for today's rule discusses our Environmental Justice analysis.

XI. Congressional Review

The Congressional Review Act (CRA), 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. Prior to publication of the final rule in the **Federal Register**, we will submit all necessary information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States. Under the CRA, a major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects

40 CFR Part 9

Environmental protection, Reporting and recordkeeping requirements.

40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

40 CFR Part 260

Environmental protection, Administrative practice and procedure, Confidential business information, Hazardous waste, Reporting and recordkeeping requirements.

40 CFR Part 264

Environmental protection, Air pollution control, Hazardous waste, Insurance, Packaging and containers, Reporting and recordkeeping requirements, Security measures, Surety bonds.

40 CFR Part 265

Environmental protection, Air pollution control, Hazardous waste, Insurance, Packaging and containers, Reporting and recordkeeping requirements.

40 CFR Part 266

Environmental protection, Energy, Hazardous waste, Recycling, Reporting and recordkeeping requirements.

40 CFR Part 270

Environmental protection, Administrative practice and procedure, Confidential business information, Hazardous materials transportation, Hazardous waste, Reporting and recordkeeping requirements.

40 CFR Part 271

Administrative practice and procedure, Hazardous materials transportation, Hazardous waste, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: September 14, 2005.

Stephen L. Johnson,

Administrator.

■ For the reasons set out in the preamble, title 40, chapter I, of the Code of Federal Regulations is amended as follows:

PART 9—OMB APPROVALS UNDER THE PAPERWORK REDUCTION ACT

■ 1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135 *et seq.*, 136–136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601–2671; 21 U.S.C. 331j, 346a, 348; 31 U.S.C. 9701; 33 U.S.C. 1251 *et seq.*, 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345 (d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR, 1971–1975 Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g–1, 300g–2,

300g–3, 300g–4, 300g–5, 300g–6, 300j–1, 300j–2, 300j–3, 300j–4, 300j–9, 1857 *et seq.*, 6901–6992k, 7401–7671q, 7542, 9601–9657, 11023, 11048.

■ 2. Section 9.1 is amended in the table under center heading ''National Emission Standards for Hazardous Air Pollutants for Source Categories'' by adding entry ''63.1200–63.1221'' in numerical order to read as follows:

§ 9.1 OMB approvals under the Paperwork Reduction Act.

* * * * *

40 CFR citation	OMB control No.
* * * * * * *	
National Emission Standards for Hazardous Air Pollutants for Source Categories [3]	
* * * * * * *	
63.1200–63.1221	2050–0171

[3] The ICRs referenced in this section of the table encompass the applicable general provisions contained in 40 CFR part 63, subpart A, which are not independent information collection requirements.

* * * * *

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

■ 1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

■ 2. Section 63.14 is amended by:
■ a. Removing paragraphs (i)(1) and (i)(2).
■ b. Redesignating paragraph (i)(3) as (i)(1).
■ c. Adding and reserving new paragraph (i)(2).
■ d. Revising paragraph (k).

The revisions and additions read as follows:

§ 63.14 Incorporations by reference.

* * * * *

(i) * * *

(2) [Reserved]

* * * * *

(k) The following materials are available for purchase from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605–6000 or (800) 553–6847; or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512–1800:

(1) The following methods as published in the test methods compendium known as ''Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,'' EPA Publication SW–846, Third Edition. A suffix of ''A'' in the method number indicates revision one (the method has been revised once). A suffix of ''B'' in the method number indicates revision two (the method has been revised twice).

(i) Method 0023A, ''Sampling Method for Polychlorinated Dibenzo-*p*-Dioxins and Polychlorinated Dibenzofuran Emissions from Stationary Sources,'' dated December 1996 and in Update III, IBR approved for § 63.1208(b)(1) of Subpart EEE of this part.

(ii) Method 9071B, ''n-Hexane Extractable Material (HEM) for Sludge, Sediment, and Solid Samples,'' dated April 1998 and in Update IIIA, IBR approved for § 63.7824(e) of Subpart FFFFF of this part.

(iii) Method 9095A, ''Paint Filter Liquids Test,'' dated December 1996 and in Update III, IBR approved for §§ 63.7700(b) and 63.7765 of Subpart EEEEE of this part.

(2) [Reserved]

■ 3. Section 63.1200 is amended by:
■ a. Revising the introductory text.
■ b. Revising paragraph (a)(2).
■ c. Adding entry (4) in Table 1 in paragraph (b).

The revisions and additions read as follows:

§ 63.1200 Who is subject to these regulations?

The provisions of this subpart apply to all hazardous waste combustors: hazardous waste incinerators, hazardous waste cement kilns, hazardous waste lightweight aggregate kilns, hazardous waste solid fuel boilers, hazardous waste liquid fuel boilers, and hazardous waste hydrochloric acid production furnaces. Hazardous waste combustors are also subject to applicable requirements under parts 260 through 270 of this chapter.

(a) * * *

(2) Both area sources and major sources subject to this subpart, but not previously subject to title V, are immediately subject to the requirement to apply for and obtain a title V permit in all States, and in areas covered by part 71 of this chapter.

(b) * * *

TABLE 1 TO § 63.1200.—HAZARDOUS WASTE COMBUSTORS EXEMPT FROM SUBPART EEE

If	And If	Then
* * * * * * *		
(4) You meet the definition of a small quantity burner under § 266.108 of this chapter		You are not subject to the requirements of this subpart (Subpart EEE).

* * * * *

■ 4. Section 63.1201 is amended in paragraph (a) by revising the definitions of ''Hazardous waste combustor'', ''New source'', and ''TEQ'', and adding definitions for ''Btu'', ''Hazardous waste hydrochloric acid production furnace'', ''Hazardous waste liquid fuel boiler'', ''Hazardous waste solid fuel boiler'', and ''System removal efficiency'' in alphabetical order to read as follows:

§ 63.1201 Definitions and acronyms used in this subpart.

(a) * * *

Btu means British Thermal Units.

* * * * *

Hazardous waste combustor means a hazardous waste incinerator, hazardous waste burning cement kiln, hazardous waste burning lightweight aggregate kiln, hazardous waste liquid fuel boiler, hazardous waste solid fuel boiler, or hazardous waste hydrochloric acid production furnace.

* * * * *

Hazardous waste hydrochloric acid production furnace and *Hazardous Waste HCl production furnace* mean a halogen acid furnace defined under § 260.10 of this chapter that produces aqueous hydrochloric acid (HCl) product and that burns hazardous waste at any time.

* * * * *

Hazardous waste liquid fuel boiler means a boiler defined under § 260.10 of this chapter that does not burn solid fuels and that burns hazardous waste at any time. Liquid fuel boiler includes boilers that only burn gaseous fuel.

* * * * *

Hazardous waste solid fuel boiler means a boiler defined under § 260.10 of this chapter that burns a solid fuel and that burns hazardous waste at any time.

* * * * *

New source means any affected source the construction or reconstruction of which is commenced after the dates specified under §§ 63.1206(a)(1)(i)(B), (a)(1)(ii)(B), and (a)(2)(ii).

* * * * *

System removal efficiency means [1 − Emission Rate (mass/time) / Feedrate (mass/time)] X 100.

* * * * *

TEQ means the international method of expressing toxicity equivalents for dioxins and furans as defined in U.S. EPA, Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs) and 1989 Update, March 1989.

* * * * *

■ 5. Section 63.1203 is amended by:

■ a. Revising an undesignated center heading above the section heading.

■ b. Revising the section heading.

■ c. Revising paragraph (c)(3)(2).

The revisions and additions read as follows:

Interim Emissions Standards and Operating Limits For Incinerators, Cement Kilns, and Lightweight Aggregate Kilns

§ 63.1203 What are the standards for hazardous waste incinerators that are effective until compliance with the standards under § 63.1219?

* * * * *

(c) * * *

(3) * * *

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

* * * * *

■ 6. The section heading to § 63.1204 and paragraph (c)(3)(ii) are revised to read as follows:

§ 63.1204 What are the standards for hazardous waste burning cement kilns that are effective until compliance with the standards under § 63.1220?

* * * * *

(c) * * *

(3) * * *

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

* * * * *

■ 7. The section heading to § 63.1205 and paragraph (c)(3)(ii) are revised to read as follows:

§ 63.1205 What are the standards for hazardous waste burning lightweight aggregate kilns that are effective until compliance with the standards under § 63.1221?

* * * * *

(c) * * *

(3) * * *

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

* * * * *

■ 8. Section 63.1206 is amended by:

■ a. Revising paragraph (a).

■ b. Revising paragraphs (b)(1)(ii), (b)(6) introductory text, (b)(7)(i)(A), (b)(7)(ii), (b)(9)(i) introductory text, (b)(9)(i)(A), (b)(9)(iv)(A), (b)(9)(vi), (b)(9)(vii) introductory text, (b)(9)(viii)(D), (b)(9)(ix)(D), (b)(10)(i) introductory text, (b)(10)(i)(A), (b)(10)(vi), (b)(10)(vii) introductory text, (b)(10)(viii)(D), (b)(10)(ix)(D), (b)(11), (b)(13)(i) introductory text, (b)(13)(ii), and (b)(14).

■ c. Adding paragraph (b)(16).

■ d. Revising paragraphs (c)(1)(i) introductory text, (c)(3)(iv), (c)(6)(iii)(B) introductory text, (c)(6)(iv) introductory text, and (c)(7).

■ e. Adding paragraphs (c)(8) and (c)(9).

The revisions and additions read as follows:

§ 63.1206 When and how must you comply with the standards and operating requirements?

(a) *Compliance dates.* (1) *Compliance dates for incinerators, cement kilns, and lightweight aggregate kilns that burn hazardous waste.* (i) *Compliance date for standards under §§ 63.1203, 63.1204, and 63.1205.* (A) *Compliance dates for existing sources.* You must comply with the emission standards under §§ 63.1203, 63.1204, and 63.1205 and the other requirements of this subpart no later than the compliance date, September 30, 2003, unless the Administrator grants you an extension of time under § 63.6(i) or § 63.1213.

(B) *New or reconstructed sources.* (*1*) If you commenced construction or reconstruction of your hazardous waste combustor after April 19, 1996, you must comply with the emission standards under §§ 63.1203, 63.1204, and 63.1205 and the other requirements of this subpart by the later of September 30, 1999 or the date the source starts operations, except as provided by paragraph (a)(1)(i)(B)(*2*) of this section. The costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart, between April 19, 1996 and a source's compliance date, are not considered to be reconstruction costs.

(*2*) For a standard under §§ 63.1203, 63.1204, and 63.1205 that is more stringent than the standard proposed on April 19, 1996, you may achieve compliance no later than September 30, 2003 if you comply with the standard proposed on April 19, 1996 after September 30, 1999. This exception does not apply, however, to new or

reconstructed area source hazardous waste combustors that become major sources after September 30, 1999. As provided by § 63.6(b)(7), such sources must comply with the standards under §§ 63.1203, 63.1204, and 63.1205 at startup.

(ii) *Compliance date for standards under §§ 63.1219, 63.1220, and 63.1221.* (A) *Compliance dates for existing sources.* You must comply with the emission standards under §§ 63.1219, 63.1220, and 63.1221 and the other requirements of this subpart no later than the compliance date, October 14, 2008, unless the Administrator grants you an extension of time under § 63.6(i) or § 63.1213.

(B) *New or reconstructed sources.* (*1*) If you commenced construction or reconstruction of your hazardous waste combustor after April 20, 2004, you must comply with the new source emission standards under §§ 63.1219, 63.1220, and 63.1221 and the other requirements of this subpart by the later of October 12, 2005 or the date the source starts operations, except as provided by paragraph (a)(1)(ii)(B)(*2*) of this section. The costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart, between April 20, 2004, and a source's compliance date, are not considered to be reconstruction costs.

(*2*) For a standard under §§ 63.1219, 63.1220, and 63.1221 that is more stringent than the standard proposed on April 20, 2004, you may achieve compliance no later than October 14, 2008, if you comply with the standard proposed on April 20, 2004, after October 12, 2005. This exception does not apply, however, to new or reconstructed area source hazardous waste combustors that become major sources after October 14, 2008. As provided by § 63.6(b)(7), such sources must comply with the standards under §§ 63.1219, 63.1220, and 63.1221 at startup.

(2) *Compliance dates for solid fuel boilers, liquid fuel boilers, and hydrogen chloride production furnaces that burn hazardous waste for standards under §§ 63.1216, 63.1217, and 63.1218.* (i) *Compliance date for existing sources.* You must comply with the standards of this subpart no later than the compliance date, October 14, 2008, unless the Administrator grants you an extension of time under § 63.6(i) or § 63.1213.

(ii) *New or reconstructed sources.* (A) If you commenced construction or reconstruction of your hazardous waste combustor after October 12, 2005, you must comply with the new source emission standards of this subpart by the later of October 12, 2005, or the date the source starts operations, except as provided by paragraph (a)(2)(ii)(B) of this section. The costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart, between April 20, 2004, and a source's compliance date, are not considered to be reconstruction costs.

(B) For a standard in the subpart that is more stringent than the standard proposed on April 20, 2004, you may achieve compliance no later than October 14, 2008, if you comply with the standard proposed on April 20, 2004, after October 12, 2005. This exception does not apply, however, to new or reconstructed area source hazardous waste combustors that become major sources after October 14, 2008. As provided by § 63.6(b)(7), such sources must comply with this subpart at startup.

(3) *Early compliance.* If you choose to comply with the emission standards of this subpart prior to the dates specified in paragraphs (a)(1) and (a)(2) of this section, your compliance date is the earlier of the date you postmark the Notification of Compliance under § 63.1207(j)(1) or the dates specified in paragraphs (a)(1) and (a)(2) of this section.

(b) * * *

(1) * * *

(ii) When hazardous waste is not in the combustion chamber (i.e., the hazardous waste feed to the combustor has been cut off for a period of time not less than the hazardous waste residence time) and you have documented in the operating record that you are complying with all otherwise applicable requirements and standards promulgated under authority of sections 112 (e.g., 40 CFR part 63, subparts LLL, DDDDD, and NNNNN) or 129 of the Clean Air Act in lieu of the emission standards under §§ 63.1203, 63.1204, 63.1205, 63.1215, 63.1216, 63.1217, 63.1218, 63.1219, 63.1220, and 63.1221; the monitoring and compliance standards of this section and §§ 63.1207 through 63.1209, except the modes of operation requirements of § 63.1209(q); and the notification, reporting, and recordkeeping requirements of §§ 63.1210 through 63.1212.

* * * * *

(6) *Compliance with the carbon monoxide and hydrocarbon emission standards.* This paragraph applies to sources that elect to comply with the carbon monoxide and hydrocarbon emissions standards of this subpart by documenting continuous compliance with the carbon monoxide standard using a continuous emissions monitoring system and documenting compliance with the hydrocarbon standard during the destruction and removal efficiency (DRE) performance test or its equivalent.

* * * * *

(7) * * * (i) * * *

(A) You must document compliance with the Destruction and Removal Efficiency (DRE) standard under this subpart only once provided that you do not modify the source after the DRE test in a manner that could affect the ability of the source to achieve the DRE standard.

* * * * *

(ii) *Sources that feed hazardous waste at locations other than the normal flame zone.* (A) Except as provided by paragraph (b)(7)(ii)(B) of this section, if you feed hazardous waste at a location in the combustion system other than the normal flame zone, then you must demonstrate compliance with the DRE standard during each comprehensive performance test;

(B)(*1*) A cement kiln that feeds hazardous waste at a location other than the normal flame zone need only demonstrate compliance with the DRE standard during three consecutive comprehensive performance tests provided that:

(*i*) All three tests achieve the DRE standard in this subpart; and

(*ii*) The design, operation, and maintenance features of each of the three tests are similar;

(*iii*) The data in lieu restriction of § 63.1207(c)(2)(iv) does not apply when complying with the provisions of paragraph (b)(7)(ii)(B) of this section;

(*2*) If at any time you change your design, operation, and maintenance features in a manner that could reasonably be expected to affect your ability to meet the DRE standard, then you must comply with the requirements of paragraph (b)(7)(ii)(A) of this section.

* * * * *

(9) * * * (i) You may petition the Administrator to request alternative standards to the mercury or hydrogen chloride/chlorine gas emission standards of this subpart, to the semivolatile metals emission standards under §§ 63.1205, 63.1221(a)(3)(ii), or 63.1221(b)(3)(ii), or to the low volatile metals emissions standards under §§ 63.1205, 63.1221(a)(4)(ii), or 63.1221(b)(4)(ii) if:

(A) You cannot achieve one or more of these standards while using maximum achievable control technology (MACT) because of raw material contributions to emissions of mercury, semivolatile metals, low

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volatile metals, or hydrogen chloride/chlorine gas; or

* * * * *

(iv) * * * (A) The alternative standard petition you submit under paragraph (b)(9)(i)(A) of this section must include data or information documenting that raw material contributions to emissions prevent you from complying with the emission standard even though the source is using MACT, as defined under paragraphs (b)(9)(viii) and (ix) of this section, for the standard for which you are seeking relief.

* * * * *

(vi) You must include data or information with semivolatile metals, low volatile metals, and hydrogen chloride/chlorine gas alternative standard petitions that you submit under paragraph (b)(9)(i)(A) of this section documenting that semivolatile metals, low volatile metals, and hydrogen chloride/chlorine gas emissions attributable to the hazardous waste only will not exceed the emission standards of this subpart.

(vii) You must not operate pursuant to your recommended alternative standards in lieu of emission standards specified in this subpart:

* * * * *

(viii) * * *

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 2,000,000 µg/dscm or less, and use of an air pollution control device with a hydrogen chloride/chlorine gas removal efficiency of 85 percent or greater.

(ix) * * *

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 14,000,000 µg/dscm or less, and use of an air pollution control device with a hydrogen chloride/chlorine gas removal efficiency of 99.6 percent or greater.

(10) * * * (i) You may petition the Administrator to request alternative standards to the mercury or hydrogen chloride/chlorine gas emission standards of this subpart, to the semivolatile metals emission standards under §§ 63.1204, 63.1220(a)(3)(ii), or 63.1220(b)(3)(ii), or to the low volatile metals emissions standards under §§ 63.1204, 63.1220(a)(4)(ii), or 63.1220(b)(4)(ii) if:

(A) You cannot achieve one or more of these standards while using maximum achievable control technology (MACT) because of raw material contributions to emissions of mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas; or

* * * * *

(vi) You must include data or information with semivolatile metals, low volatile metals, and hydrogen chloride/chlorine gas alternative standard petitions that you submit under paragraph (b)(10)(i)(A) of this section documenting that emissions of the regulated metals and hydrogen chloride/chlorine gas attributable to the hazardous waste only will not exceed the emission standards in this subpart.

(vii) You must not operate pursuant to your recommended alternative standards in lieu of emission standards specified in this subpart:

* * * * *

(viii) * * *

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 720,000 µg/dscm or less.

(ix) * * *

(D) For hydrogen chloride/chlorine gas, a hazardous waste chlorine feedrate corresponding to an MTEC of 420,000 µg/dscm or less.

(11) *Calculation of hazardous waste residence time.* You must calculate the hazardous waste residence time and include the calculation in the performance test plan under § 63.1207(f) and the operating record. You must also provide the hazardous waste residence time in the Documentation of Compliance under § 63.1211(c) and the Notification of Compliance under §§ 63.1207(j) and 63.1210(d).

* * * * *

(13) * * *

(i) Cement kilns that feed hazardous waste at a location other than the end where products are normally discharged and where fuels are normally fired must comply with the carbon monoxide and hydrocarbon standards of this subpart as follows:

* * * * *

(ii) Lightweight aggregate kilns that feed hazardous waste at a location other than the end where products are normally discharged and where fuels are normally fired must comply with the hydrocarbon standards of this subpart as follows:

(A) Existing sources must comply with the 20 parts per million by volume hydrocarbon standard of this subpart;

(B) New sources must comply with the 20 parts per million by volume hydrocarbon standard of this subpart.

(14) *Alternative to the particulate matter standard for incinerators.* (i). *General.* In lieu of complying with the particulate matter standards under § 63.1203, you may elect to comply with the following alternative metal emission control requirements:

(ii) *Alternative metal emission control requirements for existing incinerators.* (A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 240 µg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 97 µg/dscm, combined emissions, corrected to 7 percent oxygen.

(iii) *Alternative metal emission control requirements for new incinerators.* (A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 24 µg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 97 µg/dscm, combined emissions, corrected to 7 percent oxygen.

(iv) *Operating limits.* Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to § 63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

* * * * *

(16) *Compliance with subcategory standards for liquid fuel boilers.* You must comply with the mercury, semivolatile, low volatile metal, and total chlorine standards for liquid fuel boilers under § 63.1217 as follows:

(i) You must determine the as-fired heating value of each batch of hazardous waste fired by each firing system of the boiler so that you know the mass-weighted heating value of the hazardous waste fired at all times.

(ii) If the as-fired heating value of the hazardous waste is 10,000 Btu per pound or greater, you are subject to the thermal emission concentration standards (lb/million Btu) under § 63.1217.

(iii) If the as-fired heating value of the hazardous waste is less than 10,000 Btu/lb, you are subject to the mass or volume emission concentration

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standards (μg/dscm or ppmv) under § 63.1217.

(iv) If the as-fired heating value of hazardous wastes varies above and below 10,000 Btu/lb over time, you are subject to the thermal concentration standards when the heating value is 10,000 Btu/lb or greater and the mass concentration standards when the heating value is less than 10,000 Btu/lb. You may elect to comply at all times with the more stringent operating requirements that ensure compliance with both the thermal emission concentration standards and the mass or volume emission concentration standards.

* * * * *

(c) * * * (1) * * * (i) You must operate only under the operating requirements specified in the Documentation of Compliance under § 63.1211(c) or the Notification of Compliance under §§ 63.1207(j) and 63.1210(d), except:

* * * * *

(3) * * *

(iv) *Failure of the AWFCO system.* If the AWFCO system fails to automatically and immediately cutoff the flow of hazardous waste upon exceedance of a parameter required to be interlocked with the AWFCO system under paragraph (c)(3)(i) of this section, you have failed to comply with the AWFCO requirements of paragraph (c)(3) of this section. If an equipment or other failure prevents immediate and automatic cutoff of the hazardous waste feed, however, you must cease feeding hazardous waste as quickly as possible.

* * * * *

(6) * * *

(iii) * * *

(B) Be trained under the requirements of, and certified under, one of the following American Society of Mechanical Engineers (ASME) standards: QHO–1–1994, QHO–1a–1996, or QHO–1–2004 (Standard for the Qualification and Certification of Hazardous Waste Incinerator Operators). If you elect to use the ASME program:

* * * * *

(iv) Control room operators of cement kilns, lightweight aggregate kilns, solid fuel boilers, liquid fuel boilers, and hydrochloric acid production furnaces must be trained and certified under:

* * * * *

(7) *Operation and maintenance plan*—(i) You must prepare and at all times operate according to an operation and maintenance plan that describes in detail procedures for operation, inspection, maintenance, and corrective measures for all components of the combustor, including associated pollution control equipment, that could affect emissions of regulated hazardous air pollutants.

(ii) The plan must prescribe how you will operate and maintain the combustor in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels achieved during the comprehensive performance test.

(iii) This plan ensures compliance with the operation and maintenance requirements of § 63.6(e) and minimizes emissions of pollutants, automatic waste feed cutoffs, and malfunctions.

