State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL** **CERTIFIED MAIL**
**LUCAS COUNTY**

Street Address: Mailing Address: Lazarus Gov. Center
Lazarus Gov. Center **TELE:** (614) 644-3020 **FAX:** (614) 644-2329

**Application No:** 04-01330

**DATE:** 8/28/2003

BP Products North America Inc
Allen Ellett
PO Box 696
Toledo, OH 43697-0696

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging 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 by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 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 within thirty (30) days after the notice of the Directors 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. 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

Sincerely,

Michael W. Ahern

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

**CC: USEPA** **TDES**

**FINAL PERMIT TO INSTALL 04-01330**

| | |
|---|---|
| Application Number: | 04-01330 |
| APS Premise Number: | 0448020007 |
| Permit Fee: | **$1250** |
| Name of Facility: | BP Products North America Inc |
| Person to Contact: | Allen Ellett |
| Address: | PO Box 696<br>Toledo, OH 43697-0696 |

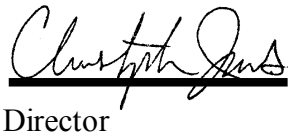
Location of proposed air contaminant source(s) [emissions unit(s)]:
**4001 Cedar Point Road**
**Oregon, Ohio**

Description of proposed emissions unit(s):
**Selective Non-Catalytic Reduction System to be installed in CO Boiler.**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Director

## Part I - GENERAL TERMS AND CONDITIONS

### A. State and Federally Enforceable Permit To Install General Terms and Conditions

#### 1. Monitoring and Related Recordkeeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, 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.

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, 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.

c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:

i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written

reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.9 below if no deviations occurred during the quarter.

iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

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 are true, accurate, and complete.

**2. 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, i.e., upset, 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. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to 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 emission unit(s) that is (are) served by such control system(s).

**3. Risk Management Plans**

If the permittee is required to 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"), the permittee shall comply with the requirement to register such a plan.

**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.

**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.

**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. 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.

**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. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

**8. 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.

**9. Compliance Requirements**

a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this 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 ORC section 3704.08.

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.

**10. Permit To Operate Application**

a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

**11. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

**12. 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.

## B. State Only Enforceable Permit To Install General Terms and Conditions

### 1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

### 2. Reporting Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping of state-only enforceable 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 (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) 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. 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 quarterly, i.e., 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.)

### 3. Permit Transfers

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

### 4. Termination of Permit To Install

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

**5. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

**6. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

**7. Applicability**

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

**8. Construction Compliance Certification**

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit To Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

Emissions Unit ID: P007

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

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 quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

## C. Permit To Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)

| Pollutant | Tons Per Year |
|---|---|
| Ammonia | 41.61 |

## Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

### A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

### B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

## Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### 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 |
|---|---|
| P007 - Fluidized Catalytic Cracking Unit (FCCU) consisting of an FCC Reactor, catalyst regenerator, fractionator, strippers and absorbers with an average processing capacity of 55,000 barrels per day of fresh feed; and a Carbon Monoxide (CO) Boiler with a maximum input capacity of 669 mmBtu per hour. The CO Boiler also serves as control for CO emissions from the FCCU. | OAC rule 3745-31-05(A)(3)<br>OAC rule 3745-31-02(A)(2)<br>OAC rule 3745-17-07(A)<br>OAC rule 3745-17-10(B)(1)<br>OAC rule 3745-17-11(A)<br>OAC rule 3745-18-54(W)(6)<br>OAC rule 3745-18-54(W)(1)<br>OAC rule 3745-21-09(T)<br>40 CFR Part 63 Subpart CC<br>40 CFR 63.648<br>40 CFR Part 63, subpart UUU<br>40 CFR 63.1563(b)<br>40 CFR 63.1563(e)<br>40 CFR 63.1564(a)<br>40 CFR 63.1565(a)<br>40 CFR 63.1577<br>40 CFR 63.1569(a) |

| Applicable Emissions Limitations/Control Measures | |
|---|---|
| See A.I.2.p | See section A.I.2.j |
| See A.I.2.c through A.I.2.f, A.I.2.o, and A.VI.2 | See section A.I.2.k |
| Visible emissions shall not exceed 20% opacity as a 6-minute average, unless otherwise specified by the rule | See section A.I.2.l |
| 0.020 pound of particulate emissions per million Btu of actual heat input from fuel burned in the CO boiler | See section A.I.2.m and n |
| 91.7 pounds per hour of particulate emissions (See A.I.2.b) | |
| 0.92 pound of sulfur dioxide per one thousand pounds of fresh feed. (See A.I.2.b) | |
| See A.I.2.g | |
| See A.I.2.a | |
| See A.I.2.q | |
| See section A.I.2.h | |
| See section A.I.2.i | |

Emissions Unit ID: P007

**2. Additional Terms and Conditions**

**2.a** The permittee shall comply with all applicable equipment leak terms and conditions found in OAC rule 3745-21-09(T).

**2.b** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-02(A)(2).

**2.c** The permittee shall limit CO emissions from the FCCU to 500 parts per million by volume dry basis (ppmvd) as a one-hour average. The CO limit shall not apply during periods of startup, shutdown or malfunction of the FCCU or the CO control equipment, if any, provided that during startup, shutdown or malfunction BP shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the USEPA and the Toledo Division of Environmental Services which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the emissions unit.

**2.d** The permittee shall reduce total particulate emissions at the FCCU to 1 pound per 1,000 pounds of coke burned. The permittee shall achieve these reductions through installation of an electrostatic precipitator. The permittee shall meet the 1 pound per 1,000 pounds of coke burned emission limitation by no later than six months after the planned 2007 shutdown.

**2.e** The permittee shall not burn in the CO Boiler any refinery fuel gas that has a volume-weighted, rolling 3-hour average $H_2S$ concentration greater than 0.10 grain per dry standard cubic foot, except during periods of startup, shutdown or malfunction of the refinery fuel gas amine systems provided that BP shall to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions.

**2.f** By no later than September 30, 2003, the CO Boiler (not the FCCU) shall be considered an affected facility for purposes of 40 CFR Part 60, Subpart J, and shall comply with all requirements of 40 CFR Part 60, Subparts A and J as those Subparts apply to fuel gas combustion devices. These requirements apply to the CO Boiler at all times when burning refinery fuel gas.

**2.g** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-02(A)(2).

**2.h** The permittee shall comply with the emission limitations and work practice standards for existing sources in 40 CFR Part 63 subpart UUU by no later than April 11, 2005 unless an extension of compliance is granted under 40 CFR 63.1563(c).