(iv) You must record the plan in the operating record.

(8) *Bag leak detection system requirements.* (i) If your combustor is equipped with a baghouse (fabric filter), you must continuously operate either:

(A) A bag leak detection system that meets the specifications and requirements of paragraph (c)(8)(ii) of this section and you must comply with the corrective measures and notification requirements of paragraphs (c)(8)(iii) and (iv) of this section; or

(B) A particulate matter detection system under paragraph (c)(9) of this section.

(ii) *Bag leak detection system specification and requirements.* (A) The bag leak detection system must be certified by the manufacturer to be capable of continuously detecting and recording particulate matter emissions at concentrations of 1.0 milligrams per actual cubic meter unless you demonstrate, under § 63.1209(g)(1), that a higher detection limit would routinely detect particulate matter loadings during normal operations;

(B) The bag leak detection system shall provide output of relative or absolute particulate matter loadings;

(C) The bag leak detection system shall be equipped with an alarm system that will sound an audible alarm when an increase in relative particulate loadings is detected over a preset level;

(D) The bag leak detection system shall be installed and operated in a manner consistent with available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the manufacturer's written specifications and recommendations for installation, operation, and adjustment of the system;

(E) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time;

(F) Following initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the operation and maintenance plan required under paragraph (c)(7) of this section. You must not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365 day period unless such adjustment follows a complete baghouse inspection which demonstrates the baghouse is in good operating condition;

(G) For negative pressure or induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector shall be installed downstream of the baghouse and upstream of any wet acid gas scrubber; and

(H) Where multiple detectors are required, the system's instrumentation and alarm system may be shared among the detectors.

(iii) *Bag leak detection system corrective measures requirements.* The operating and maintenance plan required by paragraph (c)(7) of this section must include a corrective measures plan that specifies the procedures you will follow in the case of a bag leak detection system alarm. The corrective measures plan must include, at a minimum, the procedures used to determine and record the time and cause of the alarm as well as the corrective measures taken to correct the control device malfunction or minimize emissions as specified below. Failure to initiate the corrective measures required by this paragraph is failure to ensure compliance with the emission standards in this subpart.

(A) You must initiate the procedures used to determine the cause of the alarm within 30 minutes of the time the alarm first sounds; and

(B) You must alleviate the cause of the alarm by taking the necessary corrective measure(s) which may include, but are not to be limited to, the following:

(*1*) Inspecting the baghouse for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions;

(*2*) Sealing off defective bags or filter media;

(*3*) Replacing defective bags or filter media, or otherwise repairing the control device;

(*4*) Sealing off a defective baghouse compartment;

(*5*) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; or

(*6*) Shutting down the combustor.

(iv) *Excessive exceedances notification.* If you operate the

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combustor when the detector response exceeds the alarm set-point more than 5 percent of the time during any 6-month block time period, you must submit a notification to the Administrator within 30 days of the end of the 6-month block time period that describes the causes of the exceedances and the revisions to the design, operation, or maintenance of the combustor or baghouse you are taking to minimize exceedances. To document compliance with this requirement:

(A) You must keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken;

(B) You must record the percent of the operating time during each 6-month period that the alarm sounds;

(C) In calculating the operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted; and

(D) If corrective action is required, each alarm shall be counted as a minimum of 1 hour.

(9) *Particulate matter detection system requirements for electrostatic precipitators and ionizing wet scrubbers.* If your combustor is equipped with an electrostatic precipitator or ionizing wet scrubber, and you elect not to establish under § 63.1209(m)(1)(iv) site-specific control device operating parameter limits that are linked to the automatic waste feed cutoff system under paragraph (c)(3) of this section, you must continuously operate a particulate matter detection system that meets the specifications and requirements of paragraph (c)(9)(i) through (iii) of this section and you must comply with the corrective measures and notification requirements of paragraphs (c)(9)(iv) through (v) of this section.

(i) *Particulate matter detection system requirements.*—(A) The particulate matter detection system must be certified by the manufacturer to be capable of continuously detecting and recording particulate matter emissions at concentrations of 1.0 milligrams per actual cubic meter unless you demonstrate, under § 63.1209(g)(1), that a higher detection limit would routinely detect particulate matter loadings during normal operations;

(B) The particulate matter detector shall provide output of relative or absolute particulate matter loadings;

(C) The particulate matter detection system shall be equipped with an alarm system that will sound an audible alarm when an increase in relative or absolute particulate loadings is detected over the set-point

(D) You must install, operate, and maintain the particulate matter detection system in a manner consistent with the provisions of paragraph (c)(9) of this section and available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the manufacturer's written specifications and recommendations for installation, operation, maintenance and quality assurance of the system;

(E) You must include procedures for installation, operation, maintenance, and quality assurance of the particulate matter detection system in the site-specific continuous monitoring system test plan required under § 63.8(e)(3) of this chapter.

(F) Where multiple detectors are required to monitor multiple control devices, the system's instrumentation and alarm system may be shared among the detectors.

(G) You must establish the alarm set-point as provided by either paragraph (c)(9)(ii) or paragraph (c)(9)(iii) of this section.

(ii) *Establishing the alarm set-point without extrapolation.* (A) The alarm set-point is the average of the test run averages of the detector response achieved during the comprehensive performance test demonstrating compliance with the particulate matter emission standard.

(B) During the comprehensive performance test, you may simulate emission concentrations at the upper end of the range of normal operations by means including feeding high levels of ash and detuning the emission control equipment.

(C) You must comply with the alarm set-point on a 6-hour rolling average, updated each hour with a one-hour block average that is the average of the detector responses over each 15-minute block;

(iii) *Establishing the alarm set-point with extrapolation.* You may extrapolate the average of the test run averages of the detector response achieved during the comprehensive performance test as provided by paragraph (c)(9)(iii)(A) of this section to establish an alarm level after you approximate the correlation of the detector response to particulate matter concentration as prescribed by paragraph (c)(9)(iii)(B) of this section. You must comply with the extrapolated alarm set-point on a 6-hour rolling average, updated each hour with a one-hour block average that is the average of the detector responses over each 15-minute block.

(A) You may extrapolate the detector response up to a particulate matter concentration that is 50% of the particulate matter emission standard or 125% of the highest particulate matter concentration used to develop the correlation under paragraph (c)(9)(iii)(B) of this section, whichever is greater. The extrapolated emission concentration must not exceed the particulate matter emission standard.

(B) To establish an approximate correlation of the detector response to particulate matter emission concentrations, you should use as guidance Performance Specification-11 for PM CEMS (40 CFR Part 60, Appendix B), except that you need only conduct 5 runs to establish the initial correlation under Section 8.6 of Performance Specification 11.

(C) For quality assurance, you should use as guidance Procedure 2 of Appendix F to Part 60 of this chapter and the detector manufacturer's recommended procedures for periodic quality assurance checks and tests, except that:

(*1*) You must conduct annual Relative Response Audits as prescribed by Procedure 2 of Appendix F to Part 60 of this chapter (Section 10.3(6));

(*2*) You need only conduct Relative Response Audits on a 3-year interval after passing two sequential annual Relative Response Audits.

(D) An exceedance of the particulate matter emission standard by a particulate matter detection system for which particulate emission concentrations have been approximately correlated with the detector response under paragraph (c)(9)(iii) of this section is not evidence that the standard has been exceeded. The approximate correlation is used for compliance assurance to determine when corrective measures must be taken rather than for compliance monitoring.

(iv) *Particulate matter detection system corrective measures requirements.* The operating and maintenance plan required by paragraph (c)(7) of this section must include a corrective measures plan that specifies the procedures you will follow in the case of a particulate matter detection system alarm. The corrective measures plan must include, at a minimum, the procedures used to determine and record the time and cause of the alarm as well as the corrective measures taken to correct the control device malfunction or minimize emissions as specified below. Failure to initiate the corrective measures required by this paragraph is failure to ensure compliance with the emission standards in this subpart.

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(A) You must initiate the procedures used to determine the cause of the alarm within 30 minutes of the time the alarm first sounds; and

(B) You must alleviate the cause of the alarm by taking the necessary corrective measure(s) which may include shutting down the combustor.

(v) *Excessive exceedances notification.* If you operate the combustor when the detector response exceeds the alarm set-point more than 5 percent of the time during any 6-month block time period, you must submit a notification to the Administrator within 30 days of the end of the 6-month block time period that describes the causes of the exceedances and the revisions to the design, operation, or maintenance of the combustor or emission control device you are taking to minimize exceedances. To document compliance with this requirement:

(A) You must keep records of the date, time, and duration of each alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken;

(B) You must record the percent of the operating time during each 6-month period that the alarm sounds;

(C) In calculating the operating time percentage, if inspection of the emission control device demonstrates that no corrective action is required, no alarm time is counted; and

(D) If corrective action is required, each alarm shall be counted as a minimum of 1 hour.

■ 9. Section 63.1207 is amended by:
■ a. Revising paragraph (b)(1).
■ b. Adding paragraph (b)(3).
■ c. Revising paragraphs (c)(1) and (c)(2)(iii).
■ d. Adding paragraph (c)(3).
■ e. Revising paragraph (d)(4)(i).
■ f. Revising paragraphs (e)(2) and (e)(3)(iv).
■ g. Revising paragraphs (f)(1)(ii)(D), (f)(1)(x) introductory text, (f)(1)(xiii), (f)(1)(xiv), (f)(1)(xvi), and (f)(1)(xxv).
■ h. Adding paragraph (f)(1)(xv).
■ i. Revising paragraph (h)(2)(i).
■ j. Revising paragraph (j)(3).
■ k. Revising paragraph (l)(1) introductory text.
■ l. Revising paragraph (m)(2) introductory text.

The revisions and additions read as follows:

§ 63.1207 What are the performance testing requirements?

* * * * *

(b) * * *

(1) *Comprehensive performance test.* You must conduct comprehensive performance tests to demonstrate compliance with the emission standards provided by this subpart, establish limits for the operating parameters provided by § 63.1209, and demonstrate compliance with the performance specifications for continuous monitoring systems.

* * * * *

(3) *One-Time Dioxin/Furan Test for Sources Not Subject to a Numerical Dioxin/Furan Standard.* For solid fuel boilers and hydrochloric acid production furnaces, for lightweight aggregate kilns that are not subject to a numerical dioxin/furan emission standard under § 63.1221, and liquid fuel boilers that are not subject to a numerical dioxin/furan emission standard under § 63.1217, you must conduct a one-time emission test for dioxin/furan under feed and operating conditions that are most likely to reflect daily maximum operating variability, similar to a dioxin/furan comprehensive performance test.

(i) You must conduct the dioxin/furan emissions test no later than the deadline for conducting the initial comprehensive performance test.

(ii) You may use dioxin/furan emissions data from previous testing to meet this requirement, provided that:

(A) The testing was conducted under feed and operating conditions that are most likely to reflect daily maximum operating variability, similar to a dioxin/furan compliance test;

(B) You have not changed the design or operation of the source in a manner that could significantly affect stack gas dioxin/furan emission concentrations; and

(C) The data meet quality assurance objectives that may be determined on a site-specific basis.

(iii) You may use dioxin/furan emissions data from a source to represent emissions from another on-site source in lieu of testing (i.e., data in lieu of testing) if the design and operation, including hazardous waste feed and other feedstreams, of the sources are identical.

(iv) You must include the results of the one-time dioxin/furan emissions test with the results of the initial comprehensive performance test in the Notification of Compliance.

(v) You must repeat the dioxin/furan emissions test if you change the design or operation of the source in a manner that may increase dioxin/furan emissions.

(c) * * * (1) *Test date.* Except as provided by paragraphs (c)(2) and (c)(3) of this section, you must commence the initial comprehensive performance test not later than six months after the compliance date.

(2) * * * (iii) The data in lieu test age restriction provided in paragraph (c)(2)(i)(A) of this section does not apply for the duration of the interim standards (i.e., the standards published in the **Federal Register** on February 13, 2002, 67 FR 6792). See 40 CFR parts 63, 264, 265, 266, 270, and 271 revised as of July 1, 2002. Paragraph (c)(2)(i)(A) of this section does not apply until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the **Federal Register** on November 16, 2001 (66 FR 57715).

* * * * *

(3) For incinerators, cement kilns, and lightweight aggregate kilns, you must commence the initial comprehensive performance test to demonstrate compliance with the standards under §§ 63.1219, 63.1220, and 63.1221 not later than 12 months after the compliance date.

(d) * * *

(4) * * * (i) *Waiver of periodic comprehensive performance tests.* Except as provided in paragraph (c)(2) of this section, you must conduct only an initial comprehensive performance test under the interim standards (i.e., the standards published in the **Federal Register** on February 13, 2002); all subsequent comprehensive performance testing requirements are waived under the interim standards. The provisions in the introductory text to paragraph (d) and in paragraph (d)(1) of this section do not apply until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the **Federal Register** on November 16, 2001.

* * * * *

(e) * * *

(2) You must make your site-specific test plan and CMS performance evaluation test plan available to the public for review no later than 60 calendar days before initiation of the test. You must issue a public notice to all persons on your facility/public mailing list (developed pursuant to 40 CFR 70.7(h), 71.11(d)(3)(i)(E) and 124.10(c)(1)(ix)) announcing the availability of the test plans and the location where the test plans are available for review. The test plans must be accessible to the public for 60 calendar days, beginning on the date that you issue your public notice. The location must be unrestricted and provide access to the public during reasonable hours and provide a means for the public to obtain copies. The notification must include the following information at a minimum:

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(i) The name and telephone number of the source's contact person;

(ii) The name and telephone number of the regulatory agency's contact person;

(iii) The location where the test plans and any necessary supporting documentation can be reviewed and copied;

(iv) The time period for which the test plans will be available for public review; and

(v) An expected time period for commencement and completion of the performance test and CMS performance evaluation test.

(3) * * *

(iv) *Public notice.* At the same time that you submit your petition to the Administrator, you must notify the public (e.g., distribute a notice to the facility/public mailing list developed pursuant to 40 CFR 70.7(h), 71.11(d)(3)(i)(E) and 124.10(c)(1)(ix)) of your petition to waive a performance test. The notification must include all of the following information at a minimum:

(A) The name and telephone number of the source's contact person;

(B) The name and telephone number of the regulatory agency's contact person;

(C) The date the source submitted its site-specific performance test plan and CMS performance evaluation test plans; and

(D) The length of time requested for the waiver.

(f) * * *

(1) * * *

(ii) * * *

(D) The Administrator may approve on a case-by-case basis a hazardous waste feedstream analysis for organic hazardous air pollutants in lieu of the analysis required under paragraph (f)(1)(ii)(A) of this section if the reduced analysis is sufficient to ensure that the POHCs used to demonstrate compliance with the applicable DRE standards of this subpart continue to be representative of the most difficult to destroy organic compounds in your hazardous waste feedstreams;

* * * * *

(x) If you are requesting to extrapolate metal feedrate limits from comprehensive performance test levels under §§ 63.1209(l)(1)(v) or 63.1209(n)(2)(vii):

* * * * *

(xiii) For cement kilns with in-line raw mills, if you elect to use the emissions averaging provision of this subpart, you must notify the Administrator of your intent in the initial (and subsequent) comprehensive performance test plan, and provide the information required by the emission averaging provision;

(xiv) For preheater or preheater/precalciner cement kilns with dual stacks, if you elect to use the emissions averaging provision of this subpart, you must notify the Administrator of your intent in the initial (and subsequent) comprehensive performance test plan, and provide the information required by the emission averaging provision;

(xv) If you request to use Method 23 for dioxin/furan you must provide the information required under § 63.1208(b)(1)(i)(B);

(xvi) If you are not required to conduct performance testing to document compliance with the mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas emission standards under paragraph (m) of this section, you must include with the comprehensive performance test plan documentation of compliance with the provisions of that section.

* * * * *

(xxv) If your source is equipped with a dry scrubber to control hydrogen chloride and chlorine gas, you must document in the comprehensive performance test plan key parameters that affect adsorption, and the limits you establish for those parameters based on the sorbent used during the performance test, if you elect not to specify and use the brand and type of sorbent used during the comprehensive performance test, as required by § 63.1209(o)(4)(iii)(A); and

* * * * *

(h) * * *

(2) * * *

(i) Operations when stack emissions testing for dioxin/furan, mercury, semivolatile metals, low volatile metals, particulate matter, or hydrogen chloride/chlorine gas is being performed; and

* * * * *

(j) * * *

(3) See §§ 63.7(g), 63.9(h), and 63.1210(d) for additional requirements pertaining to the Notification of Compliance (*e.g.*, you must include results of performance tests in the Notification of Compliance).

* * * * *

(l) *Failure of performance test*—(1) *Comprehensive performance test.* The provisions of this paragraph do not apply to the initial comprehensive performance test if you conduct the test prior to your compliance date.

* * * * *

(m) * * *

(2) You are not required to conduct performance tests to document compliance with the mercury, semivolatile metals, low volatile metals, or hydrogen chloride/chlorine gas emission standards under the conditions specified in this paragraph (m)(2). You are deemed to be in compliance with an emission standard if the twelve-hour rolling average maximum theoretical emission concentration (MTEC) does not exceed the emission standard:

* * * * *

■ 10. Section 63.1208 is amended by removing and reserving paragraph (a) and revising paragraphs (b)(1)(i) and (b)(5) to read as follows:

§ 63.1208 What are the test methods?

(a) [Reserved]

(b) * * *

(1) * * * (i) To determine compliance with the emission standard for dioxins and furans, you must use:

(A) Method 0023A, Sampling Method for Polychlorinated Dibenzo-*p*-Dioxins and Polychlorinated Dibenzofurans emissions from Stationary Sources, EPA Publication SW–846 (incorporated by reference— see § 63.14); or

(B) Method 23, provided in appendix A, part 60 of this chapter, after approval by the Administrator.

(*1*) You may request approval to use Method 23 in the performance test plan required under § 63.1207(e)(i) and (ii).

(*2*) In determining whether to grant approval to use Method 23, the Administrator may consider factors including whether dioxin/furan were detected at levels substantially below the emission standard in previous testing, and whether previous Method 0023 analyses detected low levels of dioxin/furan in the front half of the sampling train.

(*3*) Sources that emit carbonaceous particulate matter, such as coal-fired boilers, and sources equipped with activated carbon injection, will be deemed not suitable for use of Method 23 unless you document that there would not be a significant improvement in quality assurance with Method 0023A.

* * * * *

(5) *Hydrogen chloride and chlorine gas*—(i) *Compliance with MACT standards.* To determine compliance with the emission standard for hydrogen chloride and chlorine gas (combined), you must use:

(A) Method 26/26A as provided in appendix A, part 60 of this chapter; or

(B) Methods 320 or 321 as provided in appendix A, part 63 of this chapter, or

(C) ASTM D 6735–01, Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method to measure emissions of hydrogen chloride, and Method 26/26A to measure emissions of chlorine gas, provided that you follow the provisions in paragraphs (b)(5)(C)(*1*) through (*6*) of this section. ASTM D 6735–01 is available for purchase from at least one of the following addresses: American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, PA 19428–2959; or ProQuest, 300 North Zeeb Road, Ann Arbor, MI 48106.

(*1*) A test must include three or more runs in which a pair of samples is obtained simultaneously for each run according to section 11.2.6 of ASTM Method D6735–01.

(*2*) You must calculate the test run standard deviation of each set of paired samples to quantify data precision, according to Equation 1 of this section:

$$RSD_a = (100)\,\text{AbsoluteValue}\left[\frac{C1_a - C2_a}{C1_a + C2_a}\right] \qquad \text{(Eq. 1)}$$

Where:

RSD_a = The test run relative standard deviation of sample pair a, percent.

$C1_a$ and $C2_a$ = The HCl concentrations, milligram/dry standard cubic meter (mg/dscm), from the paired samples.

(*3*) You must calculate the test average relative standard deviation according to Equation 2 of this section:

$$RSD_{TA} = \frac{\sum_{a=1}^{p} RSD_a}{p} \qquad \text{(Eq. 2)}$$

Where:

RSD_{TA} = The test average relative standard deviation, percent.

RSD_a = The test run relative standard deviation for sample pair a.

p = The number of test runs, ≥3.

(*4*) If RSDTA is greater than 20 percent, the data are invalid and the test must be repeated.

(*5*) The post-test analyte spike procedure of section 11.2.7 of ASTM Method D6735–01 is conducted, and the percent recovery is calculated according to section 12.6 of ASTM Method D6735–01.

(*6*) If the percent recovery is between 70 percent and 130 percent, inclusive, the test is valid. If the percent recovery is outside of this range, the data are considered invalid, and the test must be repeated.

(ii) *Compliance with risk-based limits under § 63.1215.* To demonstrate compliance with emission limits established under § 63.1215, you must use Method 26/26A as provided in appendix A, part 60 of this chapter, Method 320 as provided in appendix A, part 63 of this chapter, Method 321 as provided in appendix A, part 63 of this chapter, or ASTM D 6735–01, Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method (following the provisions of paragraphs (b)(5)(C)(*1*) through (*6*) of this section), except:

(A) For cement kilns and sources equipped with a dry acid gas scrubber, you must use Methods 320 or 321 as provided in appendix A, part 63 of this chapter, or ASTM D 6735–01 to measure hydrogen chloride, and the back-half, caustic impingers of Method 26/26A as provided in appendix A, part 60 of this chapter to measure chlorine gas; and

(B) For incinerators, boilers, and lightweight aggregate kilns, you must use Methods 320 or 321 as provided in appendix A, part 63 of this chapter, or ASTM D 6735–01 to measure hydrogen chloride, and Method 26/26A as provided in appendix A, part 60 of this chapter to measure total chlorine, and calculate chlorine gas by difference if:

(*1*) The bromine/chlorine ratio in feedstreams is greater than 5 percent; or

(*2*) The sulfur/chlorine ratio in feedstreams is greater than 50 percent.

* * * * *

■ 11. Section 63.1209 is amended by:

■ a. Revising paragraphs (a)(1)(ii), (a)(1)(iv)(D), (a)(1)(v)(D), and (a)(5).

■ b. Revising paragraph (b)(2)(ii).

■ c. Revising the heading of paragraph (g)(1) introductory text and paragraph (g)(1)(i).

■ d. Adding paragraph (g)(1)(iv).

■ e. Revising paragraphs (k)(1)(i) and (k)(2)(i).

■ f. Revising paragraph (l)(1).

■ g. Revising paragraphs (m)(1)(iv) introductory text and (m)(3).

■ h. Revising paragraph (n)(2).

■ i. Revising the heading of paragraph (o) introductory text and paragraph (o)(1).

■ j. Adding paragraph (r).

The revisions read as follows:

§ 63.1209 What are the monitoring requirements?

(a) * * *

(1) * * *

(ii) (A) *Cement kilns under § 63.1204*—Except as provided by paragraphs (a)(1)(iv) and (a)(1)(v) of the section, you must use a COMS to demonstrate and monitor compliance with the opacity standard under §§ 63.1204(a)(7) and (b)(7) at each point where emissions are vented from these affected sources including the bypass stack of a preheater or preheater/precalciner kiln with dual stacks.

(B) *Cement kilns under § 63.1220*—Except as provided by paragraphs (a)(1)(iv) and (a)(1)(v) of the section and unless your source is equipped with a bag leak detection system under § 63.1206(c)(8) or a particulate matter detection system under § 63.1206(c)(9), you must use a COMS to demonstrate and monitor compliance with the opacity standard under §§ 63.1220(a)(7) and (b)(7) at each point where emissions are vented from these affected sources including the bypass stack of a preheater or preheater/precalciner kiln with dual stacks.

(C) You must maintain and operate each COMS in accordance with the requirements of § 63.8(c) except for the requirements under § 63.8(c)(3). The requirements of § 63.1211(c) shall be complied with instead of § 63.8(c)(3); and

(D) Compliance is based on a six-minute block average.

* * * * *

(iv) * * *

(D) To remain in compliance, all six-minute block averages must not exceed the opacity standard.

(v) * * *

(D) To remain in compliance, all six-minute block averages must not exceed the opacity standard.

* * * * *

(5) *Petitions to use CEMS for other standards.* You may petition the Administrator to use CEMS for compliance monitoring for particulate matter, mercury, semivolatile metals, low volatile metals, and hydrogen chloride and chlorine gas under § 63.8(f) in lieu of compliance with the corresponding operating parameter limits under this section.

* * * * *

(b) * * *

(2) * * *

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(ii) *Accuracy and calibration of weight measurement devices for activated carbon injection systems.* If you operate a carbon injection system, the accuracy of the weight measurement device must be ± 1 percent of the weight being measured. The calibration of the device must be verified at least once each calendar quarter at a frequency of approximately 120 days.

* * * * *

(g) * * *

(1) *Requests to use alternatives to operating parameter monitoring requirements.* (i) You may submit an application to the Administrator under this paragraph for approval of alternative operating parameter monitoring requirements to document compliance with the emission standards of this subpart. For requests to use additional CEMS, however, you must use paragraph (a)(5) of this section and § 63.8(f). Alternative requests to operating parameter monitoring requirements that include unproven monitoring methods may not be made under this paragraph and must be made under § 63.8(f).

* * * * *

(iv) *Dual Standards that incorporate the Interim Standards for HAP metals.* (A) *Semivolatile and Low Volatile Metals.* You may petition the Administrator to waive a feedrate operating parameter limit under paragraph (n)(2) of this section for either the emission standards expressed in a thermal emissions format or the interim standards based on documentation that the feedrate operating parameter limit is not needed to ensure compliance with the relevant standard on a continuous basis.

(B) *Mercury.* You may petition the Administrator to waive a feedrate operating parameter limit under paragraph (l)(1) of this section for either the feed concentration standard under §§ 63.1220(a)(2)(i) and (b)(2)(i) or the interim standards based on documentation that the feedrate operating parameter limit is not needed to ensure compliance with the relevant standard on a continuous basis.

* * * * *

(k) * * *

(1) * * * (i) For sources other than a lightweight aggregate kiln, if the combustor is equipped with an electrostatic precipitator, baghouse (fabric filter), or other dry emissions control device where particulate matter is suspended in contact with combustion gas, you must establish a limit on the maximum temperature of the gas at the inlet to the device on an hourly rolling average. You must establish the hourly rolling average limit as the average of the test run averages.

* * * * *

(2) * * * (i) For sources other than cement kilns, you must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must document the temperature measurement location in the test plan you submit under §§ 63.1207(e) and (f);

* * * * *

(l) *Mercury.* * * *

(1) *Feedrate of mercury.* (i) For incinerators and solid fuel boilers, when complying with the mercury emission standards under §§ 63.1203, 63.1216 and 63.1219, you must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages.

(ii) For liquid fuel boilers, when complying with the mercury emission standards of § 63.1217, you must establish a rolling average limit for the mercury feedrate as follows on an averaging period not to exceed an annual rolling average:

(A) You must calculate a mercury system removal efficiency for each test run and calculate the average system removal efficiency of the test run averages. If emissions exceed the mercury emission standard during the comprehensive performance test, it is not a violation because the averaging period for the mercury emission standard is (not-to-exceed) one year and compliance is based on compliance with the mercury feedrate limit with an averaging period not-to-exceed one year.

(B) If you burn hazardous waste with a heating value of 10,000 Btu/lb or greater, you must calculate the mercury feedrate limit as follows:

(*1*) The mercury feedrate limit is the emission standard divided by [1 − system removal efficiency].

(*2*) The mercury feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of mercury in hazardous waste feedstreams per million Btu of hazardous waste fired.

(*3*) You must comply with the hazardous waste mercury thermal concentration limit by determining the feedrate of mercury in all hazardous waste feedstreams (lb/hr) at least once a minute and the hazardous waste thermal feedrate (MM Btu/hr) at least once a minute to calculate a 60-minute average thermal emission concentration as [hazardous waste mercury feedrate (lb/hr) / hazardous waste thermal feedrate (MM Btu/hr)].

(*4*) You must calculate a rolling average hazardous waste mercury thermal concentration that is updated each hour.

(*5*) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

(C) If you burn hazardous waste with a heating value of less than 10,000 Btu/lb, you must calculate the mercury feedrate limit as follows:

(*1*) You must calculate the mercury feedrate limit as the mercury emission standard divided by [1 − System Removal Efficiency].

(*2*) The feedrate limit is expressed as a mass concentration per unit volume of stack gas (μg/dscm) and is converted to a mass feedrate (lb/hr) by multiplying it by the average stack gas flowrate of the test run averages.

(*3*) You must comply with the feedrate limit by determining the mercury feedrate (lb/hr) at least once a minute to calculate a 60-minute average feedrate.

(*4*) You must update the rolling average feedrate each hour with this 60-minute feedrate measurement.

(*5*) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

(D) If your boiler is equipped with a wet scrubber, you must comply with the following unless you document in the performance test plan that you do not feed chlorine at rates that may substantially affect the system removal efficiency of mercury for purposes of establishing a mercury feedrate limit based on the system removal efficiency during the test:

(*1*) Scrubber blowdown must be minimized during a pretest conditioning period and during the performance test:

(*2*) Scrubber water must be preconditioned so that mercury in the

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water is at equilibrium with stack gas at the mercury feedrate level of the performance test; and

(*3*) You must establish an operating limit on minimum pH of scrubber water as the average of the test run averages and comply with the limit on an hourly rolling average.

(iii) For cement kilns:

(A) When complying with the emission standards under §§ 63.1220(a)(2)(i) and (b)(2)(i), you must:

(*1*) Comply with the mercury hazardous waste feed concentration operating requirement on a twelve-hour rolling average;

(*2*) Monitor and record in the operating record the as-fired mercury concentration in the hazardous waste (or the weighted-average mercury concentration for multiple hazardous waste feedstreams);

(*3*) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the as-fired mercury concentration operating requirement is exceeded;

(B) When complying with the emission standards under §§ 63.1204, 63.1220(a)(2)(ii) and (b)(2)(ii), you must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages;

(C) Except as provided by paragraph (l)(1)(iii)(D) of this section, when complying with the hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) under §§ 63.1220(a)(2)(iii) and (b)(2)(iii), you must:

(*1*) Comply with the MTEC operating requirement on a twelve-hour rolling average;

(*2*) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to § 63.1209(c);

(*3*) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(*4*) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

(*5*) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the MTEC operating requirement is exceeded;

(D) In lieu of complying with paragraph (l)(1)(iii)(C) of this section, you may:

(*1*) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (l)(1)(iii)(B)(*4*) of this section is below the operating requirement under paragraphs §§ 63.1220(a)(2)(iii) and (b)(2)(iii); and

(*2*) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when either the gas flowrate or mercury feedrate exceeds the limits identified in paragraph (l)(1)(iv)(D)(*1*) of this section.

(iv) For lightweight aggregate kilns:

(A) When complying with the emission standards under §§ 63.1205, 63.1221(a)(2)(i) and (b)(2)(i), you must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages;

(B) Except as provided by paragraph (l)(1)(iv)(C) of this section, when complying with the hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) under §§ 63.1221(a)(2)(ii) and (b)(2)(ii), you must:

(*1*) Comply with the MTEC operating requirement on a twelve-hour rolling average;

(*2*) Monitor and record the feedrate of mercury for each hazardous waste feedstream according to § 63.1209(c);

(*3*) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(*4*) Continuously calculate and record in the operating record a MTEC assuming mercury from all hazardous waste feedstreams is emitted;

(*5*) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when the MTEC operating requirement is exceeded;

(C) In lieu of complying with paragraph (l)(1)(iv)(B) of this section, you may:

(*1*) Identify in the Notification of Compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury from all hazardous waste feedstreams that ensures the MTEC calculated in paragraph (l)(1)(iv)(B)(*4*) of this section is below the operating requirement under paragraphs §§ 63.1221(a)(2)(ii) and (b)(2)(ii); and

(*2*) Initiate an automatic waste feed cutoff that immediately and automatically cuts off the hazardous waste feed when either the gas flowrate or mercury feedrate exceeds the limits identified in paragraph (l)(1)(iv)(C)(*1*) of this section.

(v) *Extrapolation of feedrate levels.* In lieu of establishing mercury feedrate limits as specified in paragraphs (l)(1)(i) through (iv) of this section, you may request as part of the performance test plan under §§ 63.7(b) and (c) and §§ 63.1207 (e) and (f) to use the mercury feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates. The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(A) Performance test metal feedrates are appropriate (*i.e.*, whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(B) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

* * * * *

(m) * * *

(1) * * *

(iv) *Other particulate matter control devices.* For each particulate matter control device that is not a fabric filter or high energy wet scrubber, or is not an electrostatic precipitator or ionizing wet scrubber for which you elect to monitor particulate matter loadings under § 63.1206(c)(9) of this chapter for process control, you must ensure that the control device is properly operated and maintained as required by § 63.1206(c)(7) and by monitoring the operation of the control device as follows:

* * * * *

(3) *Maximum ash feedrate.* Owners and operators of hazardous waste incinerators, solid fuel boilers, and liquid fuel boilers must establish a maximum ash feedrate limit as a 12-hour rolling average based on the average of the test run averages. This requirement is waived, however, if you comply with the particulate matter detection system requirements under § 63.1206(c)(9).

(n) * * *

(2) *Maximum feedrate of semivolatile and low volatile metals.* (i) *General.* You must establish feedrate limits for semivolatile metals (cadmium and lead) and low volatile metals (arsenic, beryllium, and chromium) as follows, except as provided by paragraph (n)(2)(vii) of this section.

(ii) For incinerators, cement kilns, and lightweight aggregate kilns, when complying with the emission standards under §§ 63.1203, 63.1204, 63.1205, and 63.1219, and for solid fuel boilers when complying with the emission standards

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under § 63.1216, you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(iii) *Cement kilns under § 63.1220*—(A) When complying with the emission standards under §§ 63.1220(a)(3)(i), (a)(4)(i), (b)(3)(i), and (b)(4)(i), you must establish 12-hour rolling average feedrate limits for semivolatile and low volatile metals as the thermal concentration of semivolatile metals or low volatile metals in all hazardous waste feedstreams. You must calculate hazardous waste thermal concentrations for semivolatile metals and low volatile metals for each run as the total mass feedrate of semivolatile metals or low volatile metals for all hazardous waste feedstreams divided by the total heat input rate for all hazardous waste feedstreams. The 12-hour rolling average feedrate limits for semivolatile metals and low volatile metals are the average of the hazardous waste thermal concentrations for the runs.

(B) When complying with the emission standards under §§ 63.1220(a)(3)(ii), (a)(4)(ii), (b)(3)(ii), and (b)(4)(ii), you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(iv) *Lightweight aggregate kilns under § 63.1221*—(A) When complying with the emission standards under §§ 63.1221(a)(3)(i), (a)(4)(i), (b)(3)(i), and (b)(4)(i), you must establish 12-hour rolling average feedrate limits for semivolatile and low volatile metals as the thermal concentration of semivolatile metals or low volatile metals in all hazardous waste feedstreams as specified in paragraphs (n)(2)(iii)(A) of this section.

(B) When complying with the emission standards under §§ 63.1221(a)(3)(ii), (a)(4)(ii), (b)(3)(ii), and (b)(4)(ii), you must establish 12-hour rolling average limits for the total feedrate of semivolatile and low volatile metals in all feedstreams as the average of the test run averages.

(v) *Liquid fuel boilers under § 63.1217.* (A) *Semivolatile metals.* You must establish a rolling average limit for the semivolatile metal feedrate as follows on an averaging period not to exceed an annual rolling average.

(*1*) *System removal efficiency.* You must calculate a semivolatile metal system removal efficiency for each test run and calculate the average system removal efficiency of the test run averages. If emissions exceed the semivolatile metal emission standard during the comprehensive performance test, it is not a violation because the averaging period for the semivolatile metal emission standard is one year and compliance is based on compliance with the semivolatile metal feedrate limit that has an averaging period not to exceed an annual rolling average.

(*2*) *Boilers that feed hazardous waste with a heating value of 10,000 Btu/lb or greater.* You must calculate the semivolatile metal feedrate limit as the semivolatile metal emission standard divided by [1 − System Removal Efficiency].

(*i*) The feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of semivolatile metals in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler.

(*ii*) You must comply with the hazardous waste semivolatile metal thermal concentration limit by determining the feedrate of semivolatile metal in all hazardous waste feedstreams (lb/hr) and the hazardous waste thermal feedrate (MM Btu/hr) at least once a minute to calculate a 60-minute average thermal emission concentration as [hazardous waste semivolatile metal feedrate (lb/hr) / hazardous waste thermal feedrate (MM Btu/hr)].

(*iii*) You must calculate a rolling average hazardous waste semivolatile metal thermal concentration that is updated each hour.

(*iv*) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

(*3*) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* (*i*) You must calculate the semivolatile metal feedrate limit as the semivolatile metal emission standard divided by [1 − System Removal Efficiency].

(*ii*) The feedrate limit is expressed as a mass concentration per unit volume of stack gas (μg/dscm) and is converted to a mass feedrate (lb/hr) by multiplying it by the average stack gas flowrate (dscm/hr) of the test run averages.

(*iii*) You must comply with the feedrate limit by determining the semivolatile metal feedrate (lb/hr) at least once a minute to calculate a 60-minute average feedrate.

(*iv*) You must update the rolling average feedrate each hour with this 60-minute feedrate measurement.

(*v*) If you select an averaging period for the feedrate limit that is greater than a 12-hour rolling average, you must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

(B) *Chromium. (1) Boilers that feed hazardous waste with a heating value of 10,000 Btu/lb or greater.* (*i*) The feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of chromium in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler.

(*ii*) You must comply with the hazardous waste chromium thermal concentration limit by determining the feedrate of chromium in all hazardous waste feedstreams (lb/hr) and the hazardous waste thermal feedrate (MM Btu/hr) at least once a minute to calculate a 60-minute average thermal emission concentration as [hazardous waste chromium feedrate (lb/hr) / hazardous waste thermal feedrate (MM Btu/hr)]. You must update the rolling average feedrate each hour with this 60-minute average feedrate measurement.

(*2*) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* You must establish a 12-hour rolling average limit for the total feedrate (lb/hr) of chromium in all feedstreams as the average of the test run averages. You must update the rolling average feedrate each hour with a 60-minute average feedrate measurement.

(vi) *LVM limits for pumpable wastes.* You must establish separate feedrate limits for low volatile metals in pumpable feedstreams using the procedures prescribed above for total low volatile metals. Dual feedrate limits for both pumpable and total feedstreams are not required, however, if you base the total feedrate limit solely on the feedrate of pumpable feedstreams.

(vii) *Extrapolation of feedrate levels.* In lieu of establishing feedrate limits as specified in paragraphs (l)(1)(i) through (iii) of this section, you may request as part of the performance test plan under §§ 63.7(b) and (c) and §§ 63.1207(e) and (f) to use the semivolatile metal and low

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volatile metal feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates. The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(A) Performance test metal feedrates are appropriate (*i.e.*, whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(B) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

* * * * *

(o) *Hydrogen chloride and chlorine gas.* * * *

(1) *Feedrate of total chlorine and chloride.* (i) *Incinerators, cement kilns, lightweight aggregate kilns, solid fuel boilers, and hydrochloric acid production furnaces.* You must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the test run averages.

(ii) *Liquid fuel boilers.* (A) *Boilers that feed hazardous waste with a heating value not less than 10,000 Btu/lb.* (*1*) The feedrate limit is a hazardous waste thermal concentration limit expressed as pounds of chlorine (organic and inorganic) in all hazardous waste feedstreams per million Btu of hazardous waste fed to the boiler.

(*2*) You must establish a 12-hour rolling average feedrate limit as the average of the test run averages.

(*3*) You must comply with the feedrate limit by determining the mass feedrate of hazardous waste feedstreams (lb/hr) at least once a minute and by knowing the chlorine (organic and inorganic) content and heating value (million Btu/lb) of hazardous waste feedstreams at all times to calculate a 60-minute average feedrate measurement as [hazardous waste chlorine feedrate (lb/hr) / hazardous waste thermal feedrate (million Btu/hr)]. You must update the rolling average feedrate each hour with this 60-minute average feedrate measurement.

(B) *Boilers that feed hazardous waste with a heating value less than 10,000 Btu/lb.* You must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the test run averages. You must update the rolling average feedrate each hour with a 60-minute average feedrate measurement.

* * * * *

(r) *Averaging periods.* The averaging periods specified in this section for operating parameters are not-to-exceed averaging periods. You may elect to use shorter averaging periods. For example, you may elect to use a 1-hour rolling average rather than the 12-hour rolling average specified in paragraph (l)(1)(i) of this section for mercury.

■ 12. Section 63.1210 is amended by:
■ a. Revising the table in paragraph (a)(1) and the table in paragraph (a)(2).
■ b. Redesignating paragraph (b) as (d).
■ c. Adding new paragraph (b).
■ d. Adding new paragraph (c).

The revisions and additions read as follows:

§ 63.1210 What are the notification requirements?

(a) * * *

(1) * * *

Reference	Notification
63.9(b)	Initial notifications that you are subject to Subpart EEE of this Part.
63.9(d)	Notification that you are subject to special compliance requirements.
63.9(j)	Notification and documentation of any change in information already provided under § 63.9.
63.1206(b)(5)(i)	Notification of changes in design, operation, or maintenance.
63.1206(c)(7)(ii)(C)	Notification of excessive bag leak detection system exceedances.
63.1207(e), 63.9(e) 63.9(g)(1) and (3)	Notification of performance test and continuous monitoring system evaluation, including the performance test plan and CMS performance evaluation plan.[1]
63.1210(b)	Notification of intent to comply.
63.1210(d), 63.1207(j), 63.1207(k), 63.1207(l), 63.9(h), 63.10(d)(2), 63.10(e)(2).	Notification of compliance, including results of performance tests and continuous monitoring system performance evaluations.

[1] You may also be required on a case-by-case basis to submit a feedstream analysis plan under § 63.1209(c)(3).

(2) * * *

Reference	Notification, request, petition, or application 6
63.9(i)	You may request an adjustment to time periods or postmark deadlines for submittal and review of required information.
63.10(e)(3)(ii)	You may request to reduce the frequency of excess emissions and CMS performance reports.
63.10(f)	You may request to waive recordkeeping or reporting requirements.
63.1204(d)(2)(iii), 63.1220(d)(2)(iii)	Notification that you elect to comply with the emission averaging requirements for cement kilns with in-line raw mills.
63.1204(e)(2)(iii), 63.1220(e)(2)(iii)	Notification that you elect to comply with the emission averaging requirements for preheater or preheater/precalciner kilns with dual stacks.
63.1206(b)(4), 63.1213, 63.6(i), 63.9(c)	You may request an extension of the compliance date for up to one year.
63.1206(b)(5)(i)(C)	You may request to burn hazardous waste for more than 720 hours and for purposes other than testing or pretesting after making a change in the design or operation that could affect compliance with emission standards and prior to submitting a revised Notification of Compliance.
63.1206(b)(8)(iii)(B)	If you elect to conduct particulate matter CEMS correlation testing and wish to have federal particulate matter and opacity standards and associated operating limits waived during the testing, you must notify the Administrator by submitting the correlation test plan for review and approval.
63.1206(b)(8)(v)	You may request approval to have the particulate matter and opacity standards and associated operating limits and conditions waived for more than 96 hours for a correlation test.

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Reference	Notification, request, petition, or application 6
63.1206(b)(9)	Owners and operators of lightweight aggregate kilns may request approval of alternative emission standards for mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas under certain conditions.
63.1206(b)(10)	Owners and operators of cement kilns may request approval of alternative emission standards for mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas under certain conditions.
63.1206(b)(14)	Owners and operators of incinerators may elect to comply with an alternative to the particulate matter standard.
63.1206(b)(15)	Owners and operators of cement and lightweight aggregate kilns may request to comply with the alternative to the interim standards for mercury.
63.1206(c)(2)(ii)(C)	You may request to make changes to the startup, shutdown, and malfunction plan.
63.1206(c)(5)(i)(C)	You may request an alternative means of control to provide control of combustion system leaks.
63.1206(c)(5)(i)(D)	You may request other techniques to prevent fugitive emissions without use of instantaneous pressure limits.
63.1207(c)(2)	You may request to base initial compliance on data in lieu of a comprehensive performance test.
63.1207(d)(3)	You may request more than 60 days to complete a performance test if additional time is needed for reasons beyond your control.
63.1207(e)(3), 63.7(h)	You may request a time extension if the Administrator fails to approve or deny your test plan.
63.1207(h)(2)	You may request to waive current operating parameter limits during pretesting for more than 720 hours.
63.1207(f)(1)(ii)(D)	You may request a reduced hazardous waste feedstream analysis for organic hazardous air pollutants if the reduced analysis continues to be representative of organic hazardous air pollutants in your hazardous waste feedstreams.
63.1207(g)(2)(v)	You may request to operate under a wider operating range for a parameter during confirmatory performance testing.
63.1207(i)	You may request up to a one-year time extension for conducting a performance test (other than the initial comprehensive performance test) to consolidate testing with other state or federally-required testing.
63.1207(j)(4)	You may request more than 90 days to submit a Notification of Compliance after completing a performance test if additional time is needed for reasons beyond your control.
63.1207(l)(3)	After failure of a performance test, you may request to burn hazardous waste for more than 720 hours and for purposes other than testing or pretesting.
63.1209(a)(5), 63.8(f)	You may request: (1) Approval of alternative monitoring methods for compliance with standards that are monitored with a CEMS; and (2) approval to use a CEMS in lieu of operating parameter limits.
63.1209(g)(1)	You may request approval of: (1) Alternatives to operating parameter monitoring requirements, except for standards that you must monitor with a continuous emission monitoring system (CEMS) and except for requests to use a CEMS in lieu of operating parameter limits; or (2) a waiver of an operating parameter limit.
63.1209(l)(1)	You may request to extrapolate mercury feedrate limits.
63.1209(n)(2)	You may request to extrapolate semivolatile and low volatile metal feedrate limits.
63.1211(d)	You may request to use data compression techniques to record data on a less frequent basis than required by § 63.1209.

(b) *Notification of intent to comply (NIC).* These procedures apply to sources that have not previously complied with the requirements of paragraph (b) of this section, and to sources that previously complied with the NIC requirements of § 63.1210, which were in effect prior to October 11, 2000, that must make a technology change requiring a Class 1 permit modification to meet the standards of §§ 63.1219, 63.1220, and 63.1221.