**2.i** The permittee shall meet the notification requirements in 40 CFR 63.1574 [see section A.IV.] according to the schedule in 40 CFR 63.1574 and in 40 CFR Part 63, subpart A. Some of the notifications shall be submitted before the date the permittee is required to comply with the emission limitations and work practice standards in subpart UUU.

**2.j** METAL HAP EMISSIONS
The permittee shall meet each emission limitation in Table 1 [see section A.VI.] of 40 CFR Part 63 subpart UUU that applies to this emissions unit. The permittee can choose from the four following options:

i. [63.1564(a)(1)(i)]
the permittee can elect to comply with the NSPS requirements (Option 1);

ii. [63.1564(a)(1)(ii)]
the permittee can elect to comply with the PM emission limit (Option 2);

iii. [63.1564(a)(1)(iii)]
the permittee can elect to comply with the Nickel (Ni) lb/hr emission limit (Option 3); or

iv. [63.1564(a)(1)(iv)]
the permittee can elect to comply with the Ni lb/1,000 lbs of coke burn-off emission limit (Option 4).

**2.k** ORGANIC HAP EMISSIONS
The permittee shall meet each emission limitation in Table 8 [see section A.VI.] that applies to this emissions unit for organic HAP emissions. The permittee can choose from the following two options:

i. [63.1565(a)(1)(i)]
the permittee can elect to comply with the NSPS requirements (Option 1); or

ii. [63.1565(a)(1)(ii)]
the permittee can elect to comply with the CO emission limit (Option 2).

**2.l** Table 44 [see section A.VI.] shows which parts of the General Provision in 40 CFR 63.1 through 63.15 apply to this emissions unit.

Emissions Unit ID: P007

**2.m** HAP EMISSIONS FROM BYPASS LINES
The permittee shall meet each work practice standard in Table 36 [see section A.VI.] that applies to this emissions unit. The permittee can choose from the four following options:

i. [63.1569(a)(1)(i)]
the permittee can elect to install an automated system (Option 1);

ii. [63.1569(a)(1)(ii)]
the permittee can elect to use a manual lock system (Option 2);

iii. [63.1569(a)(1)(iii)]
the permittee can elect to seal the line (Option 3); or

iv. [63.1569(a)(1)(iv)]
the permittee can elect to vent to a control device (Option 4).

**2.n** [63.1569(a)(2)]
As provided in 40 CFR 63.6(g), the EPA, may choose to grant the permittee permission to use an alternative to the work practice standard in 40 CFR 63.1569(a)(1) [see section A.I.2.].

**2.o** $SO_2$ emissions from the FCCU shall not exceed 351 ppmvd at 0% oxygen as a rolling 7-day average or 190 ppmvd at 0% oxygen as a 365-day rolling average. This emission limit was proposed by the permittee and is based on a 12-month demonstration of $SO_2$ adsorbing catalyst. If U.S. EPA sets a lower emission limitation after completing their analysis of the data obtained during the 12-month $SO_2$ adsorbing catalyst demonstration, the permittee shall submit a permit to install application requesting a revision to the $SO_2$ emission limit(s) in this paragraph.

**2.p** Ammonia emissions shall not exceed 20 parts per million by volume dry basis or 41.61 tons per year.

Along with the 6-month demonstration period of the SNCR system , the permittee shall include an analysis of the permittee's ability to minimize ammonia slip while maintaining the SNCR system effectiveness. The results of this analysis shall be submitted to the Toledo Division of Environmental Services . Based on the ammonia slip analysis, the permittee shall minimize ammonia slip while maintaining SNCR effectiveness in a manner consistent with good engineering practices.

**2.q** The permittee shall comply with all applicable requirements for equipment leaks found in 40 CFR Part 60.648.

## II. Operational Restrictions

1. The permittee shall only burn FCCU regenerator offgas, natural gas and/or refinery fuel gas in the CO Boiler.

2. [40 CFR Part 63 subpart UUU]
The following requirements of 40 CFR Part 63 subpart UUU, apply from April 11, 2005 and onward.

a. [63.1564(a)(2)] OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

i. The permittee shall comply with each operating limit in Table 2 [see section A.VI.] that applies to this emissions unit.

ii. [63.1564(a)(4)]
The emission limitations and operating limits for metal HAP emissions from catalytic cracking units required in 40 CFR 63.1564(a)(1) and (2) [see sections A.I.2. and A.II.] do not apply during periods of planned maintenance preapproved by the applicable permitting authority according to the requirements in 40 CFR 63.1575(j) [See Section A.IV].

b. [63.1565(a)(2)] OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS (CCU)

The permittee shall comply with each site-specific operating limit in Table 9 [see section A.VI.] that applies to this emissions unit.

## III. Monitoring and/or Recordkeeping Requirements

1. Continuous Opacity Monitoring Requirements

a. The permittee shall operate and maintain existing equipment to continuously monitor and record the opacity of particulate emissions from this emissions unit. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 51, Appendix P.

b. The permittee shall maintain records of all data obtained by the continuous opacity monitoring system including, but not limited to, percent opacity on an instantaneous (1-minute) and 6-minute block average basis, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

c. Continuous Opacity Monitoring - Certified Systems Statement of Certification

A statement of certification of the existing continuous Opacity monitoring system shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1. Proof of certification shall be made available to the Toledo Division of Environmental Services upon request.

2. Continuous Sulfur Dioxide Emissions Monitoring Requirements

The permittee shall operate and maintain existing equipment to continuously monitor and record $SO_2$ emissions from the FCC Unit in units of the applicable standard(s). Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

3. Continuous Hydrogen Sulfide Monitoring and Recordkeeping Requirements

a. The permittee shall calibrate, maintain and operate a continuous monitoring system for measurement of the $H_2S$ content in the fuel gas before being burned in the CO Boiler. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

i. The $H_2S$ monitoring device shall continuously monitor and record the concentration (dry basis) of $H_2S$ in fuel gases before being burned in any fuel gas combustion device.

ii. The span value for this instrument is 425 mg/dscm $H_2S$.

iii. Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of $H_2S$ in the fuel gas being burned.

iv. The performance evaluations for this $H_2S$ monitor shall use Performance Specification 7. Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations.