(1) You must prepare a Notification of Intent to Comply that includes all of the following information:

(i) General information:

(A) The name and address of the owner/operator and the source;

(B) Whether the source is a major or an area source;

(C) Waste minimization and emission control technique(s) being considered;

(D) Emission monitoring technique(s) you are considering;

(E) Waste minimization and emission control technique(s) effectiveness;

(F) A description of the evaluation criteria used or to be used to select waste minimization and/or emission control technique(s); and

(G) A general description of how you intend to comply with the emission standards of this subpart.

(ii) As applicable to each source, information on key activities and estimated dates for these activities that will bring the source into compliance with emission control requirements of this subpart. You must include all of the following key activities and dates in your NIC:

(A) The dates by which you anticipate you will develop engineering designs for emission control systems or process changes for emissions;

(B) The date by which you anticipate you will commit internal or external resources for installing emission control systems or making process changes for emission control, or the date by which you will issue orders for the purchase of component parts to accomplish emission control or process changes.

(C) The date by which you anticipate you will submit construction applications;

(D) The date by which you anticipate you will initiate on-site construction, installation of emission control equipment, or process change;

(E) The date by which you anticipate you will complete on-site construction, installation of emission control equipment, or process change; and

(F) The date by which you anticipate you will achieve final compliance. The individual dates and milestones listed in paragraphs (b)(1)(ii)(A) through (F) of this section as part of the NIC are not requirements and therefore are not

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enforceable deadlines; the requirements of paragraphs (b)(1)(ii)(A) through (F) of this section must be included as part of the NIC only to inform the public of how you intend to comply with the emission standards of this subpart.

(iii) A summary of the public meeting required under paragraph (c) of this section;

(iv) If you intend to cease burning hazardous waste prior to or on the compliance date, the requirements of paragraphs (b)(1)(ii) and (b)(1)(iii) of this section do not apply. You must include in your NIC a schedule of key dates for the steps to be taken to stop hazardous waste activity at your combustion unit. Key dates include the date for submittal of RCRA closure documents required under subpart G, part 264 or subpart G, part 265 of this chapter.

(2) You must make a draft of the NIC available for public review no later than 30 days prior to the public meeting required under paragraph (c)(1) of this section or no later than 9 months after the effective date of the rule if you intend to cease burning hazardous waste prior to or on the compliance date.

(3) You must submit the final NIC to the Administrator no later than one year following the effective date of the emission standards of this subpart.

(c) *NIC public meeting and notice.* (1) Prior to the submission of the NIC to the permitting agency, and no later than 10 months after the effective date of the emission standards of this subpart, you must hold at least one informal meeting with the public to discuss anticipated activities described in the draft NIC for achieving compliance with the emission standards of this subpart. You must post a sign-in sheet or otherwise provide a voluntary opportunity for attendees to provide their names and addresses;

(2) You must submit a summary of the meeting, along with the list of attendees and their addresses developed under paragraph (b)(1) of this section, and copies of any written comments or materials submitted at the meeting, to the Administrator as part of the final NIC, in accordance with paragraph (b)(1)(iii) of this section;

(3) You must provide public notice of the NIC meeting at least 30 days prior to the meeting and you must maintain, and provide to the Administrator upon request, documentation of the notice. You must provide public notice in all of the following forms:

(i) *Newspaper advertisement.* You must publish a notice in a newspaper of general circulation in the county or equivalent jurisdiction of your facility. In addition, you must publish the notice in newspapers of general circulation in adjacent counties or equivalent jurisdiction where such publication would be necessary to inform the affected public. You must publish the notice as a display advertisement.

(ii) *Visible and accessible sign.* You must post a notice on a clearly marked sign at or near the source. If you place the sign on the site of the hazardous waste combustor, the sign must be large enough to be readable from the nearest spot where the public would pass by the site.

(iii) *Broadcast media announcement.* You must broadcast a notice at least once on at least one local radio station or television station.

(iv) *Notice to the facility mailing list.* You must provide a copy of the notice to the facility mailing list in accordance with § 124.10(c)(1)(ix) of this chapter.

(4) You must include all of the following in the notices required under paragraph (c)(3) of this section:

(i) The date, time, and location of the meeting;

(ii) A brief description of the purpose of the meeting;

(iii) A brief description of the source and proposed operations, including the address or a map (e.g., a sketched or copied street map) of the source location;

(iv) A statement encouraging people to contact the source at least 72 hours before the meeting if they need special access to participate in the meeting;

(v) A statement describing how the draft NIC (and final NIC, if requested) can be obtained; and

(vi) The name, address, and telephone number of a contact person for the NIC.

(5) The requirements of this paragraph do not apply to sources that intend to cease burning hazardous waste prior to or on the compliance date.

■ 13. Section 63.1211 is amended by:

■ a. Revising the table in paragraph (b).

■ b. Revising paragraph (c)(1).

The revisions read as follows:

§ 63.1211 What are the recordkeeping and reporting requirements?

* * * * *

(b) * * *

Reference	Document, Data, or Information
63.1200, 63.10(b) and (c)	General. Information required to document and maintain compliance with the regulations of Subpart EEE, including data recorded by continuous monitoring systems (CMS), and copies of all notifications, reports, plans, and other documents submitted to the Administrator.
63.1204(d)(1)(ii), 63.1220(d)(1)(ii)	Documentation of mode of operation changes for cement kilns with in-line raw mills.
63.1204(d)(2)(ii), 63.1220(d)(2)(ii)	Documentation of compliance with the emission averaging requirements for cement kilns with in-line raw mills.
63.1204(e)(2)(ii), 63.1220(e)(2)(ii)	Documentation of compliance with the emission averaging requirements for preheater or preheater/precalciner kilns with dual stacks.
63.1206(b)(1)(ii)	If you elect to comply with all applicable requirements and standards promulgated under authority of the Clean Air Act, including Sections 112 and 129, in lieu of the requirements of Subpart EEE when not burning hazardous waste, you must document in the operating record that you are in compliance with those requirements.
63.1206(b)(5)(ii)	Documentation that a change will not adversely affect compliance with the emission standards or operating requirements.
63.1206(b)(11)	Calculation of hazardous waste residence time.
63.1206(c)(2)	Startup, shutdown, and malfunction plan.
63.1206(c)(2)(v)(A)	Documentation of your investigation and evaluation of excessive exceedances during malfunctions.
63.1206(c)(3)(v)	Corrective measures for any automatic waste feed cutoff that results in an exceedance of an emission standard or operating parameter limit.
63.1206(c)(3)(vii)	Documentation and results of the automatic waste feed cutoff operability testing.
63.1206(c)(4)(ii)	Emergency safety vent operating plan.
63.1206(c)(4)(iii)	Corrective measures for any emergency safety vent opening.
63.1206(c)(5)(ii)	Method used for control of combustion system leaks.
63.1206(c)(6)	Operator training and certification program.
63.1206(c)(7)(i)(D)	Operation and maintenance plan.
63.1209(c)(2)	Feedstream analysis plan.

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Reference	Document, Data, or Information
63.1209(k)(6)(iii), 63.1209(k)(7)(ii), 63.1209(k)(9)(ii), 63.1209(o)(4)(iii).	Documentation that a substitute activated carbon, dioxin/furan formation reaction inhibitor, or dry scrubber sorbent will provide the same level of control as the original material.
63.1209(k)(7)(i)(C)	Results of carbon bed performance monitoring.
63.1209(q)	Documentation of changes in modes of operation.
63.1211(c)	Documentation of compliance.

(c) * * *

(1) By the compliance date, you must develop and include in the operating record a Documentation of Compliance. You are not subject to this requirement, however, if you submit a Notification of Compliance under § 63.1207(j) prior to the compliance date. Upon inclusion of the Documentation of Compliance in the operating record, hazardous waste burning incinerators, cement kilns, and lightweight aggregate kilns regulated under the interim standards of §§ 63.1203, 63.1204, and 63.1205 are no longer subject to compliance with the previously applicable Notification of Compliance.

* * * * *

■ 14. Section 63.1212 is added to subpart EEE to read as follows:

§ 63.1212 What are the other requirements pertaining to the NIC?

(a) *Certification of intent to comply.* The Notice of Intent to Comply (NIC) must contain the following certification signed and dated by a responsible official as defined under § 63.2 of this chapter: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(b) *New units.* Any source that files a RCRA permit application or permit modification request for construction of a hazardous waste combustion unit after October 12, 2005 must:

(1) Prepare a draft NIC according to § 63.1210(b) and make it available to the public upon issuance of the notice of NIC public meeting per § 63.1210(c)(3);

(2) Prepare a draft comprehensive performance test plan pursuant to the requirements of § 63.1207 and make it available for public review upon issuance of the notice of NIC public meeting;

(3) Provide notice to the public of a pre-application meeting pursuant to § 124.30 or notice to the public of a permit modification request pursuant to § 270.42 and;

(4) Hold an informal public meeting 30 days following notice of NIC public meeting and notice of the pre-application meeting or notice of the permit modification request.

(c) *Information Repository specific to new combustion units.* (1) Any source that files a RCRA permit application or modification request for construction of a new hazardous waste combustion unit after October 12, 2005 may be required to establish an information repository if deemed appropriate.

(2) The Administrator may assess the need, on a case-by-case basis for an information repository. When assessing the need for a repository, the Administrator shall consider the level of public interest, the presence of an existing repository, and any information available via the New Source Review and Title V permit processes. If the Administrator determines a need for a repository, then the Administrator shall notify the facility that it must establish and maintain an information repository.

(3) The information repository shall contain all documents, reports, data, and information deemed necessary by the Administrator. The Administrator shall have the discretion to limit the contents of the repository.

(4) The information repository shall be located and maintained at a site chosen by the source. If the Administrator finds the site unsuitable for the purposes and persons for which it was established, due to problems with location, hours of availability, access, or other relevant considerations, then the Administrator shall specify a more appropriate site.

(5) The Administrator shall require the source to provide a written notice about the information repository to all individuals on the source mailing list.

(6) The source shall be responsible for maintaining and updating the repository with appropriate information throughout a period specified by the Administrator. The Administrator may close the repository at his or her discretion based on the considerations in paragraph (c)(2) of this section.

■ 15. Section 63.1214 is amended by revising paragraphs (c)(1), (c)(2), (c)(3), and (c)(4) to read as follows:

§ 63.1214 Implementation and enforcement.

* * * * *

(c) * * *

(1) Approval of alternatives to requirements in §§ 63.1200, 63.1203, 63.1204, 63.1205, 63.1206(a), 63.1215, 63.1216, 63.1217, 63.1218, 63.1219, 63.1220, and 63.1221.

(2) Approval of major alternatives to test methods under §§ 63.7(e)(2)(ii) and (f), 63.1208(b), and 63.1209(a)(1), as defined under § 63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under §§ 63.8(f) and 63.1209(a)(5), as defined under § 63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under §§ 63.10(f) and 63.1211(a) through (c), as defined under § 63.90, and as required in this subpart.

■ 16. Section § 63.1215 is added to subpart EEE to read as follows:

§ 63.1215 What are the health-based compliance alternatives for total chlorine?

(a) *General.* (1) *Overview.* You may establish and comply with health-based compliance alternatives for total chlorine under the procedures prescribed in this section for your hazardous waste combustors other than hydrochloric acid production furnaces. You may comply with these health-based compliance alternatives in lieu of the emission standards for total chlorine provided under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221. To identify and comply with the limits, you must:

(i) Identify a total chlorine emission concentration (ppmv) expressed as chloride ($Cl^{(-)}$) equivalent for each on-site hazardous waste combustor. You may select total chlorine emission concentrations as you choose to demonstrate eligibility for the risk-based limits under this section, except as provided by paragraph (b)(4) of this section;

(ii) Apportion the total chlorine emission concentration between HCl and Cl_2 according to paragraph (b)(6)(i) of this section, and calculate HCl and Cl_2 emission rates (lb/hr) using the gas flowrate and other parameters from the most recent regulatory compliance test.

(iii) Calculate the annual average HCl-equivalent emission rate as prescribed in paragraph (b)(2) of this section.

(iv) Perform an eligibility demonstration to determine if your HCl-equivalent emission rate meets the national exposure standard and thus is below the annual average HCl-equivalent emission rate limit, as prescribed by paragraph (c) of this section;

(v) Submit your eligibility demonstration for review and approval, as prescribed by paragraph (e) of this section, which must include information to ensure that the 1-hour average HCl-equivalent emission rate limit is not exceeded, as prescribed by paragraph (d) of this section;

(vi) Demonstrate compliance with the annual average HCl-equivalent emission rate limit during the comprehensive performance test, as prescribed by the testing and monitoring requirements under paragraph (e) of this section;

(vii) Comply with compliance monitoring requirements, including establishing feedrate limits on total chlorine and chloride, and operating parameter limits on emission control equipment, as prescribed by paragraph (f) of this section; and

(viii) Comply with the requirements for changes, as prescribed by paragraph (h) of this section.

(2) *Definitions.* In addition to the definitions under § 63.1201, the following definitions apply to this section:

1-Hour Average HCl-Equivalent Emission Rate means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using 1-hour RELs as the health risk metric for acute exposure.

1-Hour Average HCl-Equivalent Emission Rate Limit means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using 1-hour RELs as the health risk metric for acute exposure and which ensures that maximum 1-hour average ambient concentrations of HCl-equivalents do not exceed a Hazard Index of 1.0, rounded to the nearest tenths decimal place (0.1), at an off-site receptor location.

Acute Reference Exposure Level (aREL) means health thresholds below which there would be no adverse health effects for greater than once in a lifetime exposures of one hour. ARELs are developed by the California Office of Health Hazard Assessment and are available at *http://www.oehha.ca.gov/air/acute_rels/acuterel.html.*

Annual Average HCl-Equivalent Emission Rate means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using RfCs as the health risk metric for long-term exposure.

Annual Average HCl-Equivalent Emission Rate Limit means the HCl-equivalent emission rate (lb/hr) determined by equating the toxicity of chlorine to HCl using RfCs as the health risk metric for long-term exposure and which ensures that maximum annual average ambient concentrations of HCl equivalents do not exceed a Hazard Index of 1.0, rounded to the nearest tenths decimal place (0.1), at an off-site receptor location.

Hazard Index (HI) means the sum of more than one Hazard Quotient for multiple substances and/or multiple exposure pathways. In this section, the Hazard Index is the sum of the Hazard Quotients for HCl and chlorine.

Hazard Quotient (HQ) means the ratio of the predicted media concentration of a pollutant to the media concentration at which no adverse effects are expected. For chronic inhalation exposures, the HQ is calculated under this section as the air concentration divided by the RfC. For acute inhalation exposures, the HQ is calculated under this section as the air concentration divided by the aREL.

Look-up table analysis means a risk screening analysis based on comparing the HCl-equivalent emission rate from the affected source to the appropriate HCl-equivalent emission rate limit specified in Tables 1 through 4 of this section.

Reference Concentration (RfC) means an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

(b) *HCl-equivalent emission rates.* (1) You must express total chlorine emission rates for each hazardous waste combustor as HCl-equivalent emission rates.

(2) *Annual average rates.* You must calculate annual average toxicity-weighted HCl-equivalent emission rates for each combustor as follows:

$$ER_{tw} = ER_{HCl} + ER_{Cl2} \times (RfC_{HCl}/RfC_{Cl2})$$

Where:

ER_{LTtw} is the annual average HCl toxicity-weighted emission rate (HCl-equivalent emission rate) considering long-term exposures, lb/hr

ER_{HCl} is the emission rate of HCl in lbs/hr

ER_{Cl2} is the emission rate of chlorine in lbs/hr

RfC_{HCl} is the reference concentration of HCl

RfC_{Cl2} is the reference concentration of chlorine

(3) *1-hour average rates.* You must calculate 1-hour average toxicity-weighted HCl-equivalent emission rates for each combustor as follows:

$$ER_{STtw} = ER_{HCl} + ER_{Cl2} \times (aREL_{HCl}/aREL_{Cl2})$$

Where:

ER_{STtw} is the 1-hour average HCl toxicity-weighted emission rate (HCl-equivalent emission rate) considering 1-hour (short-term) exposures, lb/hr

ER_{HCl} is the emission rate of HCl in lbs/hr

ER_{Cl2} is the emission rate of chlorine in lbs/hr

$aREL_{HCl}$ is the 1-hour Reference Exposure Level of HCl

$aREL_{Cl2}$ is the 1-hour Reference Exposure Level of chlorine

(4) You must use the RfC values for hydrogen chloride and chlorine found at *http://epa.gov/ttn/atw/toxsource/summary.html.*

(5) You must use the aREL values for hydrogen chloride and chlorine found at *http://www.oehha.ca.gov/air/acute_rels/acuterel.html.*

(6) *Cl_2HCl ratios*—(i) *Ratio for calculating annual average HCl-equivalent emission rates.* (A) To calculate the annual average HCl-equivalent emission rate (lb/hr) for each combustor, you must apportion the total chlorine emission concentration (ppmv chloride ($Cl^{(-)}$) equivalent) between HCl and chlorine according to the historical average Cl_2/HCl volumetric ratio for all regulatory compliance tests.

(B) You must calculate HCl and Cl_2 emission rates (lb/hr) using the apportioned emission concentrations and the gas flowrate and other parameters from the most recent regulatory compliance test.

(C) You must calculate the annual average HCl-equivalent emission rate using these HCl and Cl_2 emission rates and the equation in paragraph (b)(2) of this section.

(ii) *Ratio for calculating 1-hour average HCl-equivalent emission rates.* (A) To calculate the 1-hour average HCl-equivalent emission rate for each combustor as a criterion for you to determine under paragraph (d) of this section if an hourly rolling average feedrate limit on total chlorine and chloride may be waived, you must apportion the total chlorine emission concentration (ppmv chloride ($Cl^{(-)}$) equivalent) between HCl and chlorine

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according to the historical highest Cl_2/HCl volumetric ratio for all regulatory compliance tests.

(B) You must calculate HCl and Cl_2 emission rates (lb/hr) using the apportioned emission concentrations and the gas flowrate and other parameters from the most recent regulatory compliance test.

(C) You must calculate the 1-hour average HCl-equivalent emission rate using the se HCl and Cl_2 emission rates and the equation in paragraph (b)(3) of this section.

(iii) *Ratios for new sources.* (A) You must use engineering information to estimate the Cl_2/HCl volumetric ratio for a new source for the initial eligibility demonstration.

(B) You must use the Cl_2/HCl volumetric ratio demonstrated during the initial comprehensive performance test to demonstrate in the Notification of Compliance that your HCl-equivalent emission rate does not exceed your HCl-equivalent emission rate limit.

(C) When approving the test plan for the initial comprehensive performance test, the permitting authority will establish a periodic testing requirement, such as every 3 months for 1 year, to establish a record of representative Cl_2/HCl volumetric ratios.

(*1*) You must revise your HCl-equivalent emission rates and HCl-equivalent emission rate limits after each such test using the procedures prescribed in paragraphs (b)(6)(i) and (ii) of this section.

(*2*) If you no longer are eligible for the health-based compliance alternative, you must notify the permitting authority immediately and either:

(*i*) Submit a revised eligibility demonstration requesting lower HCl-equivalent emission rate limits, establishing lower HCl-equivalent emission rates, and establishing by downward extrapolation lower feedrate limits for total chlorine and chloride; or

(*ii*) Request a compliance schedule of up to three years to demonstrate compliance with the emission standards under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221.

(iv) *Unrepresentative or inadequate historical Cl_2/HCl volumetric ratios.* (A) If you believe that the Cl_2/HCl volumetric ratio for one or more historical regulatory compliance tests is not representative of the current ratio, you may request that the permitting authority allow you to screen those ratios from the analysis of historical ratios.

(B) If the permitting authority believes that too few historical ratios are available to calculate a representative average ratio or establish a maximum ratio, the permitting authority may require you to conduct periodic testing to establish representative ratios.

(v) *Updating Cl_2/HCl ratios.* You must include the Cl_2/HCl volumetric ratio demonstrated during each performance test in your data base of historical Cl2/HCl ratios to update the ratios you establish under paragraphs (b)(6)(i) and (ii) of this section for subsequent calculations of the annual average and 1-hour average HCl-equivalent emission rates.

(7) *Emission rates are capped.* The hydrogen chloride and chlorine emission rates you use to calculate the HCl-equivalent emission rate limit for incinerators, cement kilns, and lightweight aggregate kilns must not result in total chlorine emission concentrations exceeding:

(i) For incinerators that were existing sources on April 19, 1996: 77 parts per million by volume, combined emissions, expressed as chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen;

(ii) For incinerators that are new or reconstructed sources after April 19, 1996: 21 parts per million by volume, combined emissions, expressed as chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen;

(iii) For cement kilns that were existing sources on April 19, 1996: 130 parts per million by volume, combined emissions, expressed as chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen;

(iv) For cement kilns that are new or reconstructed sources after April 19, 1996: 86 parts per million by volume, combined emissions, expressed as chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen;

(v) For lightweight aggregate kilns that were existing sources on April 19, 1996: 600 parts per million by volume, combined emissions, expressed as chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen;

(vi) For lightweight aggregate kilns that are new or reconstructed sources after April 19, 1996: 600 parts per million by volume, combined emissions, expressed as chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen.

(c) *Eligibility demonstration*—(1) *General.* (i) You must perform an eligibility demonstration to determine whether the total chlorine emission rates you select for each on-site hazardous waste combustor meet the national exposure standards using either a look-up table analysis prescribed by paragraph (c)(3) of this section, or a site-specific compliance demonstration prescribed by paragraph (c)(4) of this section.

(ii) You must also determine in your eligibility demonstration whether each combustor may exceed the 1-hour HCl-equivalent emission rate limit absent an hourly rolling average limit on the feedrate of total chlorine and chloride, as provided by paragraph (d) of this section.

(2) *Definition of eligibility.* (i) Eligibility for the risk-based total chlorine standard is determined by comparing the annual average HCl-equivalent emission rate for the total chlorine emission rate you select for each combustor to the annual average HCl-equivalent emission rate limit.

(ii) The annual average HCl-equivalent emission rate limit ensures that the Hazard Index for chronic exposure from HCl and chlorine emissions from all on-site hazardous waste combustors is less than or equal to 1.0, rounded to the nearest tenths decimal place (0.1), for the actual individual most exposed to the facility's emissions, considering off-site locations where people reside and where people congregate for work, school, or recreation.

(iii) Your facility is eligible for the health-based compliance alternative for total chlorine if either:

(A) The annual average HCl-equivalent emission rate for each on-site hazardous waste combustor is below the appropriate value in the look-up table determined under paragraph (c)(3) of this section; or

(B) The annual average HCl-equivalent emission rate for each on-site hazardous waste combustor is below the annual average HCl-equivalent emission rate limit you calculate based on a site-specific compliance demonstration under paragraph (c)(4) of this section.

(3) *Look-up table analysis.* Look-up tables for the eligibility demonstration are provided as Tables 1 and 2 to this section.

(i) Table 1 presents annual average HCl-equivalent emission rate limits for sources located in flat terrain. For purposes of this analysis, flat terrain is terrain that rises to a level not exceeding one half the stack height within a distance of 50 stack heights.

(ii) Table 2 presents annual average HCl-equivalent emission rate limits for sources located in simple elevated terrain. For purposes of this analysis, simple elevated terrain is terrain that rises to a level exceeding one half the stack height, but that does not exceed the stack height, within a distance of 50 stack heights.

(iii) To determine the annual average HCl-equivalent emission rate limit for a

source from the look-up table, you must use the stack height and stack diameter for your hazardous waste combustors and the distance between the stack and the property boundary.