4. Common Monitoring and Recordkeeping Requirements for sulfur dioxide and hydrogen sulfide continuous emissions monitoring systems

a. The permittee shall automatically check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts of the hydrogen sulfide monitor at least once daily in accordance with a written procedure. The zero and span shall, as a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit of the applicable performance

specification in appendix B of 40 CFR Part 60. The system shall allow the amount of the excess zero and span drift to be recorded and quantified whenever specified.

b. Monitors that automatically adjust the data to the corrected calibration values (e.g., microprocessor control) shall be programmed to record the unadjusted concentration measured in the calibration drift (CD) prior to resetting the calibration, if performed, or record the amount of adjustment.

c. If either the zero (or low-level) or high-level CD result exceeds twice the applicable drift specification in appendix B for five, consecutive, daily periods, the CEMS is out-of-control. If either the zero (or low-level) or high-level CD result exceeds four times the applicable drift specification in 40 CFR Part 60, Appendix B during any CD check, the CEMS is out-of-control. If the CEMS is out-of-control, take necessary corrective action. Following corrective action, repeat the CD checks.

d. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required in 40 CFR 60.13(d), all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation requirements as follows: the continuous monitoring system for measuring emissions shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

e. One-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this paragraph. An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or non-reduced form (e.g., ppm pollutant and percent O2 or ng/J of pollutant). All excess emissions shall be converted into units of the standard. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit.

f. The permittee shall implement a quality control program for the $H_2S$ and $SO_2$ continuous emissions monitoring systems.. As a minimum, each quality control program shall include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:

i. calibration of CEMS;
ii. CD determination and adjustment of CEMS;
iii. preventive maintenance of CEMS (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 malfunctioning CEMS.

As described in Section 5.2 of 40 CFR Part 60, Appendix F Procedure 1, whenever excessive inaccuracies occur for two consecutive quarters, the permittee shall revise the current written procedures or modify or replace the CEMS to correct the deficiency causing the excessive inaccuracies.

g. The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

5. FCC/CO Boiler Monitoring and Recordkeeping Requirements

a. For each day during which the permittee burns a fuel other than FCCU regenerator offgas, refinery fuel gas, and/or natural gas in the CO Boiler, the permittee shall maintain a record of the type and quantity of fuel burned.

b. The permittee shall measure and record hourly average CO concentrations from the FCCU. Process analyzers calibrated in accordance with manufacturer's recommendations may be used for this purpose.

c. The permittee shall maintain a record of the operating time of the FCC Unit, the CO Boiler, and a record of all periods when the emissions from the FCC Unit bypass the CO Boiler.

6. Except as otherwise specified in this section, all records required under Section A.III of this permit shall be maintained in accordance with the Monitoring and Related Recordkeeping Requirements of Part I - General Terms and Conditions.

7. [40 CFR Part 63 subpart UUU]
The following requirements of 40 CFR Part 63 subpart UUU, apply from April 11, 2005 onward.

a. [63.1564(a)(3)] REQUIREMENTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

The permittee shall prepare an operation, maintenance, and monitoring plan according to the requirements in 40 CFR 63.1574(f) [see section A.IV.] and operate at all times according to the procedures in the plan.

b. [63.1565(a)(3)] WORK PRACTICE STANDARDS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS (CCU) - 40 CFR Part 63 subpart UUU

The permittee shall prepare an operation, maintenance, and monitoring plan according to the requirements in 40 CFR 63.1574(f) [see section A.IV.] and operate at all times according to the procedures in the plan.

c. [63.1569(a)(3)] WORK PRACTICE STANDARDS FOR HAP EMISSIONS FOR BYPASS LINES - 40 CFR Part 63 subpart UUU

The permittee shall prepare an operation, maintenance, and monitoring plan according to the requirements in 40 CFR 63.1574(f) [see section A.IV.] and operate at all times according to the procedures in the plan.

d. [63.1570] GENERAL COMPLIANCE REQUIREMENTS - 40 CFR Part 63 subpart UUU

i. [63.1570(a)]
The permittee shall be in compliance with all of the non-opacity standards in this subpart during the times specified in 40 CFR 63.6(f)(1).

ii. [63.1570(b)]
The permittee shall be in compliance with the opacity and visible emission limits in this subpart during the times specified in 40 CFR 63.6(h)(1).

iii. [63.1570(c)]
The permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR 63.6(e)(1)(i). During the period between April 11, 2005 and the date upon which continuous monitoring systems have been installed and validated and any applicable operating limits have been set, the permittee shall maintain a log detailing the operation and maintenance of the process and emissions control equipment.

iv. [63.1570(d)]
The permittee shall develop and implement a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in 40 CFR 63.6(e)(3).

v. [63.1570(e)]
During periods of startup, shutdown, and malfunction, the permittee shall operate in accordance with the SSMP.

vi. [63.1570(f)]
The permittee shall report each instance in which each emission limitation that was not met and each applicable operating limit in 40 CFR Part 63 subpart UUU that was not met. This includes periods of startup, shutdown, and malfunction. The permittee also shall report each instance in which the applicable work practice standards in 40 CFR Part 63 subpart UUU that were not met. These instances are deviations from the emission limitations and work practice standards in this subpart. These deviations shall be reported according to the requirements in 40 CFR 63.1575 [see section A.IV.].

vii. [63.1570(g)]
Consistent with 40 CFR 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the permittee demonstrates to the Administrator's satisfaction that the permittee was operating in accordance with the SSMP. The SSMP shall require that good air pollution control practices are used during those periods. The plan shall also include elements designed to minimize the frequency of such periods (i.e., root cause analysis). The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR 63.6(e) and the contents of the SSMP.

e. [63.1572] MONITORING, INSTALLATION, OPERATION, AND MAINTENANCE REQUIREMENTS [Tables 40 and 41] - 40 CFR Part 63 subpart UUU

i. [63.1572(a)]
The permittee shall install, operate, and maintain each continuous emission monitoring system according to the requirements in 40 CFR 63.1572(a)(1) through (4) below.

(a) [63.1572(a)(1)]
The permittee shall install, operate, and maintain each continuous emission monitoring system according to the requirements in Table 40 [see section A.VI.].

(b) [63.1572(a)(2)]
If the permittee uses a continuous emission monitoring system to meet the NSPS CO or $SO_2$ limit, the permittee shall conduct a performance evaluation of each continuous emission monitoring system according to the requirements in 40 CFR 63.8 and Table 40. This requirement does not apply to an affected source subject to the NSPS that has already demonstrated initial compliance with the applicable performance specification.

(c) [63.1572(a)(3)]
As specified in 40 CFR 63.8(c)(4)(ii), each continuous emission monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(d) [63.1572(a)(4)]
Data shall be reduced as specified in 40 CFR 63.8(g)(2).

ii. [63.1572(b)]
The permittee shall install, operate, and maintain each continuous opacity monitoring system according to the requirements in 63.1572(b)(1) through (3) below.

(a) [63.1572(b)(1)]
Each continuous opacity monitoring system shall be installed, operated, and maintained according to the requirements in Table 40 [see section A.VI.].

(b) [63.1572(b)(2)]
If the permittee uses a continuous opacity monitoring system to meet the NSPS opacity limit, the permittee shall conduct a performance evaluation

of each continuous opacity monitoring system according to the requirements in 40 CFR 63.8 and Table 40 [see section A.VI.]. This requirement does not apply to an affected source subject to the NSPS that has already demonstrated initial compliance with the applicable performance specification.

(c) [63.1572(b)(3)]
As specified in 40 CFR 63.8(c)(4)(i), each continuous opacity monitoring system 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.

iii. [63.1572(c)]
The permittee shall install, operate, and maintain each continuous parameter monitoring system according to the following paragraphs of this section.

(a) [63.1572(c)(1)]
Each continuous parameter monitoring system shall be installed, operated, and maintained according to the requirements in Table 41 [see section A.VI.] and in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately.

(b) [63.1572(c)(2)]
The continuous parameter monitoring system shall complete a minimum of one cycle of operation for each successive 15-minute period. The permittee shall have a minimum of four successive cycles of operation to have a valid hour of data (or at least two if a calibration check is performed during that hour or if the continuous parameter monitoring system is out-of-control).

(c) [63.1572(c)(3)]
Each continuous parameter monitoring system shall have valid hourly average data from at least 75 percent of the hours during which the process operated.

(d) [63.1572(c)(4)]
Each continuous parameter monitoring system shall determine and record the hourly average of all recorded readings and if applicable, the daily average of all recorded readings for each operating day. The daily average shall cover a 24-hour period if operation is continuous or the number of

hours of operation per day if operation is not continuous.

(e) [63.1572(c)(5)]
Each continuous parameter monitoring system shall record the results of each inspection, calibration, and validation check.

iv. [63.1572(d)]
The permittee shall monitor and collect data according to the requirements in 40 CFR 63.1572(d)(1) and (d)(2) below.

(a) [63.1572(d)(1)]
Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or collect data at all required intervals) at all times the affected unit is operating.

(b) [63.1572(d)(2)]
The permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities for purposes of this regulation, including data averages and calculations, for fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system.

f. [63.1573] MONITORING ALTERNATIVES - 40 CFR Part 63 subpart UUU

i. [63.1573(a)] APPROVED ALTERNATIVE FOR MONITORING GAS FLOW RATE
The permittee can elect to use this alternative to a continuous parameter monitoring system for the catalytic regenerator exhaust gas flow rate for the catalytic cracking unit if the unit does not introduce any other gas streams into the catalyst regeneration vent (i.e., complete combustion units with no additional combustion devices). If this alternative is selected, the permittee shall use the same procedure for the performance test and for monitoring after the performance test.

(a) [63.1573(a)(1)]
Install and operate a continuous parameter monitoring system to measure and record the hourly average volumetric air flow rate to the catalytic cracking unit regenerator. Or, determine and record the hourly average volumetric air flow rate to the catalytic cracking unit regenerator using the catalytic cracking unit control room instrumentation.

(b) [63.1573(a)(2)]
Install and operate a continuous parameter monitoring system to measure

and record the temperature of the gases entering the control device (or exiting the catalyst regenerator if the permittee does not use an add-on control device).

(c) [63.1573(a)(3)]
Calculate and record the hourly average actual exhaust gas flow rate using Equation 1 of this section as follows:

Q_gas ~=~ (1.12 "scfm/dscfm") ~×~ (Q_air ~+~ Q_oxy) ~×~ left( {Temp_gas} over {273°K} right) ~×~ left( {P_vent} over {1~atm.} right)

*(Eq. 1)*

Where:
$Q_{gas}$ = Hourly average actual gas flow rate, acfm;
1.12 = Default correction factor to convert gas flow from dry standard cubic feet per minute (dscfm) to standard cubic feet per minute (scfm);

$Q_{air}$ = Volumetric flow rate of air to regenerator, as determined from the catalytic cracking unit control room instrumentations, dscfm;

$Q_{oxy}$ = Volumetric flow rate of oxygen-enriched air stream to regenerator, as determined from the catalytic cracking unit control room instrumentations, dscfm;

$Temp_{gas}$ = Temperature of gas stream in vent measured as near as practical to the control device or opacity monitor, °K. For wet scrubbers, temperature of gas prior to the wet scrubber; and

$P_{vent}$ = Absolute pressure in the vent measured as near as practical to the control device or opacity monitor, atm. When used in conjunction with opacity in the final vent stack, you can assume $P_{vent}$ = 1 atm.

ii. [63.1573(c)] USING ANOTHER TYPE OF MONITORING SYSTEM
The permittee may request approval from the Director to use an automated data compression system. An automated data compression system does not record monitored operating parameter values at a set frequency (e.g., once every hour) but records all values that meet set criteria for variation from previously recorded

values. The permittee's request shall contain a description of the monitoring system and data 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 of the criteria in 63.1573(c)(1) through (5) below:

(a) [63.1573(c)(1)]
the system measures the operating parameter value at least once every hour;

(b) [63.1573(c)(2)]
the system records at least 24 values each day during periods of operation;

(c) [63.1573(c)(3)]
the system records the date and time when monitors are turned off or on;

(d) [63.1573(c)(4)]
the system recognizes unchanging data that may indicate the monitor is not functioning properly, alerts the operator, and records the incident; and

(e) [63.1573(c)(5)]
the system computes daily average values of the monitored operating parameter based on recorded data.

iii. [63.1573(d)] REQUESTING MONITORING ALTERNATIVES
The permittee may request approval to monitor parameters other than those required in 40 CFR Part 63 subpart UUU. The permittee shall request approval if:

(a) [63.1573(d)(1)]
the permittee uses a control device other than a thermal incinerator, boiler, process heater, flare, electrostatic precipitator, or wet scrubber;

(b) [63.1573(d)(2)]
the permittee uses a combustion control device (e.g., incinerator, flare, boiler or process heater with a design heat capacity of at least 44 MW, boiler or process heater where the vent stream is introduced into the flame zone), electrostatic precipitator, or scrubber but wants to monitor a parameter other than those specified; or

(c) [63.1573(d)(3)]
the permittee wishes to use another type of continuous emission monitoring system that provides direct measurement of a pollutant (i.e., a PM or multi-metals HAP continuous emission monitoring system, a carbonyl sulfide/carbon disulfide continuous emission monitoring system, a TOC continuous emission monitoring system, or HCl continuous emission monitoring system).

iv. [63.1573(e)] REQUESTING MONITOR ALTERNATIVE PARAMETERS
The permittee shall submit a request for review and approval or disapproval to the Administrator of the EPA. The request shall include the information in 63.1573 (e)(1) through (5) below.