(iv) If any of these values for stack height, stack diameter, and distance to nearest property boundary do not match the exact values in the look-up table, you must use the next lowest table value.

(v) *Adjusted HCl-equivalent emission rate limit for multiple on-site combustors.* (A) If you have more than one hazardous waste combustor on site, the sum across all hazardous waste combustors of the ratio of the adjusted HCl-equivalent emission rate limit to the HCl-equivalent emission rate limit provided by Tables 1 or 2 cannot exceed 1.0, according to the following equation:

$$\sum_{i=1}^{n} \frac{\text{HCl-Equivalent Emission Rate Limit Adjusted}_i}{\text{HCI-Equivalent Emission Rate Limit Table}_i} \leq 1.0$$

Where:

i = number of on-site hazardous waste combustors;

HCl-Equivalent Emission Rate Limit Adjusted$_i$ means the apportioned, allowable HCl-equivalent emission rate limit for combustor i, and

HCl-Equivalent Emission Rate Limit Table$_i$ means the HCl-equivalent emission rate limit from Table 1 or 2 to § 63.1215 for combustor *i.*

(B) The adjusted HCl-equivalent emission rate limit becomes the HCl-equivalent emission rate limit.

(4) *Site-specific compliance demonstration.* (i) You may use any scientifically-accepted peer-reviewed risk assessment methodology for your site-specific compliance demonstration to calculate an annual average HCl-equivalent emission rate limit for each on-site hazardous waste combustor. An example of one approach for performing the demonstration for air toxics can be found in the EPA's ''Air Toxics Risk Assessment Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document,'' which may be obtained through the EPA's Air Toxics Web site at *http://www.epa.gov/ttn/fera/risk_atra_main.html.*

(ii) The annual average HCl-equivalent emission rate limit is the HCl-equivalent emission rate that ensures that the Hazard Index associated with maximum annual average exposures is not greater than 1.0 rounded to the nearest tenths decimal place (0.1).

(iii) To determine the annual average HCl-equivalent emission rate limit, your site-specific compliance demonstration must, at a minimum:

(A) Estimate long-term inhalation exposures through the estimation of annual or multi-year average ambient concentrations;

(B) Estimate the inhalation exposure for the actual individual most exposed to the facility's emissions from hazardous waste combustors, considering off-site locations where people reside and where people congregate for work, school, or recreation;

(C) Use site-specific, quality-assured data wherever possible;

(D) Use health-protective default assumptions wherever site-specific data are not available, and:

(E) Contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emissions measurement expert.

(iv) Your site-specific compliance demonstration need not:

(A) Assume any attenuation of exposure concentrations due to the penetration of outdoor pollutants into indoor exposure areas;

(B) Assume any reaction or deposition of the emitted pollutants during transport from the emission point to the point of exposure.

(d) *Assurance that the 1-hour HCl-equivalent emission rate limit will not be exceeded.* To ensure that the 1-hour HCl-equivalent emission rate limit will not be exceeded when complying with the annual average HCl-equivalent emission rate limit, you must establish a 1-hour average HCl-equivalent emission rate for each combustor, establish a 1-hour average HCl-equivalent emission rate limit for each combustor, and consider site-specific factors including prescribed criteria to determine if the 1-hour average HCl-equivalent emission rate limit may be exceeded absent an hourly rolling average limit on the feedrate of total chlorine and chloride. If the 1-hour average HCl-equivalent emission rate limit may be exceeded, you must establish an hourly rolling average feedrate limit on total chlorine as provided by paragraph (f)(3) of this section.

(1) *1-hour average HCl-equivalent emission rate.* You must calculate the 1-hour average HCl-equivalent emission rate from the total chlorine emission concentration you select for each source as prescribed in paragraph (b)(6)(ii)(C) of this section.

(2) *1-hour average HCl-equivalent emission rate limit.* You must establish the 1-hour average HCl-equivalent emission rate limit for each affected source using either a look-up table analysis or site-specific analysis:

(i) *Look-up table analysis.* Look-up tables are provided for 1-hour average HCl-equivalent emission rate limits as Table 3 and Table 4 to this section. Table 3 provides limits for facilities located in flat terrain. Table 4 provides limits for facilities located in simple elevated terrain. You must use the Tables to establish 1-hour average HCl-equivalent emission rate limits as prescribed in paragraphs (c)(3)(iii) through (c)(3)(v) of this section for annual average HCl-equivalent emission rate limits.

(ii) *Site-specific analysis.* The 1-hour average HCl-equivalent emission rate limit is the HCl-equivalent emission rate that ensures that the Hazard Index associated with maximum 1-hour average exposures is not greater than 1.0 rounded to the nearest tenths decimal place (0.1). You must follow the risk assessment procedures under paragraph (c)(4) of this section to estimate short-term inhalation exposures through the estimation of maximum 1-hour average ambient concentrations.

(3) *Criteria for determining whether the 1-hour HCl-equivalent emission rate may be exceeded absent an hourly rolling average limit on the feedrate of total chlorine and chloride.* An hourly rolling average feedrate limit on total chlorine and chloride is waived if you determine considering the criteria listed below that the long-term feedrate limit (and averaging period) established under paragraph (c)(4)(i) of this section will also ensure that the 1-hour average HCl-equivalent emission rate will not exceed the 1-hour average HCl-equivalent emission rate limit you calculate for each combustor.

(i) The ratio of the 1-hour average HCl-equivalent emission rate based on the total chlorine emission rate you select for each hazardous waste combustor to the 1-hour average HCl-equivalent emission rate limit for the combustor; and

(ii) The potential for the source to vary total chlorine and chloride

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feedrates substantially over the averaging period for the feedrate limit established under paragraph (c)(4)(i) of this section.

(e) *Review and approval of eligibility demonstrations*—(1) *Content of the eligibility demonstration*—(i) *General.* The eligibility demonstration must include the following information, at a minimum:

(A) Identification of each hazardous waste combustor combustion gas emission point (e.g., generally, the flue gas stack);

(B) The maximum and average capacity at which each combustor will operate, and the maximum rated capacity for each combustor, using the metric of stack gas volume (under both actual and standard conditions) emitted per unit of time, as well as any other metric that is appropriate for the combustor (e.g., million Btu/hr heat input for boilers; tons of dry raw material feed/hour for cement kilns);

(C) Stack parameters for each combustor, including, but not limited to stack height, stack diameter, stack gas temperature, and stack gas exit velocity;

(D) Plot plan showing all stack emission points, nearby residences and property boundary line;

(E) Identification of any stack gas control devices used to reduce emissions from each combustor;

(F) Identification of the RfC values used to calculate annual average HCl-equivalent emission rates and the aREL values used to calculate 1-hour average HCl-equivalent emission rates;

(G) Calculations used to determine the annual average and 1-hour average HCl-equivalent emission rates and rate limits, including calculation of the Cl_2/HCl ratios as prescribed by paragraph (b)(6) of this section;

(ii) *Additional content to implement the annual average HCl-equivalent emission rate limit.* You must include the following in your eligibility demonstration to implement the annual average HCl-equivalent emission rate limit:

(A) For incinerators, cement kilns, and lightweight aggregate kilns, calculations to confirm that the annual average HCl-equivalent emission rate that you calculate from the total chlorine emission rate you select for each combustor does not exceed the limits provided by paragraph (b)(7) of this section;

(B) Comparison of the annual average HCl-equivalent emission rate limit for each combustor to the annual average HCl-equivalent emission rate for the total chlorine emission rate you select for each combustor;

(C) The annual average HCl-equivalent emission rate limit for each hazardous waste combustor, and the limits on operating parameters required under paragraph (g)(1) of this section;

(D) Determination of the long-term chlorine feedrate limit, including the total chlorine system removal efficiency for sources that establish an (up to) annual rolling average feedrate limit under paragraph (g)(2)(ii) of this section;

(iii) *Additional content to implement the 1-hour average HCl-equivalent emission rate limit.* You must include the following in your eligibility demonstration to implement the 1-hour average HCl-equivalent emission rate limit:

(A) Determination of whether the combustor may exceed the 1-hour HCl-equivalent emission rate limit absent an hourly rolling average chlorine feedrate limit, including:

(*1*) Determination of the 1-hour average HCl-equivalent emission rate from the total chlorine emission rate you select for the combustor;

(*2*) Determination of the 1-hour average HCl-equivalent emission rate limit using either look-up Tables 3 and 4 to this section or site-specific risk analysis;

(*3*) Determination of the ratio of the 1-hour average HCl-equivalent emission rate to the 1-hour average HCl-equivalent emission rate limit for the combustor; and

(*4*) The potential for the source to vary total chlorine and chloride feedrates substantially over the averaging period for the long-term feedrate limit established under paragraphs (g)(2)(i) and (g)(2)(ii) of this section; and

(B) Determination of the hourly rolling average chlorine feedrate limit, including the total chlorine system removal efficiency.

(iv) *Additional content of a look-up table demonstration.* If you use the look-up table analysis to establish HCl-equivalent emission rate limits, your eligibility demonstration must also contain, at a minimum, the following:

(A) Documentation that the facility is located in either flat or simple elevated terrain; and

(B) For facilities with more than one on-site hazardous waste combustor, documentation that the sum of the ratios for all such combustors of the HCl-equivalent emission rate to the HCl-equivalent emission rate limit does not exceed 1.0.

(v) *Additional content of a site-specific compliance demonstration.* If you use a site-specific compliance demonstration, your eligibility demonstration must also contain, at a minimum, the following information to support your determination of the annual average HCl-equivalent emission rate limit for each combustor:

(A) Identification of the risk assessment methodology used;

(B) Documentation of the fate and transport model used;

(C) Documentation of the fate and transport model inputs, including the stack parameters listed in paragraph (d)(1)(i)(C) of this section converted to the dimensions required for the model;

(D) As applicable:

(*1*) Meteorological data;

(*2*) Building, land use, and terrain data;

(*3*) Receptor locations and population data, including areas where people congregate for work, school, or recreation; and

(*4*) Other facility-specific parameters input into the model;

(E) Documentation of the fate and transport model outputs; and

(F) Documentation of any exposure assessment and risk characterization calculations.

(2) *Review and approval*—(i) *Existing sources.* (A) If you operate an existing source, you must submit the eligibility demonstration to your permitting authority for review and approval not later than 12 months prior to the compliance date. You must also submit a separate copy of the eligibility demonstration to: U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404–01), Attn: Group Leader, Research Triangle Park, North Carolina 27711, electronic mail address *REAG@epa.gov.*

(B) Your permitting authority should notify you of approval or intent to disapprove your eligibility demonstration within 6 months after receipt of the original demonstration, and within 3 months after receipt of any supplemental information that you submit. A notice of intent to disapprove your eligibility demonstration, whether before or after the compliance date, will identify incomplete or inaccurate information or noncompliance with prescribed procedures and specify how much time you will have to submit additional information or to achieve the MACT standards for total chlorine under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221. If your eligibility demonstration is disapproved, the permitting authority may extend the compliance date of the total chlorine standards to allow you to make changes to the design or operation of the combustor or related systems as quickly as practicable to enable you to achieve compliance with the MACT total chlorine standards.

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(C) If your permitting authority has not approved your eligibility demonstration by the compliance date, and has not issued a notice of intent to disapprove your demonstration, you may nonetheless begin complying, on the compliance date, with the HCl-equivalent emission rate limits you present in your eligibility demonstration.

(D) If your permitting authority issues a notice of intent to disapprove your eligibility demonstration after the compliance date, the authority will identify the basis for that notice and specify how much time you will have to submit additional information or to comply with the MACT standards for total chlorine under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221. The permitting authority may extend the compliance date of the total chlorine standards to allow you to make changes to the design or operation of the combustor or related systems as quickly as practicable to enable you to achieve compliance with the MACT standards for total chlorine.

(ii) *New or reconstructed sources.* (A) *General.* The procedures for review and approval of eligibility demonstrations applicable to existing sources under paragraph (e)(2)(i) of this section also apply to new or reconstructed sources, except that the date you must submit the eligibility demonstration is as prescribed in this paragraph (e)(2)(ii).

(B) If you operate a new or reconstructed source that starts up before April 12, 2007, or a solid fuel boiler or liquid fuel boiler that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before April 12, 2007, you must either:

(*1*) Comply with the final total chlorine emission standards under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221, by October 12, 2005, or upon startup, whichever is later, except for a standard that is more stringent than the standard proposed on April 20, 2004 for your source. If a final standard is more stringent than the proposed standard, you may comply with the proposed standard until October 14, 2008, after which you must comply with the final standard; or

(*2*) Submit an eligibility demonstration for review and approval under this section by April 12, 2006, and comply with the HCl-equivalent emission rate limits and operating requirements you establish in the eligibility demonstration.

(C) If you operate a new or reconstructed source that starts up on or after April 12, 2007, or a solid fuel boiler or liquid fuel boiler that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP on or after April 12, 2007, you must either:

(*1*) Comply with the final total chlorine emission standards under §§ 63.1216, 63.1217, 63.1219, 63.1220, and 63.1221 upon startup. If the final standard is more stringent than the standard proposed for your source on April 20, 2004, however, and if you start operations before October 14, 2008, you may comply with the proposed standard until October 14, 2008, after which you must comply with the final standard; or

(*2*) Submit an eligibility demonstration for review and approval under this section 12 months prior to startup.

(f) *Testing requirements*—(1) *General.* You must comply with the requirements for comprehensive performance testing under § 63.1207.

(2) *System removal efficiency.* (i) You must calculate the total chlorine removal efficiency of the combustor during each run of the comprehensive performance test.

(ii) You must calculate the average system removal efficiency as the average of the test run averages.

(iii) If your source does not control emissions of total chlorine, you must assume zero system removal efficiency.

(3) *Annual average HCl-equivalent emission rate limit.* If emissions during the comprehensive performance test exceed the annual average HCl-equivalent emission rate limit, eligibility for emission limits under this section is not affected. This emission rate limit is an annual average limit even though compliance is based on a 12-hour or (up to) an annual rolling average feedrate limit on total chlorine and chloride because the feedrate limit is also used for compliance assurance for the semivolatile metal emission standard

(4) *1-hour average HCl-equivalent emission rate limit.* Total chlorine emissions during each run of the comprehensive performance test cannot exceed the 1-hour average HCl-equivalent emission rate limit.

(5) *Test methods.* (i) If you operate a cement kiln or a combustor equipped with a dry acid gas scrubber, you must use EPA Method 320/321 or ASTM D 6735–01, or an equivalent method, to measure hydrogen chloride, and the back-half (caustic impingers) of Method 26/26A, or an equivalent method, to measure chlorine gas.

(ii) *Bromine and sulfur considerations.* If you operate an incinerator, boiler, or lightweight aggregate kiln and your feedstreams contain bromine or sulfur during the comprehensive performance test at levels specified under paragraph (e)(2)(ii)(B) of this section, you must use EPA Method 320/321 or ASTM D 6735–01, or an equivalent method, to measure hydrogen chloride, and Method 26/26A, or an equivalent method, to measure chlorine and hydrogen chloride, and determine your chlorine emissions as follows:

(A) You must determine you chlorine emissions to be the higher of the value measured by Method 26/26A, or an equivalent method, or the value calculated by difference between the combined hydrogen chloride and chlorine levels measured by Method 26/26a, or an equivalent method, and the hydrogen chloride measurement from EPA Method 320/321 or ASTM D 6735–01, or an equivalent method.

(B) The procedures under paragraph (f)(2)(ii) of this section for determining hydrogen chloride and chlorine emissions apply if you feed bromine or sulfur during the performance test at the levels specified in this paragraph (f)(5)(ii)(B):

(*1*) If the bromine/chlorine ratio in feedstreams is greater than 5 percent by mass; or

(*2*) If the sulfur/chlorine ratio in feedstreams is greater than 50 percent by mass.

(g) *Monitoring requirements.* (1) *General.* You must establish and comply with limits on the same operating parameters that apply to sources complying with the MACT standard for total chlorine under § 63.1209(o), except that feedrate limits on total chlorine and chloride must be established according to paragraphs (g)(2) and (g)(3) of this section:

(2) *Feedrate limit to ensure compliance with the annual average HCl-equivalent emission rate limit.* (i) For sources subject to the feedrate limit for total chlorine and chloride under § 63.1209(n)(4) to ensure compliance with the semivolatile metals standard:

(A) The feedrate limit (and averaging period) for total chlorine and chloride to ensure compliance with the annual average HCl-equivalent emission rate limit is the same as required by § 63.1209(n)(4), except as provided by paragraph (g)(2)(i)(B) of this section.

(B) The numerical value of the total chlorine and chloride feedrate limit (*i.e.*, not considering the averaging period) you establish under § 63.1209(n)(4) must not exceed the value you calculate as the annual average HCl-equivalent emission rate limit (lb/hr) divided by [1 − system removal efficiency], where the system removal efficiency is calculated as prescribed by paragraph (f)(2) of this section.

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(ii) For sources exempt from the feedrate limit for total chlorine and chloride under § 63.1209(n)(4) because they comply with § 63.1207(m)(2), the feedrate limit for total chlorine and chloride to ensure compliance with the annual average HCl-equivalent emission rate must be established as follows:

(A) You must establish an average period for the feedrate limit that does not exceed an annual rolling average;

(B) The numerical value of the total chlorine and chloride feedrate limit (*i.e.*, not considering the averaging period) must not exceed the value you calculate as the annual average HCl-equivalent emission rate limit (lb/hr) divided by [1 − system removal efficiency], where the system removal efficiency is calculated as prescribed by paragraph (f)(2) of this section.

(C) You must calculate the initial rolling average as though you had selected a 12-hour rolling average, as provided by paragraph (b)(5)(i) of this section. You must calculate rolling averages thereafter as the average of the available one-minute values until enough one-minute values are available to calculate the rolling average period you select. At that time and thereafter, you update the rolling average feedrate each hour with a 60-minute average feedrate.

(3) *Feedrate limit to ensure compliance with the 1-hour average HCl-equivalent emission rate limit.* (i) You must establish an hourly rolling average feedrate limit on total chlorine and chloride to ensure compliance with the 1-hour average HCl-equivalent emission rate limit unless you determine that the hourly rolling average feedrate limit is waived under paragraph (d) of this section.

(ii) You must calculate the hourly rolling average feedrate limit for total chlorine and chloride as the 1-hour average HCl-equivalent emission rate limit (lb/hr) divided by [1 − system removal efficiency], where the system removal efficiency is calculated as prescribed by paragraph (f)(2)(ii) of this section.

(h) *Changes*—(1) *Changes over which you have control.* (i) *Changes that would affect the HCl-equivalent emission rate limit.* (A) If you plan to change the design, operation, or maintenance of the facility in a manner than would decrease the annual average or 1-hour average HCl-equivalent emission rate limit, you must submit to the permitting authority prior to the change a revised eligibility demonstration documenting the lower emission rate limits and calculations of reduced total chlorine and chloride feedrate limits.

(B) If you plan to change the design, operation, or maintenance of the facility in a manner than would increase the annual average or 1-hour average HCl-equivalent emission rate limit, and you elect to increase your total chlorine and chloride feedrate limits. You must also submit to the permitting authority prior to the change a revised eligibility demonstration documenting the increased emission rate limits and calculations of the increased feedrate limits prior to the change.

(ii) *Changes that could affect system removal efficiency.* (A) If you plan to change the design, operation, or maintenance of the combustor in a manner than could decrease the system removal efficiency, you are subject to the requirements of § 63.1206(b)(5) for conducting a performance test to reestablish the combustor's system removal efficiency and you must submit a revised eligibility demonstration documenting the lower system removal efficiency and the reduced feedrate limits on total chlorine and chloride.

(B) If you plan to change the design, operation, or maintenance of the combustor in a manner than could increase the system removal efficiency, and you elect to document the increased system removal efficiency to establish higher feedrate limits on total chlorine and chloride, you are subject to the requirements of § 63.1206(b)(5) for conducting a performance test to reestablish the combustor's system removal efficiency. You must also submit to the permitting authority a revised eligibility demonstration documenting the higher system removal efficiency and the increased feedrate limits on total chlorine and chloride.

(2) *Changes over which you do not have control that may decrease the HCl-equivalent emission rate limits.* These requirements apply if you use a site-specific risk assessment under paragraph (c)(4) of this section to demonstrate eligibility for the health-based limits.

(i) *Proactive review.* You must review the documentation you use in your eligibility demonstration every five years from the date of the comprehensive performance test and submit for review and approval with the comprehensive performance test plan either a certification that the information used in your eligibility demonstration has not changed in a manner that would decrease the annual average or 1-hour average HCl-equivalent emission rate limit, or a revised eligibility demonstration.

(ii) *Reactive review.* If in the interim between your comprehensive performance tests you have reason to know of changes that would decrease the annual average or 1-hour average HCl-equivalent emission rate limit, you must submit a revised eligibility demonstration as soon as practicable but not more frequently than annually.

(iii) *Compliance schedule.* If you determine that you cannot demonstrate compliance with a lower annual average HCl-equivalent emission rate limit during the comprehensive performance test because you need additional time to complete changes to the design or operation of the source, you may request that the permitting authority grant you additional time to make those changes as quickly as practicable.