(a) [63.1573(e)(1)]
A description of each affected source and the parameter(s) to be monitored to determine whether the affected source will continuously comply with the emission limitations and an explanation of the criteria used to select the parameter(s).

(b) [63.1573(e)(2)]
A description of the methods and procedures that will be used to

demonstrate that the parameter can be used to determine whether the affected source will continuously comply with the emission limitations and the schedule for this demonstration. The permittee shall certify that an operating limit will be

established for the monitored parameter(s) that represents the conditions in existence when the control device is being properly operated and maintained to meet the emission limitation.

(c) [63.1573(e)(3)]
The frequency and content of monitoring, recording, and reporting, if monitoring and recording are not continuous. The permittee also shall include the rationale for the proposed monitoring, recording, and reporting requirements.

(d) [63.1573(e)(4)]
Supporting calculations.

(e) [63.1573(e)(5)]
Averaging time for the alternative operating parameter.

g. [63.1576] RECORDKEEPING REQUIREMENTS - 40 CFR Part 63 subpart UUU

i. [63.1576(a)]
The permittee shall keep the records specified in 63.1576(a)(1) through (3) below.

(a) [63.1576(a)(1)]
A copy of each notification and report that the permittee submitted to comply with 40 CFR Part 63 subpart UUU, including all documentation supporting any initial notification or Notification of Compliance Status that the permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

(b) [63.1576(a)(2)]
The records in 40 CFR 63.6(e)(1)(iii) through (v) related to startup, shutdown, and malfunction.

(c) [63.1576(a)(3)]
Records of performance tests, performance evaluations, and visible emission observations as required in 40 CFR 63.10(b)(2)(viii).

ii. [63.1576(b)]
For each continuous emission monitoring system and continuous opacity monitoring system, the permittee shall keep the records required in 63.1576(b)(1) through (5) below.

(a) [63.1576(b)(1)]
Records described in 40 CFR 63.10(b)(2)(vi) through (xi) of subpart A.

(b) [63.1576(b)(2)]
Monitoring data for continuous opacity monitoring systems during a performance evaluation as required in 40 CFR 63.6(h)(7)(i) and (ii) of subpart A.

(c) [63.1576(b)(3)]
Previous (i.e., superceded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3) of subpart A.

(d) [63.1576(b)(4)]
Requests for alternatives to the relative accuracy test for continuous emission monitoring systems as required in 40 CFR 63.8(f)(6)(i) of subpart A.

(e) [63.1576(b)(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.

iii. [63.1576(c)]
The permittee shall keep the records in 40 CFR 63.6(h) for visible emission observations.

iv. [63.1576(d)]
The permittee shall keep records required by Tables 6, 7, 13, and 14 [see section A.VI.] (for catalytic cracking units) and Table 39 [see section A.VI.] (for bypass lines) to show continuous compliance with each emission limitation that applies to this emissions unit.

v. [63.1576(e)]
The permittee shall keep a current copy of the operation, maintenance, and monitoring plan onsite and available for inspection. The permittee also shall keep records to show continuous compliance with the procedures in the operation, maintenance, and monitoring plan.

vi. [63.1576(f)]
The permittee also shall keep the records of any changes that affect emission control system performance including, but not limited to, the location at which the vent stream is introduced into the flame zone for a boiler or process heater.

vii. [63.1576(g)]

The records shall be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1).

viii. [63.1576(h)]
As specified in 40 CFR 63.10(b)(1), the permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

ix. [63.1576(i)]
The permittee shall 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 40 CFR 63.10(b)(1). The permittee can keep the records offsite for the remaining 3 years.

## IV. Reporting Requirements

1. Continuous Opacity Monitoring Requirements

Pursuant to 40 CFR Part 51, Appendix P, Paragraph 4.0, the permittee shall submit reports on a quarterly basis to the Toledo Division of Environmental Services documenting all instances of opacity values in excess of the limitations specified in OAC Rule 3745-17-07, detailing the date, commencement and completion times, duration, magnitude (percent opacity), reason (if known), and corrective actions taken (if any) of each 6-minute block average above the applicable opacity limitation(s).

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Toledo Division of Environmental Services documenting any continuous opacity monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by

January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

2. Reporting Requirements for Sulfur Dioxide Continuous Emissions Monitoring System

   a. The permittee shall submit a sulfur dioxide excess emissions and monitoring systems performance report and/or a summary report form (see paragraph (d) of 40 CFR 60.7) to the Toledo Division of Environmental Services quarterly, or except when the Administrator of U.S. EPA, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the emissions unit. All reports shall be postmarked

by the 30th day following the end of each three-month period. Excess emissions are each period in which emissions of $SO_2$ exceed 351 ppmvd at 0% oxygen as a rolling 7-day average and/or 190 ppmvd at 0% oxygen as a 365-day rolling average. Written reports of excess emissions shall include the following information:

i. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period.

ii. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

iii. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

iv. When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

b. The sulfur dioxide excess emissions summary report form shall contain the information and be in the format shown in Figure 1 of 40 CFR 60.7 unless otherwise specified by the Administrator of USEPA. The data assessment report described under 40 CFR 60 Appendix F Procedure 1 shall also be submitted with the summary report form. One summary report form shall be submitted for each pollutant monitored at each affected facility.

i. If the total duration of excess emissions 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 form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator of USEPA.

ii. If the total duration of excess emissions 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, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

3. Reporting Requirements for Hydrogen Sulfide Continuous Emissions Monitoring System

a. The permittee shall submit an $H_2S$ excess emissions and monitoring systems performance report and/or a summary report form to the Toledo Division of Environmental Services quarterly, or except when the Administrator of USEPA, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the emissions unit. All reports shall be postmarked by the 30th day following the end of each three-month period. Excess emissions are each rolling 3-hour average $H_2S$ concentration greater than 0.10 grain per dry standard cubic foot of fuel gas burned. Written reports of excess emissions shall include the following information:

i. the magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period;

ii. specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;

iii. the date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and

iv. when no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

b. The hydrogen sulfide excess emissions summary report form shall contain the information and be in the format shown in Figure 1 of 40 CFR 60.7 unless otherwise specified by the Administrator of USEPA. One summary report form shall be submitted for each $SO_2$ emission limitation.

i. If the total duration of excess emissions 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 form shall be submitted and the excess emission report described in 40 CFR 60.7(c) need not be submitted unless requested by the Administrator of USEPA.

ii. If the total duration of excess emissions 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, the summary report form and the excess emission report described in 40 CFR 60.7(c) shall both be submitted.