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Table 1 of §63.1215: Annual Average HCl-Equivalent Emssion Rate Limits (lb/hr)--Flat Terrain

	Distance to property boundary (m)											
Stack Diameter = 0.3 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
5	3.7E-01	4.9E-01	7.3E-01	9.1E-01	1.6E+00	2.3E+00	4.1E+00	5.7E+00	6.1E+00	1.0E+01	1.6E+01	2.9E+01
10	1.0E+00	1.0E+00	1.1E+00	1.5E+00	2.1E+00	2.7E+00	4.8E+00	5.7E+00	6.5E+00	1.1E+01	1.8E+01	3.2E+01
20	2.3E+00	2.3E+00	2.3E+00	2.3E+00	2.7E+00	3.7E+00	5.6E+00	7.4E+00	1.0E+01	1.9E+01	2.9E+01	5.2E+01
30	4.1E+00	4.1E+00	4.1E+00	4.2E+00	4.7E+00	6.0E+00	9.5E+00	1.3E+01	1.8E+01	3.3E+01	4.8E+01	7.9E+01
50	1.2E+01	1.2E+01	1.2E+01	1.2E+01	1.3E+01	1.5E+01	2.0E+01	2.8E+01	3.8E+01	7.1E+01	1.0E+02	1.6E+02
Stack Diameter = 0.5 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
5	6.5E-01	9.3E-01	1.4E+00	1.8E+00	3.0E+00	4.4E+00	7.2E+00	9.2E+00	1.3E+01	1.5E+01	2.0E+01	3.4E+01
10	1.4E+00	1.4E+00	1.6E+00	2.1E+00	3.9E+00	5.4E+00	8.3E+00	1.0E+01	1.3E+01	1.7E+01	2.3E+01	3.8E+01
20	3.7E+00	3.7E+00	3.7E+00	3.9E+00	4.9E+00	6.5E+00	8.5E+00	1.0E+01	1.3E+01	2.2E+01	3.2E+01	5.5E+01
30	5.5E+00	5.5E+00	5.5E+00	5.5E+00	5.6E+00	6.7E+00	1.0E+01	1.4E+01	1.9E+01	3.4E+01	4.9E+01	8.1E+01
50	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.5E+01	2.1E+01	2.8E+01	3.9E+01	7.2E+01	1.0E+02	1.6E+02
Stack Diameter = 1.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	3.2E+00	3.6E+00	4.0E+00	5.4E+00	9.6E+00	1.3E+01	1.8E+01	2.3E+01	2.8E+01	4.5E+01	5.3E+01	6.5E+01
20	5.9E+00	5.9E+00	5.9E+00	6.1E+00	9.6E+00	1.3E+01	1.8E+01	2.3E+01	2.8E+01	4.5E+01	5.3E+01	7.5E+01
30	1.0E+01	1.0E+01	1.0E+01	1.0E+01	1.2E+01	1.3E+01	1.8E+01	2.3E+01	2.8E+01	4.5E+01	6.1E+01	9.3E+01
50	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	1.8E+01	2.3E+01	3.1E+01	4.2E+01	7.7E+01	1.1E+02	1.7E+02
70	7.4E+01	7.4E+01	7.4E+01	7.4E+01	7.4E+01	7.4E+01	8.0E+01	1.0E+02	1.4E+02	2.1E+02	2.7E+02	4.0E+02
Stack Diameter = 1.5 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	4.1E+00	5.3E+00	6.4E+00	7.9E+00	1.3E+01	2.1E+01	2.7E+01	3.6E+01	4.8E+01	7.6E+01	9.1E+01	1.1E+02
20	7.6E+00	7.6E+00	7.6E+00	7.9E+00	1.3E+01	2.1E+01	2.7E+01	3.6E+01	4.8E+01	7.6E+01	9.1E+01	1.2E+02
30	1.3E+01	1.3E+01	1.3E+01	1.3E+01	1.6E+01	2.1E+01	2.7E+01	3.6E+01	4.8E+01	7.6E+01	9.1E+01	1.2E+02
50	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.7E+01	3.6E+01	4.8E+01	8.6E+01	1.2E+02	1.8E+02
70	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.1E+02	1.4E+02	1.8E+02	3.0E+02	4.0E+02	5.8E+02
Stack Diameter = 2.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	5.0E+00	6.3E+00	7.7E+00	9.8E+00	1.7E+01	2.8E+01	3.3E+01	4.4E+01	5.9E+01	1.0E+02	1.4E+02	1.6E+02
20	9.3E+00	9.3E+00	9.4E+00	1.0E+01	1.7E+01	2.8E+01	3.3E+01	4.4E+01	5.9E+01	1.0E+02	1.4E+02	1.8E+02
30	1.6E+01	1.6E+01	1.6E+01	1.6E+01	1.9E+01	2.8E+01	3.3E+01	4.4E+01	5.9E+01	1.0E+02	1.4E+02	1.8E+02
50	2.9E+01	2.9E+01	2.9E+01	2.9E+01	2.9E+01	2.9E+01	3.3E+01	4.4E+01	5.9E+01	1.0E+02	1.4E+02	2.0E+02
70	1.4E+02	1.4E+02	1.4E+02	1.4E+02	1.4E+02	1.4E+02	1.4E+02	1.8E+02	2.3E+02	3.4E+02	4.3E+02	6.4E+02
100	3.0E+02	3.0E+02	3.0E+02	3.0E+02	3.0E+02	3.0E+02	3.0E+02	3.0E+02	3.5E+02	5.2E+02	6.8E+02	8.2E+02
Stack Diameter = 3.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	6.5E+00	6.9E+00	7.7E+00	9.8E+00	2.2E+01	3.4E+01	5.4E+01	7.4E+01	9.8E+01	1.3E+02	1.6E+02	1.6E+02
20	1.6E+01	1.6E+01	1.7E+01	2.0E+01	2.5E+01	3.7E+01	5.6E+01	7.4E+01	9.8E+01	1.5E+02	2.1E+02	3.0E+02
30	2.0E+01	2.0E+01	2.0E+01	2.0E+01	2.5E+01	3.7E+01	5.6E+01	7.4E+01	9.8E+01	1.7E+02	2.2E+02	3.0E+02
50	4.2E+01	4.2E+01	4.2E+01	4.2E+01	4.4E+01	5.1E+01	5.6E+01	7.4E+01	9.8E+01	1.7E+02	2.2E+02	3.0E+02
70	2.3E+02	2.3E+02	2.3E+02	2.3E+02	2.3E+02	2.4E+02	2.4E+02	2.9E+02	3.6E+02	4.1E+02	5.0E+02	7.0E+02
100	3.5E+02	3.5E+02	3.5E+02	3.5E+02	3.5E+02	3.5E+02	3.5E+02	3.5E+02	3.9E+02	6.3E+02	7.5E+02	8.7E+02
Stack Diameter = 4.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
30	2.5E+01	2.5E+01	2.5E+01	2.5E+01	3.4E+01	5.6E+01	8.1E+01	1.1E+02	1.4E+02	2.2E+02	2.8E+02	4.3E+02
50	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.3E+01	6.2E+01	8.1E+01	1.1E+02	1.4E+02	2.4E+02	3.1E+02	4.4E+02
70	2.6E+02	2.6E+02	2.6E+02	2.6E+02	2.7E+02	2.8E+02	3.3E+02	4.6E+02	4.8E+02	5.0E+02	5.7E+02	7.7E+02
100	5.7E+02	5.7E+02	5.7E+02	5.7E+02	5.7E+02	5.7E+02	5.7E+02	5.7E+02	5.8E+02	8.6E+02	9.3E+02	1.1E+03

Table 2 of §63.1215: Annual Average HCl-Equivalent Emission Rate Limits (lbs/hr)--Simple Elevated Terrain

	Distance to property boundary (m)											
Stack Diameter = 0.3 m												
Stack height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
5	1.3E-01	1.8E-01	2.5E-01	3.7E-01	6.4E-01	8.9E-01	1.4E+00	2.0E+00	3.1E+00	7.7E+00	1.3E+01	2.6E+01
10	3.8E-01	3.8E-01	4.4E-01	6.1E-01	6.4E-01	8.9E-01	1.4E+00	2.0E+00	3.1E+00	7.7E+00	1.3E+01	2.6E+01
20	1.1E+00	1.1E+00	1.1E+00	1.2E+00	1.2E+00	1.5E+00	2.3E+00	3.4E+00	5.2E+00	1.2E+01	2.0E+01	3.9E+01
30	2.4E+00	2.4E+00	2.4E+00	2.4E+00	2.7E+00	3.5E+00	4.2E+00	5.2E+00	7.0E+00	1.5E+01	2.6E+01	4.9E+01
50	7.7E+00	7.7E+00	7.7E+00	7.7E+00	7.7E+00	8.6E+00	8.6E+00	8.6E+00	8.6E+00	2.0E+01	3.4E+01	6.5E+01
Stack Diameter = 0.5 m												
Stack height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
5	1.8E-01	2.6E-01	3.5E-01	5.6E-01	1.4E+00	1.6E+00	2.3E+00	3.4E+00	5.2E+00	9.6E+00	1.5E+01	2.8E+01
10	5.3E-01	5.3E-01	6.1E-01	8.5E-01	1.4E+00	1.6E+00	2.3E+00	3.4E+00	5.2E+00	9.6E+00	1.5E+01	2.8E+01
20	1.5E+00	1.5E+00	1.5E+00	1.5E+00	1.5E+00	1.6E+00	2.3E+00	3.4E+00	5.2E+00	1.2E+01	2.0E+01	3.9E+01
30	2.9E+00	2.9E+00	2.9E+00	2.9E+00	2.9E+00	3.5E+00	4.2E+00	5.5E+00	8.1E+00	1.7E+01	2.8E+01	5.2E+01
50	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.0E+00	8.8E+00	1.2E+01	1.2E+01	1.2E+01	2.3E+01	3.7E+01	6.9E+01
Stack Diameter = 1.0 m												
Stack height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	9.7E-01	9.7E-01	1.1E+00	1.7E+00	3.7E+00	3.7E+00	4.2E+00	5.5E+00	7.5E+00	1.5E+01	2.3E+01	4.1E+01
20	2.7E+00	2.7E+00	2.7E+00	3.0E+00	3.7E+00	3.7E+00	4.2E+00	5.5E+00	7.5E+00	1.5E+01	2.3E+01	4.3E+01
30	4.3E+00	4.3E+00	4.3E+00	4.3E+00	4.3E+00	4.3E+00	4.3E+00	5.5E+00	8.1E+00	1.7E+01	2.8E+01	5.2E+01
50	9.5E+00	9.5E+00	9.5E+00	9.5E+00	9.5E+00	9.5E+00	1.2E+01	1.4E+01	1.6E+01	3.1E+01	4.8E+01	8.3E+01
70	4.0E+01	4.0E+01	4.0E+01	4.0E+01	4.0E+01	4.0E+01	4.0E+01	4.1E+01	4.1E+01	4.1E+01	5.8E+01	9.8E+01
Stack Diameter = 1.5 m												
Stack height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	2.0E+00	2.0E+00	2.3E+00	3.4E+00	5.1E+00	6.0E+00	6.0E+00	6.6E+00	9.3E+00	1.9E+01	3.0E+01	5.4E+01
20	3.5E+00	3.5E+00	3.5E+00	3.9E+00	5.1E+00	6.0E+00	6.0E+00	6.6E+00	9.3E+00	1.9E+01	3.0E+01	5.4E+01
30	6.0E+00	6.0E+00	6.0E+00	6.0E+00	6.0E+00	6.0E+00	6.0E+00	6.6E+00	9.3E+00	1.9E+01	3.0E+01	5.5E+01
50	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.2E+01	1.4E+01	1.6E+01	3.1E+01	4.8E+01	8.3E+01
70	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.1E+01	5.1E+01	6.2E+01	7.8E+01	1.2E+02
Stack Diameter = 2.0 m												
Stack height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	2.6E+00	2.6E+00	3.0E+00	4.2E+00	6.3E+00	9.2E+00	9.2E+00	1.0E+01	1.4E+01	2.5E+01	3.7E+01	6.3E+01
20	4.2E+00	4.2E+00	4.2E+00	4.7E+00	6.3E+00	9.2E+00	9.2E+00	1.0E+01	1.4E+01	2.5E+01	3.7E+01	6.3E+01
30	8.4E+00	8.4E+00	8.4E+00	8.4E+00	9.2E+00	9.2E+00	9.2E+00	1.0E+01	1.4E+01	2.5E+01	3.7E+01	6.3E+01
50	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.4E+01	1.5E+01	1.6E+01	3.1E+01	4.8E+01	8.3E+01
70	5.9E+01	5.9E+01	5.9E+01	5.9E+01	5.9E+01	5.9E+01	5.9E+01	5.9E+01	5.9E+01	7.0E+01	1.0E+02	1.5E+02
100	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	8.2E+01	1.1E+02	1.7E+02
Stack Diameter = 3.0 m												
Stack height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	3.3E+00	3.4E+00	3.9E+00	5.5E+00	1.1E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	3.3E+01	5.0E+01	8.6E+01
20	6.5E+00	6.5E+00	6.5E+00	7.6E+00	1.1E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	3.3E+01	5.0E+01	8.6E+01
30	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.2E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	3.3E+01	5.0E+01	8.6E+01
50	1.7E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	1.7E+01	3.3E+01	5.0E+01	8.6E+01
70	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.0E+01	8.5E+01	1.2E+02	1.9E+02
100	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.9E+02	2.4E+02
Stack Diameter = 4.0 m												
Stack height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
30	1.3E+01	1.3E+01	1.3E+01	1.3E+01	1.5E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	4.0E+01	6.0E+01	9.8E+01
50	2.1E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	2.1E+01	4.0E+01	6.0E+01	9.8E+01
70	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.1E+02	1.5E+02	2.3E+02
100	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.5E+02	2.2E+02	3.4E+02

Table 3 of §63.1215: 1-Hour Average HCl-Equivalent Emission Rates (lb/hr)--Flat Terrain

	Distance to property boundary (m)											
Stack Diameter = 0.3 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
5	3.9E+00	5.1E+00	7.6E+00	9.6E+00	1.6E+01	2.4E+01	4.3E+01	5.3E+01	6.2E+01	1.1E+02	1.7E+02	3.1E+02
10	9.7E+00	9.8E+00	1.1E+01	1.4E+01	2.0E+01	2.6E+01	4.6E+01	5.3E+01	6.2E+01	1.1E+02	1.7E+02	3.1E+02
20	2.2E+01	2.2E+01	2.2E+01	2.2E+01	2.5E+01	3.5E+01	5.3E+01	7.0E+01	9.5E+01	1.8E+02	2.8E+02	4.9E+02
30	3.9E+01	3.9E+01	3.9E+01	4.0E+01	4.4E+01	5.7E+01	9.0E+01	1.2E+02	1.7E+02	3.1E+02	4.5E+02	7.5E+02
50	1.2E+02	1.2E+02	1.2E+02	1.2E+02	1.2E+02	1.4E+02	1.9E+02	2.6E+02	3.6E+02	6.7E+02	9.7E+02	1.5E+03
Stack Diameter = 0.5 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
5	6.9E+00	9.8E+00	1.5E+01	1.8E+01	3.2E+01	4.6E+01	7.5E+01	9.7E+01	1.2E+02	1.6E+02	2.1E+02	3.6E+02
10	1.3E+01	1.4E+01	1.5E+01	2.0E+01	3.7E+01	5.1E+01	7.9E+01	9.7E+01	1.2E+02	1.6E+02	2.2E+02	3.6E+02
20	3.5E+01	3.5E+01	3.5E+01	3.6E+01	4.6E+01	6.2E+01	8.1E+01	9.7E+01	1.2E+02	2.1E+02	3.0E+02	5.2E+02
30	5.2E+01	5.2E+01	5.2E+01	5.2E+01	5.3E+01	6.4E+01	9.8E+01	1.3E+02	1.8E+02	3.2E+02	4.7E+02	7.7E+02
50	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.4E+02	2.0E+02	2.7E+02	3.7E+02	6.8E+02	9.7E+02	1.5E+03
Stack Diameter = 1.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	3.0E+01	3.4E+01	3.8E+01	5.1E+01	9.0E+01	1.2E+02	1.7E+02	2.2E+02	2.7E+02	4.3E+02	5.0E+02	6.1E+02
20	5.5E+01	5.5E+01	5.5E+01	5.8E+01	9.0E+01	1.2E+02	1.7E+02	2.2E+02	2.7E+02	4.3E+02	5.0E+02	7.1E+02
30	9.6E+01	9.6E+01	9.6E+01	9.6E+01	1.1E+02	1.2E+02	1.7E+02	2.2E+02	2.7E+02	4.3E+02	5.8E+02	8.8E+02
50	1.7E+02	1.7E+02	1.7E+02	1.7E+02	1.7E+02	1.7E+02	2.2E+02	2.9E+02	4.0E+02	7.3E+02	1.0E+03	1.6E+03
70	7.0E+02	7.0E+02	7.0E+02	7.0E+02	7.0E+02	7.0E+02	7.6E+02	9.9E+02	1.3E+03	2.0E+03	2.6E+03	3.8E+03
Stack Diameter = 1.5 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	3.9E+01	5.0E+01	6.1E+01	7.5E+01	1.2E+02	2.0E+02	2.5E+02	3.4E+02	4.6E+02	7.2E+02	8.6E+02	1.0E+03
20	7.1E+01	7.1E+01	7.2E+01	7.5E+01	1.2E+02	2.0E+02	2.5E+02	3.4E+02	4.6E+02	7.2E+02	8.6E+02	1.1E+03
30	1.2E+02	1.2E+02	1.2E+02	1.2E+02	1.5E+02	2.0E+02	2.5E+02	3.4E+02	4.6E+02	7.2E+02	8.6E+02	1.1E+03
50	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.5E+02	3.4E+02	4.6E+02	8.1E+02	1.1E+03	1.7E+03
70	9.6E+02	9.6E+02	9.6E+02	9.6E+02	9.6E+02	9.6E+02	1.0E+03	1.3E+03	1.7E+03	2.9E+03	3.8E+03	5.5E+03
Stack Diameter = 2.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	4.7E+01	6.0E+01	7.3E+01	9.2E+01	1.7E+02	2.6E+02	3.2E+02	4.2E+02	5.6E+02	9.7E+02	1.3E+03	1.5E+03
20	8.8E+01	8.8E+01	8.8E+01	9.4E+01	1.7E+02	2.6E+02	3.2E+02	4.2E+02	5.6E+02	9.7E+02	1.3E+03	1.7E+03
30	1.5E+02	1.5E+02	1.5E+02	1.5E+02	1.8E+02	2.6E+02	3.2E+02	4.2E+02	5.6E+02	9.7E+02	1.3E+03	1.7E+03
50	2.7E+02	2.7E+02	2.7E+02	2.7E+02	2.7E+02	2.7E+02	3.2E+02	4.2E+02	5.6E+02	9.7E+02	1.3E+03	1.9E+03
70	1.3E+03	1.3E+03	1.3E+03	1.3E+03	1.3E+03	1.3E+03	1.4E+03	1.7E+03	2.2E+03	3.2E+03	4.1E+03	5.9E+03
100	2.8E+03	2.8E+03	2.8E+03	2.8E+03	2.8E+03	2.8E+03	2.8E+03	2.8E+03	3.3E+03	5.0E+03	6.5E+03	7.7E+03
Stack Diameter = 3.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
10	6.2E+01	6.5E+01	7.3E+01	9.2E+01	2.1E+02	3.3E+02	5.1E+02	7.0E+02	9.3E+02	1.2E+03	1.5E+03	1.5E+03
20	1.5E+02	1.5E+02	1.6E+02	1.9E+02	2.4E+02	3.5E+02	5.3E+02	7.0E+02	9.3E+02	1.4E+03	2.0E+03	2.8E+03
30	1.9E+02	1.9E+02	1.9E+02	1.9E+02	2.4E+02	3.5E+02	5.3E+02	7.0E+02	9.3E+02	1.6E+03	2.1E+03	2.8E+03
50	4.0E+02	4.0E+02	4.0E+02	4.0E+02	4.2E+02	4.8E+02	5.3E+02	7.0E+02	9.3E+02	1.6E+03	2.1E+03	2.8E+03
70	2.2E+03	2.2E+03	2.2E+03	2.2E+03	2.2E+03	2.3E+03	2.3E+03	2.8E+03	3.4E+03	3.9E+03	4.7E+03	6.6E+03
100	3.3E+03	3.3E+03	3.3E+03	3.3E+03	3.3E+03	3.3E+03	3.3E+03	3.3E+03	3.7E+03	6.0E+03	7.1E+03	8.2E+03
Stack Diameter = 4.0 m												
Stack Height (m)	**30**	**50**	**70**	**100**	**200**	**300**	**500**	**700**	**1000**	**2000**	**3000**	**5000**
30	2.3E+02	2.3E+02	2.3E+02	2.4E+02	3.2E+02	5.3E+02	7.7E+02	1.0E+03	1.3E+03	2.1E+03	2.6E+03	4.1E+03
50	4.8E+02	4.8E+02	4.8E+02	4.8E+02	5.0E+02	5.8E+02	7.7E+02	1.0E+03	1.3E+03	2.3E+03	3.0E+03	4.2E+03
70	2.4E+03	2.4E+03	2.4E+03	2.4E+03	2.5E+03	2.6E+03	3.2E+03	4.3E+03	4.5E+03	4.7E+03	5.4E+03	7.2E+03
100	5.4E+03	5.4E+03	5.4E+03	5.4E+03	5.4E+03	5.4E+03	5.4E+03	5.4E+03	5.5E+03	8.1E+03	8.8E+03	1.0E+04

Table 4 of §63.1215: 1-Hour Average HCl-Equivalent Emission Rate Limits (lb/hr)--Simple Elevated Terrain

	Distance to property boundary (m)											
Stack Diameter = 0.3 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
5	1.4E+00	1.9E+00	2.6E+00	3.8E+00	6.8E+00	9.4E+00	1.5E+01	2.1E+01	3.3E+01	8.1E+01	1.4E+02	2.7E+02
10	4.0E+00	4.0E+00	4.6E+00	6.4E+00	6.8E+00	9.4E+00	1.5E+01	2.1E+01	3.3E+01	8.1E+01	1.4E+02	2.7E+02
20	1.1E+01	1.1E+01	1.1E+01	1.1E+01	1.2E+01	1.5E+01	2.4E+01	3.5E+01	5.4E+01	1.3E+02	2.1E+02	4.0E+02
30	2.3E+01	2.3E+01	2.3E+01	2.3E+01	2.5E+01	3.3E+01	4.4E+01	5.5E+01	7.3E+01	1.6E+02	2.7E+02	5.2E+02
50	7.3E+01	7.3E+01	7.3E+01	7.3E+01	7.3E+01	8.3E+01	9.0E+01	9.0E+01	9.0E+01	2.1E+02	3.5E+02	6.8E+02
Stack Diameter = 0.5 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
5	1.9E+00	2.7E+00	3.7E+00	5.9E+00	1.4E+01	1.7E+01	2.4E+01	3.5E+01	5.4E+01	1.0E+02	1.6E+02	3.0E+02
10	5.6E+00	5.6E+00	6.4E+00	8.9E+00	1.4E+01	1.7E+01	2.4E+01	3.5E+01	5.4E+01	1.0E+02	1.6E+02	3.0E+02
20	1.6E+01	1.6E+01	1.6E+01	1.6E+01	1.6E+01	1.7E+01	2.4E+01	3.5E+01	5.4E+01	1.3E+02	2.1E+02	4.0E+02
30	2.7E+01	2.7E+01	2.7E+01	2.7E+01	2.7E+01	3.3E+01	4.4E+01	5.8E+01	8.5E+01	1.8E+02	2.9E+02	5.5E+02
50	7.6E+01	7.6E+01	7.6E+01	7.6E+01	7.6E+01	8.3E+01	1.1E+02	1.3E+02	1.3E+02	2.4E+02	3.9E+02	7.2E+02
Stack Diameter = 1.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	1.0E+01	1.0E+01	1.2E+01	1.7E+01	3.9E+01	3.9E+01	4.5E+01	5.8E+01	7.9E+01	1.6E+02	2.4E+02	4.4E+02
20	2.6E+01	2.6E+01	2.6E+01	2.8E+01	3.9E+01	3.9E+01	4.5E+01	5.8E+01	7.9E+01	1.6E+02	2.4E+02	4.5E+02
30	4.2E+01	4.2E+01	4.2E+01	4.2E+01	4.2E+01	4.2E+01	4.5E+01	5.8E+01	8.5E+01	1.8E+02	2.9E+02	5.5E+02
50	8.9E+01	8.9E+01	8.9E+01	8.9E+01	8.9E+01	8.9E+01	1.1E+02	1.4E+02	1.7E+02	3.3E+02	5.0E+02	8.7E+02
70	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	3.8E+02	4.0E+02	4.1E+02	4.3E+02	6.1E+02	1.0E+03
Stack Diameter = 1.5 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	2.1E+01	2.1E+01	2.5E+01	3.6E+01	5.4E+01	6.3E+01	6.3E+01	6.9E+01	9.8E+01	2.0E+02	3.2E+02	5.7E+02
20	3.3E+01	3.3E+01	3.3E+01	3.7E+01	5.4E+01	6.3E+01	6.3E+01	6.9E+01	9.8E+01	2.0E+02	3.2E+02	5.7E+02
30	6.3E+01	6.3E+01	6.3E+01	6.3E+01	6.3E+01	6.3E+01	6.3E+01	6.9E+01	9.8E+01	2.0E+02	3.2E+02	5.8E+02
50	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.2E+02	1.4E+02	1.7E+02	3.3E+02	5.0E+02	8.7E+02
70	4.8E+02	4.8E+02	4.8E+02	4.8E+02	4.8E+02	4.8E+02	4.8E+02	4.8E+02	4.8E+02	6.5E+02	8.2E+02	1.3E+03
Stack Diameter = 2.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	2.7E+01	2.7E+01	3.2E+01	4.4E+01	6.6E+01	9.7E+01	9.7E+01	1.1E+02	1.5E+02	2.6E+02	3.9E+02	6.6E+02
20	4.0E+01	4.0E+01	4.0E+01	4.4E+01	6.6E+01	9.7E+01	9.7E+01	1.1E+02	1.5E+02	2.6E+02	3.9E+02	6.6E+02
30	7.9E+01	7.9E+01	7.9E+01	7.9E+01	9.1E+01	9.7E+01	9.7E+01	1.1E+02	1.5E+02	2.6E+02	3.9E+02	6.6E+02
50	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.3E+02	1.4E+02	1.7E+02	3.3E+02	5.0E+02	8.7E+02
70	5.6E+02	5.6E+02	5.6E+02	5.6E+02	5.6E+02	5.6E+02	5.6E+02	5.6E+02	5.6E+02	7.3E+02	1.1E+03	1.5E+03
100	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	8.6E+02	1.2E+03	1.7E+03
Stack Diameter = 3.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
10	3.5E+01	3.5E+01	4.1E+01	5.8E+01	1.2E+02	1.6E+02	1.8E+02	1.8E+02	1.8E+02	3.5E+02	5.2E+02	9.0E+02
20	6.2E+01	6.2E+01	6.2E+01	7.2E+01	1.2E+02	1.6E+02	1.8E+02	1.8E+02	1.8E+02	3.5E+02	5.2E+02	9.0E+02
30	1.0E+02	1.0E+02	1.0E+02	1.0E+02	1.2E+02	1.6E+02	1.8E+02	1.8E+02	1.8E+02	3.5E+02	5.2E+02	9.0E+02
50	1.8E+02	1.8E+02	1.8E+02	1.8E+02	1.8E+02	1.8E+02	1.8E+02	1.8E+02	1.8E+02	3.5E+02	5.2E+02	9.0E+02
70	7.5E+02	7.5E+02	7.5E+02	7.5E+02	7.5E+02	7.5E+02	7.5E+02	7.5E+02	7.5E+02	8.9E+02	1.3E+03	2.0E+03
100	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	1.4E+03	2.0E+03	2.6E+03
Stack Diameter = 4.0 m												
Stack Height (m)	30	50	70	100	200	300	500	700	1000	2000	3000	5000
30	1.2E+02	1.2E+02	1.2E+02	1.2E+02	1.4E+02	2.0E+02	2.2E+02	2.2E+02	2.2E+02	4.2E+02	6.3E+02	1.0E+03
50	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	2.2E+02	4.2E+02	6.3E+02	1.0E+03
70	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.0E+03	1.1E+03	1.6E+03	2.4E+03
100	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	1.6E+03	2.3E+03	3.6E+03

■ 17. Section 63.1216 and an undesignated center heading are added to subpart EEE to read as follows:

Emissions Standards and Operating Limits for Solid Fuel Boilers, Liquid Fuel Boilers, and Hydrochloric Acid Production Furnaces

§63.1216 What are the standards for solid fuel boilers that burn hazardous waste?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (a)(5) of this section;

(2) Mercury in excess of 11 μg/dscm corrected to 7 percent oxygen;

(3) For cadmium and lead combined, except for an area source as defined under § 63.2, emissions in excess of 180 μg/dscm, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium combined, except for an area source as defined under § 63.2, emissions in excess of 380 μg/dscm, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If

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you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine combined, except for an area source as defined under § 63.2, emissions in excess of 440 parts per million by volume, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) For particulate matter, except for an area source as defined under § 63.2 or as provided by paragraph (e) of this section, emissions in excess of 68 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (b)(5) of this section;

(2) Mercury in excess of 11 μg/dscm corrected to 7 percent oxygen;

(3) For cadmium and lead combined, except for an area source as defined under § 63.2, emissions in excess of 180 μg/dscm, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium combined, except for an area source as defined under § 63.2, emissions in excess of 190 μg/dscm, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine combined, except for an area source as defined under § 63.2, emissions in excess of 73 parts per million by volume, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) For particulate matter, except for an area source as defined under § 63.2 or as provided by paragraph (e) of this section, emissions in excess of 34 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard.* (1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a DRE of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} \div W_{in})] \times 100\%$$

Where:

W_{in} = mass feedrate of one POHC in a waste feedstream; and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the POHCs in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Alternative to the particulate matter standard.* (1) *General.* In lieu of complying with the particulate matter standards of this section, you may elect to comply with the following alternative metal emission control requirement:

(2) *Alternative metal emission control requirements for existing solid fuel boilers.* (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 180 μg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 380 μg/dscm, combined emissions, corrected to 7 percent oxygen.

(3) Alternative metal emission control requirements for new solid fuel boilers. (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 180 μg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 190 μg/dscm, combined emissions, corrected to 7 percent oxygen.

(4) *Operating limits.* Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to § 63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic,

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beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

(f) *Elective standards for area sources.* Area sources as defined under § 63.2 are subject to the standards for cadmium and lead, the standards for arsenic, beryllium, and chromium, the standards for hydrogen chloride and chlorine, and the standards for particulate matter under this section if they elect under § 266.100(b)(3) of this chapter to comply with those standards in lieu of the standards under 40 CFR 266.105, 266.106, and 266.107 to control those pollutants.

■ 18. Section 63.1217 is added to read as follows:

§ 63.1217 What are the standards for liquid fuel boilers that burn hazardous waste?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1)(i) Dioxins and furans in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, for liquid fuel boilers equipped with a dry air pollution control system; or

(ii) Either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (a)(5) of this section for sources not equipped with a dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this emission limit;

(2) For mercury, except as provided for in paragraph (a)(2)(iii) of this section:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 19 μg/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value 10,000 Btu/lb or greater, emissions in excess of 4.2×10^{-5} lbs mercury attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(iii) The boiler operated by Diversified Scientific Services, Inc. with EPA identification number TND982109142, and which burns radioactive waste mixed with hazardous waste, must comply with the mercury emission standard under § 63.1219(a)(2);

(3) For cadmium and lead combined, except for an area source as defined under § 63.2,

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 150 μg/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 8.2×10^{-5} lbs combined cadmium and lead emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(4) For chromium, except for an area source as defined under § 63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 370 μg/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 1.3×10^{-4} lbs chromium emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine, except for an area source as defined under § 63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 31 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 5.08×10^{-2} lbs combined emissions of hydrogen chloride and chlorine gas attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(7) For particulate matter, except for an area source as defined under § 63.2 or as provided by paragraph (e) of this section, emissions in excess of 80 mg/dscm corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1)(i) Dioxins and furans in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, for liquid fuel boilers equipped with a dry air pollution control system; or

(ii) Either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (b)(5) of this section for sources not equipped with a dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this emission limit;

(2) For mercury:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 6.8 μg/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 1.2×10^{-6} lbs mercury emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(3) For cadmium and lead combined, except for an area source as defined under § 63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 78 μg/dscm, corrected to 7 percent oxygen, on an (not-to-exceed) annual averaging period;

(ii) When you burn hazardous waste with an as-fired heating value greater than or equal to 10,000 Btu/lb, emissions in excess of 6.2×10^{-6} lbs combined cadmium and lead emissions attributable to the hazardous waste per

million Btu heat input from the hazardous waste on an (not-to-exceed) annual averaging period;

(4) For chromium, except for an area source as defined under § 63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 12 μg/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 1.4×10^{-5} lbs chromium emissions attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine, except for an area source as defined under § 63.2:

(i) When you burn hazardous waste with an as-fired heating value less than 10,000 Btu/lb, emissions in excess of 31 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with an as-fired heating value of 10,000 Btu/lb or greater, emissions in excess of 5.08×10^{-2} lbs combined emissions of hydrogen chloride and chlorine gas attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(7) For particulate matter, except for an area source as defined under § 63.2 or as provided by paragraph (e) of this section, emissions in excess of 20 mg/dscm corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard.* (1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a DRE of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} \div W_{in})] \times 100\%$$

Where:

W_{in} = mass feedrate of one POHC in a waste feedstream; and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the POHCs in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Alternative to the particulate matter standard.* (1) *General.* In lieu of complying with the particulate matter standards of this section, you may elect to comply with the following alternative metal emission control requirement:

(2) *Alternative metal emission control requirements for existing liquid fuel boilers.* (i) When you burn hazardous waste with a heating value less than 10,000 Btu/lb:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium, combined, in excess of 150 μg/dscm, corrected to 7 percent oxygen; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel, combined, in excess of 370 μg/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with a heating value of 10,000 Btu/lb or greater:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain in excess of 8.2×10^{-5} lbs combined emissions of cadmium, lead, and selenium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain either in excess of 1.3×10^{-4} lbs combined emissions of antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(3) *Alternative metal emission control requirements for new liquid fuel boilers.* (i) When you burn hazardous waste with a heating value less than 10,000 Btu/lb:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium, combined, in excess of 78 μg/dscm, corrected to 7 percent oxygen; and

(B) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel, combined, in excess of 12 μg/dscm, corrected to 7 percent oxygen;

(ii) When you burn hazardous waste with a heating value greater than or equal to 10,000 Btu/lb:

(A) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain in excess of 6.2×10^{-6} lbs combined emissions of cadmium, lead, and selenium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(B) You must not discharge or cause combustion gases to be emitted into the

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atmosphere that contain either in excess of 1.4×10^{-5} lbs combined emissions of antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(4) *Operating limits.* Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to § 63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

(f) *Elective standards for area sources.* Area sources as defined under § 63.2 are subject to the standards for cadmium and lead, the standards for chromium, the standards for hydrogen chloride and chlorine, and the standards for particulate matter under this section if they elect under § 266.100(b)(3) of this chapter to comply with those standards in lieu of the standards under 40 CFR 266.105, 266.106, and 266.107 to control those pollutants.

■ 19. Section 63.1218 is added to read as follows:

§ 63.1218 What are the standards for hydrochloric acid production furnaces that burn hazardous waste?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (a)(5) of this section;

(2) For mercury, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section;

(3) For lead and cadmium, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section;

(4) For arsenic, beryllium, and chromium, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine gas, either:

(i) Emission in excess of 150 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$ equivalent, dry basis and corrected to 7 percent oxygen; or

(ii) Emissions greater than the levels that would be emitted if the source is achieving a system removal efficiency (SRE) of less than 99.923 percent for total chlorine and chloride fed to the combustor. You must calculate SRE from the following equation:

$$SRE = [1 - (Cl_{out} / Cl_{in})] \times 100\%$$

Where:

Cl in = mass feedrate of total chlorine or chloride in all feedstreams, reported as chloride; and

Cl out = mass emission rate of hydrogen chloride and chlorine gas, reported as chloride, in exhaust emissions prior to release to the atmosphere.

(7) For particulate matter, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (a)(6) of this section.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans, either carbon monoxide or hydrocarbon emissions in excess of the limits provided by paragraph (b)(5) of this section;

(2) For mercury, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (b)(6) of this section;

(3) For lead and cadmium, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (b)(6) of this section;

(4) For arsenic, beryllium, and chromium, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas emissions in excess of the levels provided by paragraph (b)(6) of this section;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) For hydrogen chloride and chlorine gas, either:

(i) Emission in excess of 25 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$ equivalent, dry basis and corrected to 7 percent oxygen; or

(ii) Emissions greater than the levels that would be emitted if the source is achieving a system removal efficiency (SRE) of less than 99.987 percent for total chlorine and chloride fed to the combustor. You must calculate SRE from the following equation:

$$SRE = [1 - (Cl_{out} / Cl_{in})] \times 100\%$$

Where:

Cl in = mass feedrate of total chlorine or chloride in all feedstreams, reported as chloride; and

Cl out = mass emission rate of hydrogen chloride and chlorine gas, reported as chloride, in exhaust emissions prior to release to the atmosphere.

(7) For particulate matter, except for an area source as defined under § 63.2, hydrogen chloride and chlorine gas

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emissions in excess of the levels provided by paragraph (b)(6) of this section.

(c) *Destruction and removal efficiency (DRE) standard.* (1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a DRE of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} / W_{in})] \times 100\%$$

Where:

Win = mass feedrate of one POHC in a waste feedstream; and

Wout = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat the POHCs in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Elective standards for area sources.* Area sources as defined under § 63.2 are subject to the standards for cadmium and lead, the standards for arsenic, beryllium, and chromium, the standards for hydrogen chloride and chlorine, and the standards for particulate matter under this section if they elect under § 266.100(b)(3) of this chapter to comply with those standards in lieu of the standards under 40 CFR 266.105, 266.106, and 266.107 to control those pollutants.

■ 20. Section 63.1219 and a new undesignated center heading are added to subpart EEE to read as follows:

Replacement Emissions Standards and Operating Limits for Incinerators, Cement Kilns, and Lightweight Aggregate Kilns

§ 63.1219 What are the replacement standards for hazardous waste incinerators?

(a) *Emission limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) For incinerators equipped with either a waste heat boiler or dry air pollution control system, either:

(A) Emissions in excess of 0.20 ng TEQ/dscm, corrected to 7 percent oxygen; or

(B) Emissions in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, provided that the combustion gas temperature at the inlet to the initial particulate matter control device is 400°F or lower based on the average of the test run average temperatures. (For purposes of compliance, operation of a wet particulate matter control device is presumed to meet the 400°F or lower requirement);

(ii) Emissions in excess of 0.40 ng TEQ/dscm, corrected to 7 percent oxygen, for incinerators not equipped with either a waste heat boiler or dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this standard;

(2) Mercury in excess of 130 μg/dscm, corrected to 7 percent oxygen;

(3) Cadmium and lead in excess of 230 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 92 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas (total chlorine) in excess of 32 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Except as provided by paragraph (e) of this section, particulate matter in excess of 0.013 gr/dscf corrected to 7 percent oxygen.

(b) *Emission limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1)(i) Dioxins and furans in excess of 0.11 ng TEQ/dscm corrected to 7 percent oxygen for incinerators equipped with either a waste heat boiler or dry air pollution control system; or

(ii) Dioxins and furans in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen for sources not equipped with either a waste heat boiler or dry air pollution control system;

(iii) A source equipped with a wet air pollution control system followed by a dry air pollution control system is not considered to be a dry air pollution control system, and a source equipped with a dry air pollution control system followed by a wet air pollution control system is considered to be a dry air pollution control system for purposes of this standard;

(2) Mercury in excess of 8.1 μg/dscm, corrected to 7 percent oxygen;

(3) Cadmium and lead in excess of 10 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 23 μg/dscm, combined

emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas in excess of 21 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Except as provided by paragraph (e) of this section, particulate matter in excess of 0.0015 gr/dscf, corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard.* (1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} / W_{in})] \times 100\%$$

Where:

W_{in} = mass feedrate of one POHC in a waste feedstream; and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituent (POHC).* (i) You must treat each POHC in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(e) *Alternative to the particulate matter standard.* (1). *General.* In lieu of complying with the particulate matter standards of this section, you may elect to comply with the following alternative metal emission control requirement:

(2) *Alternative metal emission control requirements for existing incinerators.* (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 230 μg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 92 μg/dscm, combined emissions, corrected to 7 percent oxygen.

(3) *Alternative metal emission control requirements for new incinerators.* (i) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain cadmium, lead, and selenium in excess of 10 μg/dscm, combined emissions, corrected to 7 percent oxygen; and,

(ii) You must not discharge or cause combustion gases to be emitted into the atmosphere that contain antimony, arsenic, beryllium, chromium, cobalt, manganese, and nickel in excess of 23 μg/dscm, combined emissions, corrected to 7 percent oxygen.

(4) *Operating limits.* Semivolatile and low volatile metal operating parameter limits must be established to ensure compliance with the alternative emission limitations described in paragraphs (e)(2) and (e)(3) of this section pursuant to § 63.1209(n), except that semivolatile metal feedrate limits apply to lead, cadmium, and selenium, combined, and low volatile metal feedrate limits apply to arsenic, beryllium, chromium, antimony, cobalt, manganese, and nickel, combined.

■ 21. Section 63.1220 is added to subpart EEE to read as follows:

§ 63.1220 What are the replacement standards for hazardous waste burning cement kilns?

(a) *Emission and hazardous waste feed limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) For mercury, both:

(i) An average as-fired concentration of mercury in all hazardous waste feedstreams in excess of 3.0 parts per million by weight; and

(ii) Emissions in excess of 120 μg/dscm, corrected to 7 percent oxygen; or

(iii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 μg/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of 7.6×10^{-4} lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 330 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) Emissions in excess of 2.1×10^{-5} lbs combined emissions of arsenic, beryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 56 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) For kilns equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Carbon monoxide in the by-pass duct or mid-kiln gas sampling system in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(i)(B) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons in the by-pass duct or mid-kiln gas sampling system do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, either:

(A) Hydrocarbons in the main stack in excess of 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B) Carbon monoxide in the main stack in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii)(A) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons in the main stack do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrogen chloride and chlorine gas in excess of 120 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis, corrected to 7 percent oxygen; and

(7) For particulate matter, both:

(i) Emissions in excess of 0.028 gr/dscf corrected to 7 percent oxygen; and

(ii) Opacity greater than 20 percent, unless your source is equipped with a bag leak detection system under § 63.1206(c)(8) or a particulate matter detection system under § 63.1206(c)(9).

(b) *Emission and hazardous waste feed limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial dry particulate matter control device is 400 °F or lower based on the average of the test run average temperatures;

(2) For mercury, both:

(i) An average as-fired concentration of mercury in all hazardous waste feedstreams in excess of 1.9 parts per million by weight; and

(ii) Emissions in excess of 120 µg/dscm, corrected to 7 percent oxygen; or

(iii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 µg/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of 6.2×10^{-5} lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 180 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) Emissions in excess of 1.5×10^{-5} lbs combined emissions of arsenic, beryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 54 µg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) For kilns equipped with a by-pass duct or midkiln gas sampling system, carbon monoxide and hydrocarbons emissions are limited in both the bypass duct or midkiln gas sampling system and the main stack as follows:

(A) Emissions in the by-pass or midkiln gas sampling system are limited to either:

(*1*) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(i)(A)(*2*) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(*2*) Hydrocarbons in the by-pass duct or midkiln gas sampling system in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; and

(B) Hydrocarbons in the main stack are limited, if construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(ii) For kilns not equipped with a by-pass duct or midkiln gas sampling system, hydrocarbons and carbon monoxide are limited in the main stack to either:

(A) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(B)(*1*) Carbon monoxide not exceeding 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen; and

(*2*) Hydrocarbons not exceeding 20 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous

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monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane at any time during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7); and

(*3*) If construction of the kiln commenced after April 19, 1996 at a plant site where a cement kiln (whether burning hazardous waste or not) did not previously exist, hydrocarbons are limited to 50 parts per million by volume, over a 30-day block average (monitored continuously with a continuous monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane.

(6) Hydrogen chloride and chlorine gas in excess of 86 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) For particulate matter, both:

(i) Emissions in excess of 0.0023 gr/dscf corrected to 7 percent oxygen; and

(ii) Opacity greater than 20 percent, unless your source is equipped with a bag leak detection system under § 63.1206(c)(8) or a particulate matter detection system under § 63.1206(c)(9).

(c) *Destruction and removal efficiency (DRE) standard.* (1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} / W_{in})] \times 100\%$$

Where:

W_{in} = mass feedrate of one POHC in a waste feedstream; and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a DRE of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituent (POHC).* (i) You must treat each POHC in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Cement kilns with in-line kiln raw mills.* (1) *General.* (i) You must conduct performance testing when the raw mill is on-line and when the mill is off-line to demonstrate compliance with the emission standards, and you must establish separate operating parameter limits under § 63.1209 for each mode of operation, except as provided by paragraphs (d)(1)(iv) and (d)(1)(v) of this section.

(ii) You must document in the operating record each time you change from one mode of operation to the alternate mode and begin complying with the operating parameter limits for that alternate mode of operation.

(iii) You must calculate rolling averages for operating parameter limits as provided by § 63.1209(q)(2).

(iv) If your in-line kiln raw mill has dual stacks, you may assume that the dioxin/furan emission levels in the by-pass stack and the operating parameter limits determined during performance testing of the by-pass stack when the raw mill is off-line are the same as when the mill is on-line.

(v) In lieu of conducting a performance test to demonstrate compliance with the dioxin/furan emission standards for the mode of operation when the raw mill is on-line, you may specify in the performance test workplan and Notification of Compliance the same operating parameter limits required under § 63.1209(k) for the mode of operation when the raw mill is on-line as you establish during performance testing for the mode of operation when the raw mill is off-line.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrogen chloride/chlorine gas emission standards on a time-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the time-weighted average emission concentration with the following equation:

$$C_{total} = \{C_{mill\text{-}off} \times (T_{mill\text{-}off} / (T_{mill\text{-}off} + T_{mill\text{-}on}))\} + \{C_{mill\text{-}on} \times (T_{mill\text{-}on} / (T_{mill\text{-}off} + T_{mill\text{-}on}))\}$$

Where:

C_{total} = time-weighted average concentration of a regulated constituent considering both raw mill on time and off time;

$C_{mill\text{-}off}$ = average performance test concentration of regulated constituent with the raw mill off-line;

$C_{mill\text{-}on}$ = average performance test concentration of regulated constituent with the raw mill on-line;

$T_{mill\text{-}off}$ = time when kiln gases are not routed through the raw mill; and

$T_{mill\text{-}on}$ = time when kiln gases are routed through the raw mill.

(ii) *Compliance.* (A) If you use this emission averaging provision, you must document in the operating record compliance with the emission standards on an annual basis by using the equation provided by paragraph (d)(2) of this section.

(B) Compliance is based on one-year block averages beginning on the day you submit the initial notification of compliance.

(iii) *Notification.* (A) If you elect to document compliance with one or more emission standards using this emission averaging provision, you must notify the Administrator in the initial comprehensive performance test plan submitted under § 63.1207(e).

(B) You must include historical raw mill operation data in the performance test plan to estimate future raw mill down-time and document in the performance test plan that estimated emissions and estimated raw mill down-time will not result in an exceedance of an emission standard on an annual basis.

(C) You must document in the notification of compliance submitted under § 63.1207(j) that an emission standard will not be exceeded based on the documented emissions from the performance test and predicted raw mill down-time.

(e) *Preheater or preheater/precalciner kilns with dual stacks.* (1) *General.* You must conduct performance testing on each stack to demonstrate compliance with the emission standards, and you must establish operating parameter limits under § 63.1209 for each stack, except as provided by paragraph (d)(1)(iv) of this section for dioxin/furan emissions testing and operating parameter limits for the by-pass stack of in-line raw mills.