4. Common Reporting Requirements for Continuous Hydrogen Sulfide and Sulfur Dioxide Continuous Emissions Monitoring Systems

a. The permittee shall submit a quarterly report for each CEMS, the accuracy results from Section 6 and the CD assessment results from Section 4 of 40 CFR Part 60 Appendix F Procedure 1. Report the drift and accuracy information as a Data Assessment Report (DAR), and include one copy of this DAR for each quarterly audit with the report of emissions. As a minimum, the DAR shall contain the following information:

i. permittee name and address;

ii. identification and location of monitors in the CEMS;

iii. manufacturer and model number of each monitor in the CEMS;

iv. assessment of CEMS data accuracy and date of assessment as determined by a Relative Accuracy Test Audit (RATA), Relative Accuracy Audit (RAA), or Cylinder Gas Audit (CGA) described in Section 5 including the relative accuracy for the RATA, the Accuracy (A) for the RAA or CGA, the Reference Method (RM) results, the cylinder gases certified values, the CEMS responses, and the calculations results as defined in Section 6. If the accuracy audit results show the CEMS to be out-of-control, the CEMS operator shall report both the audit results showing the CEMS to be out-of-control and the results of the audit following corrective action showing the CEMS to be operating within specifications;

v. results from EPA performance audit samples described in Section 5 and the applicable RM's; and

vi. summary of all corrective actions taken when CEMS was determined out-of-control, as described in Sections 4 and 5 or 40 CFR Part 60 Appendix F Procedure 1.

An example of a DAR format is shown in Figure 1 of 40 CFR Part 60 Appendix F, Procedure 1.

5. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than FCCU regenerator offgas, refinery fuel gas, and/or natural gas was burned in the CO Boiler. Each report shall be submitted to the Toledo Division of Environmental Services within 30 days after the deviation occurs.

6. Reporting Requirements for Carbon Monoxide Emissions Monitoring System

   The permittee shall submit semiannual deviation (excursion) reports that identify each period when the CO emissions from the FCCU exceeded 500 ppmvd as a one-hour average. Written deviation reports shall include the following information:

   a. the total operating time of the emissions unit during the reporting period;

b. information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken;

c. information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks); and

d. if there are no deviations from the emission limitation and there was no monitor downtime, a statement that there were no deviations from the emission limitation and that the CO monitoring system was not inoperative, inactive, malfunctioning, out-of-control, repaired or adjusted.

These reports shall be submitted to the Toledo Division of Environmental Services by January 30 and July 30 of each year and shall cover the previous six calendar months.

7. [40 CFR Part 63 subpart UUU]
The following requirements of 40 CFR Part 63 subpart UUU, apply from April 11, 2005 onward except as stated in 40 CFR 63.1574 which may have reports due before April 11, 2005.

a. [63.1574] NOTIFICATION SUBMITTAL

i. [63.1574(a)]
Except as allowed in 40 CFR 63.1574(a)(1) through (a)(3) below, the permittee shall submit all of the notifications in 40 CFR 63.6(h), 63.7(b) and (c), 63.8(e), 63.8(f)(4), 63.8(f)(6), and 63.9(b) through (h) that apply to this emissions unit by the dates specified.

(a) [63.1574(a)(1)]
The permittee shall submit the notification of the intention to construct or reconstruct according to 40 CFR 63.9(b)(5). This deadline also applies to the application for approval of construction or reconstruction and approval of construction or reconstruction based on State preconstruction review required in 40 CFR 63.5(d)(1)(i) and 63.5(f)(2).

(b) [63.1574(a)(2)]
The permittee shall submit the notification of intent to conduct a performance test required in 40 CFR 63.7(b) at least 30 calendar days before the performance test is scheduled to begin (instead of 60 days).

(c) [63.1574(a)(3)]

If the permittee is required to conduct a performance test, performance evaluation, design evaluation, visible emission observation, or other initial compliance demonstration, the permittee shall submit a notification of compliance status according to 40 CFR 63.9(h)(2)(ii). The permittee can submit this information in an operating permit application, in an amendment to an operating permit application, in a separate submission, or in any combination. If the required information has been submitted previously, the permittee does not have to provide a separate notification of compliance status. Just refer to the earlier submissions instead of duplicating and resubmitting the previously submitted information.

(i) [63.1574(a)(3)(i)]
For each initial compliance demonstration that does not include a performance test, the permittee shall submit the Notification of Compliance Status no later than 30 calendar days following completion of the initial compliance demonstration.

(ii) [63.1574(a)(3)(ii)]
For each initial compliance demonstration that includes a performance test, the permittee shall submit the notification of compliance status, including the performance test results, no later than 150 calendar days after April 11, 2005.

ii. [63.1574(c)]
As specified in 40 CFR 63.9(b)(3), if the permittee starts the new or reconstructed affected source on or after April 11, 2002, the permittee shall submit the initial notification no later than 120 days after April 11, 2005.

iii. [63.1574(d)]
The permittee also shall include the information in Table 42 [see section A.VI.] in the notification of compliance status.

iv. [63.1574(e)]
If the permittee requests an extension of compliance for an existing catalytic cracking unit as allowed in 40 CFR 63.1563(c), the permittee shall submit a notification to the Toledo Division of Environmental Services containing the required information by October 13, 2003.

v. [63.1574(f)]
As required by 40 CFR Part 63 subpart UUU, the permittee shall prepare and implement an operation, maintenance, and monitoring plan for each affected

source, control system, and continuous monitoring system. The purpose of this plan is to detail the operation, maintenance, and monitoring procedures that the permittee will follow.

(a) [63.1574(f)(1)]
The permittee shall submit the plan to the Toledo Division of Environmental Services for review and approval along with the notification of compliance status. While the permittee does not have to include the entire plan in the part 70 or 71 permit, the permittee shall include the duty to prepare and implement the plan as an applicable requirement in the part 70 or 71 operating permit. The permittee shall submit any changes to the Toledo Division of Environmental Services for review and approval and comply with the plan until the change is approved.

(b) [63.1574(f)(2)]
Each plan shall include, at a minimum, the information specified in 40 CFR 63.1574(f)(2)(i) through (x) below.

(i) [63.1574(f)(2)(i)]
Process and control device parameters to be monitored for each affected source, along with established operating limits.

(ii) [63.1574(f)(2)(ii)]
Procedures for monitoring emissions and process and control device operating parameters for each affected source.

(iii) [63.1574(f)(2)(iii)]
Procedures that will be used to determine the coke burn-rate, the volumetric flow rate (if process data is used rather than direct measurement), and the rate of combustion of liquid or solid fossil fuels if an incinerator-waste heat boiler to burn the exhaust gases from a catalyst regenerator is used.

(iv) [63.1574(f)(2)(iv)]
Procedures and analytical methods used to determine the equilibrium catalyst Ni concentration, the equilibrium catalyst Ni concentration monthly rolling average, and the hourly or hourly average Ni operating value.

(v) [63.1574(f)(2)(vii)]
Procedures used to determine the gas flow rate for a catalytic cracking unit if the alternative procedure based on air flow rate and temperature are used.

(vi) [63.1574(f)(2)(viii)]

Monitoring schedule, including when the permittee will monitor and will not monitor the emissions unit (e.g., during the coke burn-off, regeneration process).

(vii) [63.1574(f)(2)(ix)]
Quality control plan for each continuous opacity monitoring system and continuous emission monitoring system used to meet an emission limit in 40 CFR Part 63 subpart UUU. This plan shall include procedures used for calibrations, accuracy audits, and adjustments to the system needed to meet applicable requirements for the system.

(viii) [63.1574(f)(2)(x)]
Maintenance schedule for the emissions unit, monitoring system, and control device that is generally consistent with the manufacturer's instructions for routine and long-term maintenance.

b. [63.1575] REPORTS FOR 40 CFR Part 63 subpart UUU

i. [63.1575(a)]
The permittee shall submit each report in Table 43 [see section A.VI.] that applies to this emissions unit.

ii. [63.1575(b)]
Unless the Administrator has approved a different schedule, the permittee shall submit each report by the date in Table 43 [see section A.VI.] and according to the requirements in 40 CFR 63.1575(b)(1) through (b)(5) below.

(a) [63.1575(b)(1)]
The first compliance report shall cover the period beginning April 11, 2005 and ending on June 30, 2005.

(b) [63.1575(b)(2)]
The first compliance report shall be postmarked or delivered no later than July 31, 2005.

(c) [63.1575(b)(3)]
Each subsequent compliance report shall cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(d) [63.1575(b)(4)]
Each subsequent compliance report shall be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(e) [63.1575(b)(5)]
For each affected emissions unit that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), the permittee may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in 63.1575(b)(1) through (b)(4) above.

iii. [63.1575(c)]
The compliance report shall contain the following information:

(a) [63.1575(c)(1)]
Company name and address.

(b) [63.1575(c)(2)]
Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(c) [63.1575(c)(3)]
Date of report and beginning and ending dates of the reporting period.

(d) [63.1575(c)(4)]
If there are no deviations from any emission limitation that applies to this emissions unit and there are no deviations from the requirements for work practice standards, a statement that there were no deviations from the emission limitations or work practice standards during the reporting period and that no continuous emission monitoring system or continuous opacity monitoring system was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.

iv. [63.1575(d)]
For each deviation from an emission limitation and for each deviation from the requirements for work practice standards that occurs at an affected emissions unit where a continuous opacity monitoring system or a continuous emission monitoring system is not used to comply with the emission limitation or work practice standard in 40 CFR Part 63 subpart UUU, the compliance report shall contain the information in 63.1575(c)(1) through (c)(3) above and the information in 63.1575(d)(1) through (d)(3) below.

(a) [63.1575(d)(1)]
The total operating time of each affected emissions unit during the reporting period.

(b) [63.1575(d)(2)]
Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(c) [63.1575(d)(3)]
Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks).

v. [63.1575(e)]
For each deviation from an emission limitation occurring at an affected source where a continuous opacity monitoring system or a continuous emission monitoring system is used to comply with the emission limitation, the permittee shall include the information in 40 CFR 63.1575(d)(1) through(3) above and the information in 63.1575(e)(1) through (13) below.

(a) [63.1575(e)(1)]
The date and time that each malfunction started and stopped.

(b) [63.1575(e)(2)]
The date and time that each continuous opacity monitoring system or continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

(c) [63.1575(e)(3)]
The date and time that each continuous opacity monitoring system or continuous emission monitoring system was out-of-control, including the information in 40 CFR 63.8(c)(8) of subpart A.

(d) [63.1575(e)(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.

(e) [63.1575(e)(5)]
A summary of the total duration of the deviation during the reporting period (recorded in minutes for opacity and hours for gases and in the averaging period specified in the regulation for other types of emission limitations), and the total duration as a percent of the total emissions unit operating time during that reporting period.

(f) [63.1575(e)(6)]
A breakdown of the total duration of the deviations during the reporting period and into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(g) [63.1575(e)(7)]
A summary of the total duration of downtime for the continuous opacity

monitoring system or continuous emission monitoring system during the reporting period (recorded in minutes for opacity and hours for gases and in the averaging time specified in the regulation for other types of standards), and the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system as a percent of the total emissions unit operating time during that reporting period.

(h) [63.1575(e)(8)]
A breakdown of the total duration of downtime for the continuous opacity monitoring system or continuous emission monitoring system during the reporting period into periods that are due to monitoring equipment malfunctions, non-monitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes.

(i) [63.1575(e)(9)]
An identification of each HAP that was monitored at the affected source.

(j) [63.1575(e)(10)]
A brief description of the process units.

(k) [63.1575(e)(11)]
The monitoring equipment manufacturer(s) and model number(s).

(l) [63.1575(e)(12)]
The date of the latest certification or audit for the continuous opacity monitoring system or continuous emission monitoring system.

(m) [63.1575(e)(13)]
A description of any change in the continuous emission monitoring system or continuous opacity monitoring system, processes, or controls since the last reporting period.

vi. [63.1575(f)]
The permittee also shall include the information required in 63.1575(f)(1) through (f)(2) below in each compliance report, if applicable.

(a) [63.1575(f)(1)]
A copy of any performance test done during the reporting period on any affected unit. The report may be included in the next semiannual report. The copy shall include a complete report for each test method used for a particular kind of emission point tested. For additional tests performed for a similar emission point using the same method, the permittee shall submit the results and any other information required, but a complete test report is not required. A complete test report contains a brief process description; a

simplified flow diagram showing affected processes, control equipment, and sampling point locations; sampling site data; 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.

(b) [63.1575(f)(2)]
Any requested change in the applicability of an emission standard (e.g., changing from the PM standard to the Ni standard for catalytic cracking units or from the HCl concentration standard to percent reduction for catalytic reforming units) in the periodic report. The permittee shall include all information and data necessary to demonstrate compliance with the new emission standard selected and any other associated requirements.

vii. [63.1575(g)]
The permittee may submit reports required by other regulations in place of or as part of the compliance report if they contain the required information.

viii. [63.1575(h)]
The reporting requirements in paragraphs 63.1575(h)(1) and (2) below apply to startups, shutdowns, and malfunctions:

(a) [63.1575(h)(1)]
When actions taken to respond are consistent with the plan, the permittee is not required to report these events in the semiannual compliance report and the reporting requirements in 40 CFR 63.6(e)(3)(iii) and 63.10(d)(5) do not apply.