(2) *Emissions averaging.* You may comply with the mercury, semivolatile metal, low volatile metal, and hydrogen

chloride/chlorine gas emission standards specified in this section on a gas flowrate-weighted average basis under the following procedures:

(i) *Averaging methodology.* You must calculate the gas flowrate-weighted average emission concentration using the following equation:

$$C_{tot} = \{C_{main} \times (Q_{main} / (Q_{main} + Q_{bypass}))\} + \{C_{bypass} \times (Q_{bypass} / (Q_{main} + Q_{bypass}))\}$$

Where:

C_{tot} = gas flowrate-weighted average concentration of the regulated constituent;

C_{main} = average performance test concentration demonstrated in the main stack;

C_{bypass} = average performance test concentration demonstrated in the bypass stack;

Q_{main} = volumetric flowrate of main stack effluent gas; and

Q_{bypass} = volumetric flowrate of bypass effluent gas.

(ii) *Compliance.* (A) You must demonstrate compliance with the emission standard(s) using the emission concentrations determined from the performance tests and the equation provided by paragraph (e)(1) of this section; and

(B) You must develop operating parameter limits for bypass stack and main stack flowrates that ensure the emission concentrations calculated with the equation in paragraph (e)(1) of this section do not exceed the emission standards on a 12-hour rolling average basis. You must include these flowrate limits in the Notification of Compliance.

(iii) *Notification.* If you elect to document compliance under this emissions averaging provision, you must:

(A) Notify the Administrator in the initial comprehensive performance test plan submitted under § 63.1207(e). The performance test plan must include, at a minimum, information describing the flowrate limits established under paragraph (e)(2)(ii)(B) of this section; and

(B) Document in the Notification of Compliance submitted under § 63.1207(j) the demonstrated gas flowrate-weighted average emissions that you calculate with the equation provided by paragraph (e)(2) of this section.

(f) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

(g) [Reserved].

(h) When you comply with the particulate matter requirements of paragraphs (a)(7) or (b)(7) of this section, you are exempt from the New Source Performance Standard for particulate matter and opacity under § 60.60 of this chapter.

■ 22. Section 63.1221 is added to subpart EEE to read as follows:

§ 63.1221 What are the replacement standards for hazardous waste burning lightweight aggregate kilns?

(a) *Emission and hazardous waste feed limits for existing sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system that immediately follows the last combustion chamber) to 400°F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) For mercury, either:

(i) Emissions in excess of 120 μg/dscm, corrected to 7 percent oxygen; or

(ii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 μg/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of 3.0×10^{-4} lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 250 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) In excess of 9.5×10^{-5} lbs combined emissions of arsenic, beryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(ii) Emissions in excess of 110 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter emissions in excess of 0.025 gr/dscf, corrected to 7 percent oxygen.

(b) *Emission and hazardous waste feed limits for new sources.* You must not discharge or cause combustion gases to be emitted into the atmosphere or feed hazardous waste that contain:

(1) For dioxins and furans, either:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Rapid quench of the combustion gas temperature at the exit of the (last) combustion chamber (or exit of any waste heat recovery system that immediately follows the last combustion chamber) to 400°F or lower based on the average of the test run average temperatures. You must also notify in writing the RCRA authority that you are complying with this option;

(2) For mercury, either:

(i) Emissions in excess of 120 μg/dscm, corrected to 7 percent oxygen; or

(ii) A hazardous waste feedrate corresponding to a maximum theoretical emission concentration (MTEC) in excess of 120 μg/dscm;

(3) For cadmium and lead, both:

(i) Emissions in excess of 3.7×10^{-5} lbs combined emissions of cadmium and lead attributable to the hazardous waste per million Btu heat input from the hazardous waste; and

(ii) Emissions in excess of 43 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(4) For arsenic, beryllium, and chromium, both:

(i) In excess of 3.3×10^{-5} lbs combined emissions of arsenic, beryllium, and chromium attributable to the hazardous waste per million Btu heat input from the hazardous waste;

(ii) Emissions in excess of 110 μg/dscm, combined emissions, corrected to 7 percent oxygen;

(5) *Carbon monoxide and hydrocarbons.* (i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you also must document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by § 63.1206(b)(7), hydrocarbons do not exceed 20 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 20 parts per million by volume, over an hourly rolling average, dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrogen chloride and chlorine gas in excess of 600 parts per million by volume, combined emissions, expressed as a chloride ($Cl^{(-)}$) equivalent, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter emissions in excess of 0.0098 gr/dscf corrected to 7 percent oxygen.

(c) *Destruction and removal efficiency (DRE) standard.* (1) *99.99% DRE.* Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

$$DRE = [1 - (W_{out} / Win)] \times 100\%$$

Where:

W_{in} = mass feedrate of one POHC in a waste feedstream; and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) *99.9999% DRE.* If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see § 261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each POHC that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to burn hazardous wastes F020, F021, F022, F023, F026, or F027.

(3) *Principal organic hazardous constituents (POHCs).* (i) You must treat each POHC in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs that are representative of the most difficult to destroy organic compounds in your hazardous waste feedstream. You must base this specification on the degree of difficulty of incineration of the organic constituents in the hazardous waste and on their concentration or mass in the hazardous waste feed, considering the results of hazardous waste analyses or other data and information.

(d) *Significant figures.* The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

■ 1. The authority citation for part 260 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921–6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974.

■ 2. Section 260.11 is amended by

■ a. Revising the first sentence in paragraph (a).

■ b. Revising paragraph (c)(1).

The revisions and additions read as follows:

§ 260.11 References.

(a) When used in parts 260 through 268 of this chapter, the following publications are incorporated by reference. * * *

* * * * *

(c) * * *

(1) ''APTI Course 415: Control of Gaseous Emissions,'' EPA Publication EPA–450/2–81–005, December 1981, IBR approved for §§ 264.1035 and 265.1035.

* * * * *

PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

■ 1. The authority citation for part 264 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6924, 6925, 6927, 6928(h), and 6974.

■ 2. Section 264.340 is amended by revising the first sentence of paragraph (b)(1) and adding paragraph (b)(5) to read as follows:

§ 264.340 Applicability.

* * * * *

(b) * * * (1) Except as provided by paragraphs (b)(2) through (b)(5) of this section, the standards of this part do not apply to a new hazardous waste incineration unit that becomes subject to RCRA permit requirements after October 12, 2005; or no longer apply when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the maximum achievable control technology (MACT) requirements of part 63, subpart EEE, of this chapter by conducting a comprehensive performance test and submitting to the Administrator a Notification of Compliance under §§ 63.1207(j) and 63.1210(d) of this chapter documenting compliance with the requirements of part 63, subpart EEE, of this chapter. * * *

* * * * *

(5) The particulate matter standard of § 264.343(c) remains in effect for incinerators that elect to comply with the alternative to the particulate matter standard of §§ 63.1206(b)(14) and 63.1219(e) of this chapter.

* * * * *

PART 265—INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

■ 1. The authority citation for part 265 continues to read as follows:

Authority: 42 U.S.C. 6905, 6906, 6912, 6922, 6923, 6924, 6925, 6935, 6936, and 6937.

■ 2. Section 265.340 is amended by revising paragraph (b)(1) to read as follows:

§ 265.340 Applicability.

* * * * *

(b) * * * (1) Except as provided by paragraphs (b)(2) and (b)(3) of this section, the standards of this part no longer apply when an owner or operator

demonstrates compliance with the maximum achievable control technology (MACT) requirements of part 63, subpart EEE, of this chapter by conducting a comprehensive performance test and submitting to the Administrator a Notification of Compliance under §§ 63.1207(j) and 63.1210(d) of this chapter documenting compliance with the requirements of part 63, subpart EEE, of this chapter.

* * * * *

PART 266—STANDARDS FOR THE MANAGEMENT OF SPECIFIC HAZARDOUS WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE MANAGEMENT FACILITIES

■ 1. The authority citation for part 266 continues to read as follows:

Authority: 42 U.S.C. 1006, 2002(a), 3001–3009, 3014, 6905, 6906, 6912, 6921, 6922, 6924–6927, 6934, and 6937.

■ 2. Section 266.100 is amended by revising the first sentence of paragraph (b)(1) and adding paragraphs (b)(3) and (b)(4) to read as follows:

§ 266.100 Applicability.

* * * * *

(b) * * * (1) Except as provided by paragraphs (b)(2), (b)(3), and (b)(4) of this section, the standards of this part do not apply to a new hazardous waste boiler or industrial furnace unit that becomes subject to RCRA permit requirements after October 12, 2005; or no longer apply when an owner or operator of an existing hazardous waste boiler or industrial furnace unit demonstrates compliance with the maximum achievable control technology (MACT) requirements of part 63, subpart EEE, of this chapter by conducting a comprehensive performance test and submitting to the Administrator a Notification of Compliance under §§ 63.1207(j) and 63.1210(d) of this chapter documenting compliance with the requirements of part 63, subpart EEE, of this chapter.

* * *

* * * * *

(3) If you own or operate a boiler or hydrochloric acid production furnace that is an area source under § 63.2 of this chapter and you elect not to comply with the emission standards under §§ 63.1216, 63.1217, and 63.1218 of this chapter for particulate matter, semivolatile and low volatile metals, and total chlorine, you also remain subject to:

(i) Section 266.105—Standards to control particulate matter;

(ii) Section 266.106—Standards to control metals emissions, except for mercury; and

(ii) Section 266.107—Standards to control hydrogen chloride and chlorine gas.

(4) The particulate matter standard of § 266.105 remains in effect for boilers that elect to comply with the alternative to the particulate matter standard under §§ 63.1216(e) and 63.1217(e) of this chapter.

* * * * *

PART 270—EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

■ 1. The authority citation for part 270 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912, 6924, 6925, 6927, 6939, and 6974.

■ 2. Section 270.6 is revised to read as follows:

§ 270.6 References.

(a) When used in part 270 of this chapter, the following publications are incorporated by reference. These incorporations by reference were approved by the Director of the Federal Register pursuant to 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of approval and a notice of any change in these materials will be published in the **Federal Register**. Copies may be inspected at the Library, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., (3403T), Washington, DC 20460, *libraryhq@epa.gov*; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(b) The following materials are available for purchase from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605–6000 or (800) 553–6847; or for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512–1800:

(1) ''APTI Course 415: Control of Gaseous Emissions,'' EPA Publication EPA–450/2–81–005, December 1981, IBR approved for §§ 270.24 and 270.25.

(2) [Reserved].

■ 3. Section 270.10 is amended by adding paragraph (l) to read as follows:

§ 270.10 General application requirements.

* * * * *

(l) If the Director concludes, based on one or more of the factors listed in paragraph (l)(1) of this section that compliance with the standards of 40 CFR part 63, subpart EEE alone may not be protective of human health or the environment, the Director shall require the additional information or assessment(s) necessary to determine whether additional controls are necessary to ensure protection of human health and the environment. This includes information necessary to evaluate the potential risk to human health and/or the environment resulting from both direct and indirect exposure pathways. The Director may also require a permittee or applicant to provide information necessary to determine whether such an assessment(s) should be required.

(1) The Director shall base the evaluation of whether compliance with the standards of 40 CFR part 63, subpart EEE alone is protective of human health or the environment on factors relevant to the potential risk from a hazardous waste combustion unit, including, as appropriate, any of the following factors:

(i) Particular site-specific considerations such as proximity to receptors (such as schools, hospitals, nursing homes, day care centers, parks, community activity centers, or other potentially sensitive receptors), unique dispersion patterns, etc.;

(ii) Identities and quantities of emissions of persistent, bioaccumulative or toxic pollutants considering enforceable controls in place to limit those pollutants;

(iii) Identities and quantities of nondioxin products of incomplete combustion most likely to be emitted and to pose significant risk based on known toxicities (confirmation of which should be made through emissions testing);

(iv) Identities and quantities of other off-site sources of pollutants in proximity of the facility that significantly influence interpretation of a facility-specific risk assessment;

(v) Presence of significant ecological considerations, such as the proximity of a particularly sensitive ecological area;

(vi) Volume and types of wastes, for example wastes containing highly toxic constituents;

(vii) Other on-site sources of hazardous air pollutants that significantly influence interpretation of the risk posed by the operation of the source in question;

(viii) Adequacy of any previously conducted risk assessment, given any subsequent changes in conditions likely to affect risk; and

(ix) Such other factors as may be appropriate.

(2) [Reserved]

Attachment 6
Attachment 6

■ 4. Section 270.19 is amended by revising paragraph (e) to reads as follows:

§ 270.19 Specific part B information requirements for incinerators.

* * * * *

(e) When an owner or operator of a hazardous waste incineration unit becomes subject to RCRA permit requirements after October 12, 2005, or when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the air emission standards and limitations in part 63, subpart EEE, of this chapter (*i.e.*, by conducting a comprehensive performance test and submitting a Notification of Compliance under §§ 63.1207(j) and 63.1210(d) of this chapter documenting compliance with all applicable requirements of part 63, subpart EEE, of this chapter), the requirements of this section do not apply, except those provisions the Director determines are necessary to ensure compliance with §§ 264.345(a) and 264.345(c) of this chapter if you elect to comply with § 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events. Nevertheless, the Director may apply the provisions of this section, on a case-by-case basis, for purposes of information collection in accordance with §§ 270.10(k), 270.10(l), 270.32(b)(2), and 270.32(b)(3).

■ 5. Section 270.22 is amended by revising the introductory text to read as follows:

§ 270.22 Specific part B information requirements for boilers and industrial furnaces burning hazardous waste.

When an owner or operator of a cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace becomes subject to RCRA permit requirements after October 12, 2005, or when an owner or operator of an existing cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace demonstrates compliance with the air emission standards and limitations in part 63, subpart EEE, of this chapter (*i.e.*, by conducting a comprehensive performance test and submitting a Notification of Compliance under §§ 63.1207(j) and 63.1210(d) of this chapter documenting compliance with all applicable requirements of part 63, subpart EEE, of this chapter), the requirements of this section do not apply. The requirements of this section do apply, however, if the Director determines certain provisions are necessary to ensure compliance with §§ 266.102(e)(1) and 266.102(e)(2)(iii) of this chapter if you elect to comply with § 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events; or if you are an area source and elect to comply with the §§ 266.105, 266.106, and 266.107 standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and non-mercury metals; or the Director determines certain provisions apply, on a case-by-case basis, for purposes of information collection in accordance with §§ 270.10(k), 270.10(l), 270.32(b)(2), and 270.32(b)(3).

* * * * *

■ 6. Section 270.24 is amended by revising paragraph (d)(3) to read as follows:

§ 270.24 Specific part B information requirements for process vents.

* * * * *

(d) * * *

(3) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of ''APTI Course 415: Control of Gaseous Emissions'' (incorporated by reference as specified in § 270.6) or other engineering texts acceptable to the Regional Administrator that present basic control device information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in § 264.1035(b)(4)(iii).

* * * * *

■ 7. Section 270.25 is amended by revising paragraph (e)(3) to read as follows:

§ 270.25 Specific part B information requirements for equipment.

* * * * *

(e) * * *

(3) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of ''APTI Course 415: Control of Gaseous Emissions'' (incorporated by reference as specified in § 270.6) or other engineering texts acceptable to the Regional Administrator that present basic control device information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in § 264.1035(b)(4)(iii).

* * * * *

■ 8. Section 270.32 is amended by adding paragraph (b)(3) to read as follows:

§ 270.32 Establishing permit conditions.

* * * * *

(b) * * *

(3) If, as the result of an assessment(s) or other information, the Administrator or Director determines that conditions are necessary in addition to those required under 40 CFR parts 63, subpart EEE, 264 or 266 to ensure protection of human health and the environment, he shall include those terms and conditions in a RCRA permit for a hazardous waste combustion unit.

* * * * *

■ 9. Section 270.42 is amended by:
■ a. Revising paragraph (j)(1).
■ b. Redesignating paragraph (j)(2) as (j)(3).
■ c. Adding new paragraph (j)(2).
■ d. Adding new paragraph (k); and
■ e. Adding a new entry 10 in numerical order in the table under section L of Appendix I.

The revisions and additions read as follows:

§ 270.42 Permit modification at the request of the permittee.

* * * * *

(j) * * *

(1) Facility owners or operators must have complied with the Notification of Intent to Comply (NIC) requirements of 40 CFR 63.1210 that were in effect prior to October 11, 2000, (See 40 CFR part 63 §§ 63.1200–63.1499 revised as of July 1, 2000) in order to request a permit modification under this section for the purpose of technology changes needed to meet the standards under 40 CFR 63.1203, 63.1204, and 63.1205.

(2) Facility owners or operators must comply with the Notification of Intent to Comply (NIC) requirements of 40 CFR 63.1210(b) and 63.1212(a) before a permit modification can be requested under this section for the purpose of technology changes needed to meet the 40 CFR 63.1215, 63.1216, 63.1217, 63.1218, 63.1219, 63.1220, and 63.1221 standards promulgated on October 12, 2005.

* * * * *

(k) *Waiver of RCRA permit conditions in support of transition to the part 63 MACT standards.* (1) You may request to have specific RCRA operating and emissions limits waived by submitting a Class 1 permit modification request under Appendix I of this section, section L(10). You must:

(i) Identify the specific RCRA permit operating and emissions limits which you are requesting to waive;

(ii) Provide an explanation of why the changes are necessary in order to minimize or eliminate conflicts between the RCRA permit and MACT compliance; and

(iii) Discuss how the revised provisions will be sufficiently protective.

(iv) The Director shall approve or deny the request within 30 days of receipt of the request. The Director may, as his or her discretion, extend this 30 day deadline one time for up to 30 days by notifying the facility owner or operator.

(2) To request this modification in conjunction with MACT performance testing where permit limits may only be waived during actual test events and pretesting, as defined under 40 CFR 63.1207(h)(2)(i) and (ii), for an aggregate time not to exceed 720 hours of operation (renewable at the discretion of the Administrator) you must:

(i) Submit your modification request to the Director at the same time you submit your test plans to the Administrator; and

(ii) The Director may elect to approve or deny the request continent upon approval of the test plans.

* * * * *

Appendix I to § 270.42—Classification of Permit Modification

Modifications	Class
* * * * * * *	
L. * * *	[1] 1
10. Changes to RCRA permit provisions needed to support transition to 40 CFR part 63 (Subpart EEE—National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors), provided the procedures of § 270.42(k) are followed..	
* * * * * * *	

[1] Class 1 modifications requiring prior Agency approval.

* * * * *

■ 10. Section 270.62 is amended by revising the introductory text to read as follows:

§ 270.62 Hazardous waste incinerator permits.

When an owner or operator of a hazardous waste incineration unit becomes subject to RCRA permit requirements after October 12, 2005, or when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the air emission standards and limitations in part 63, subpart EEE, of this chapter (*i.e.*, by conducting a comprehensive performance test and submitting a Notification of Compliance under §§ 63.1207(j) and 63.1210(d) of this chapter documenting compliance with all applicable requirements of part 63, subpart EEE, of this chapter), the requirements of this section do not apply, except those provisions the Director determines are necessary to ensure compliance with §§ 264.345(a) and 264.345(c) of this chapter if you elect to comply with § 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events. Nevertheless, the Director may apply the provisions of this section, on a case-by-case basis, for purposes of information collection in accordance with §§ 270.10(k), 270.10(l), 270.32(b)(2), and 270.32(b)(3).

* * * * *

■ 11. Section 270.66 is amended by revising the introductory text to read as follows:

§ 270.66 Permits for boilers and industrial furnaces burning hazardous waste.

When an owner or operator of a cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace becomes subject to RCRA permit requirements after October 12, 2005 or when an owner or operator of an existing cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace demonstrates compliance with the air emission standards and limitations in part 63, subpart EEE, of this chapter (*i.e.*, by conducting a comprehensive performance test and submitting a Notification of Compliance under §§ 63.1207(j) and 63.1210(d) of this chapter documenting compliance with all applicable requirements of part 63, subpart EEE, of this chapter), the requirements of this section do not apply. The requirements of this section do apply, however, if the Director determines certain provisions are necessary to ensure compliance with §§ 266.102(e)(1) and 266.102(e)(2)(iii) of this chapter if you elect to comply with § 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events; or if you are an area source and elect to comply with the §§ 266.105, 266.106, and 266.107 standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and non-mercury metals; or the Director determines certain provisions apply, on a case-by-case basis, for purposes of information collection in accordance with §§ 270.10(k), 270.10(l), 270.32(b)(2), and 270.32(b)(3).

* * * * *

■ 12. Section 270.235 is amended by:

■ a. Revising the section heading and paragraphs (a)(1) introductory text and (a)(2) introductory text.

■ b. Revising paragraphs (b)(1) introductory text and (b)(2).

■ c. Adding new paragraph (c).

The revisions read as follows:

* * * * *

§ 270.235 Options for incinerators, cement kilns, lightweight aggregate kilns, solid fuel boilers, liquid fuel boilers and hydrochloric acid production furnaces to minimize emissions from startup, shutdown, and malfunction events.

(a) * * * (1) *Revisions to permit conditions after documenting compliance with MACT.* The owner or operator of a RCRA-permitted incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace may request that the Director address permit conditions that minimize emissions from startup, shutdown, and malfunction events under any of the following options when requesting removal of permit conditions that are no longer applicable according to §§ 264.340(b) and 266.100(b) of this chapter:

* * * * *

(2) *Addressing permit conditions upon permit reissuance.* The owner or operator of an incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace that has conducted a comprehensive performance test and submitted to the Administrator a Notification of Compliance documenting compliance with the standards of part 63, subpart EEE, of this chapter may request in the application to reissue the permit for the combustion unit that the Director control emissions from startup,

shutdown, and malfunction events under any of the following options:

* * * * *

(b) * * * (1) *Interim status operations.* In compliance with §§ 265.340 and 266.100(b), the owner or operator of an incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace that is operating under the interim status standards of part 265 or 266 of this chapter may control emissions of toxic compounds during startup, shutdown, and malfunction events under either of the following options after conducting a comprehensive performance test and submitting to the Administrator a Notification of Compliance documenting compliance with the standards of part 63, subpart EEE, of this chapter.

* * * * *

(2) *Operations under a subsequent RCRA permit.* When an owner or operator of an incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace that is operating under the interim status standards of parts 265 or 266 of this chapter submits a RCRA permit application, the owner or operator may request that the Director control emissions from startup, shutdown, and malfunction events under any of the options provided by paragraphs (a)(2)(i), (a)(2)(ii), or (a)(2)(iii) of this section.

(c) *New units.* Hazardous waste incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace units that become subject to RCRA permit requirements after October 12, 2005 must control emissions of toxic compounds during startup, shutdown, and malfunction events under either of the following options:

(1) Comply with the requirements specified in § 63.1206(c)(2) of this chapter; or

(2) Request to include in the RCRA permit, conditions that ensure emissions of toxic compounds are minimized from startup, shutdown, and malfunction events, including releases from emergency safety vents, based on review of information including the source's startup, shutdown, and malfunction plan and design. The director will specify that these permit conditions apply only when the facility is operating under its startup, shutdown, and malfunction plan.

PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS

■ 1. The authority citation for part 271 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), and 6926.

■ 2. Section 271.1(j) is amended by adding the following entries to Table 1 in chronological order by date of publication in the **Federal Register**, to read as follows:

§ 271.1 Purpose and scope.

* * * * *

(j) * * *

TABLE 1.—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Promulgation date	Title of Reglation	**Federal Register** reference	Effective date
*	*	*	*
Oct. 12, 2005	Standards for Hazardous Air Pollutants for Hazardous Waste Combustors.	[Insert FR page numbers]	Oct. 12, 2005.

[FR Doc. 05–18824 Filed 10–11–05; 8:45 am]

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