(b) [63.1575(h)(2)]
When actions taken to respond are not consistent with the plan, the permittee shall report these events and the response taken in the semiannual compliance report. In this case, the reporting requirements in 40 CFR 63.6(e)(3)(iv) and 63.10(d)(5) do not apply.

8. General Reporting Requirements

a. All requests, reports, applications, submittals, and other communications pursuant to this

permit shall be submitted to: Toledo Division of Environmental Services, Air Resources Section, 348 South Erie Street, Toledo, Ohio 43602-1633.

b. All requests, reports, applications, submittals, and other communications to the Administrator pursuant to this permit shall be submitted to: Director Ohio EPA c/o Bob Hodanbosi, Ohio EPA, Lazarus Government Center, P.O. Box 1049, Columbus, OH 43216-1049.

c. If Ohio EPA requires a submittal that contains all the information required in an application, notification, request, report, statement, or other communication required in 40 CFR Part 63, then the permittee may send the appropriate Regional Office of the EPA a copy of that submittal to satisfy the requirements of 40 CFR Part 63 for that communication.

If acceptable to both the Administrator and the permittee, reports may be submitted on electronic media.

## V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

   a. Emission Limitation:

      20 percent opacity as a six-minute average

      Applicable Compliance Method:

      If required, Method 9 of 40 CFR Part 60 Appendix A shall be used to demonstrate compliance.

   b. Emission Limitation:

      91.7 pounds per hour particulate emissions

      Applicable Compliance Method:

      If required, the procedures specified under OAC rule 3745-17-03(B)(10) shall be used to demonstrate compliance.

   c. Emission Limitation:

      0.020 pound particulate emissions per million Btu of actual heat input

      Applicable Compliance Method:

      If required, the procedure specified under OAC rule 3745-17-03(B)(9) shall be used to demonstrate compliance.

   d. Emission Limitation:

      0.92 pound sulfur dioxide per thousand pounds of fresh feed

      Applicable Compliance Method:

If required, the procedures specified under OAC rule 3745-18-04(A) shall be used to demonstrate compliance.

e. Emission Limitation:

0.10 grain $H_2S$ per dry standard cubic foot of fuel gas burned as a volume-weighted, rolling 3-hour average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures of 40 CFR 60.106(e)(1).

f. Emission Limitation:

particulate emissions shall not exceed 1 pound per 1,000 pounds of coke burned

Applicable Compliance Method:

If required, the procedures specified under 40 CFR 63.1571 and under the conditions specified in Table 4 of 40 CFR Part 63 Subpart UUU shall be used to demonstrate compliance.

g. Emission Limitation:

500 ppmvd CO as a one-hour average

Applicable Compliance Method:

If required, Method 10 of 40 CFR Part 60, Appendix A shall be used to demonstrate compliance. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

h. Emission Limitation:

HAP Emission limitation options under A.I.2.j, A.I.2.k and A.I.2.m
Applicable Compliance Method:

The permittee shall demonstrate continuous compliance with the emission limitation options according to Section A.III.8.

i. Emission Limitation:

$SO_2$ emissions from the FCCU shall not exceed 351 ppmvd at 0% oxygen as a rolling 7-day average

Applicable Compliance Method:

The Monitoring and Recordkeeping Requirements of Section A.III shall serve as demonstration of compliance with this emission limitation. If required, the permittee shall demonstrate compliance using Method 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.

j. Emission Limitation:

$SO_2$ emissions from the FCCU shall not exceed 190 ppmvd at 0% oxygen as a rolling 365-day average

Applicable Compliance Method:

The Monitoring and Recordkeeping Requirements of Section A.III shall serve as demonstration of compliance with this emission limitation. If required, the permittee shall demonstrate compliance using Method 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.

k. Emission Limitation:

20 ppmvd ammonia

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance using U.S. EPA Conditional Test Method (CTM) 027. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

l. Emission Limitation:

41.61 tons per year ammonia

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission rate at 8,760 hours per year, therefore, compliance with the short-term emission limitation constitutes compliance with the annual emission limitation.

2. Each CEMS shall be audited at least once each calendar quarter. Successive quarterly audits shall

occur no closer than 2 months. The audits shall be conducted as follows:

a. Relative Accuracy Test Audit (RATA). The RATA shall be conducted at least once every four calendar quarters. Conduct the RATA as described for the RA test procedure in the applicable PS in appendix B of 40 CFR Part 60 (e.g., PS 2 for $SO_2$ and $NO_X$). In addition, analyze the appropriate performance audit samples received from USEPA as described in the applicable sampling methods (e.g., Methods 6 and 7).

i. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or 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 Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

ii. Personnel from the appropriate Ohio EPA District Office or 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.

b. Cylinder Gas Audit (CGA). If applicable, a CGA may be conducted in three of four calendar quarters, but in no more than three quarters in succession.

c. Relative Accuracy Audit (RAA). The RAA may be conducted three of four calendar quarters, but in no more than three quarters in succession. To conduct a RAA, follow the procedure described in the applicable PS in appendix B of 40 CFR Part 60 for the relative accuracy test, except that only three sets of measurement data are required. Analyses of USEPA performance audit samples are also required.

3. [40 CFR Part 63 subpart UUU]
The following requirements of 40 CFR Part 63 subpart UUU, apply from April 11, 2005 onward, however the initial testing may need to be done before that date.

a. [63.1564(b)] DEMONSTRATING INITIAL COMPLIANCE WITH THE METAL HAP EMISSIONS AND WORK PRACTICE STANDARDS FOR CATALYTIC CRACKING UNITS

i. [63.1564(b)(1)]
The permittee shall install, operate, and maintain a continuous monitoring system(s) according to the requirements in 40 CFR 63.1572 [see section A.III.] and Table 3 [see section A.VI.].

ii. [63.1564(b)(2)]
The permittee shall conduct a performance test for each catalytic cracking unit not subject to the NSPS for PM according to the requirements in 40 CFR 63.1571 [see section A.V.] and under the conditions specified in Table 4 [see section A.VI.].

iii. [63.1564(b)(3)]
The permittee shall establish each site-specific operating limit in Table 2 [see section A.VI.] that applies to this emissions unit according to the procedures in Table 4 [see section A.VI.].

iv. [63.1564(b)(4)]
The permittee shall use the procedures in 40 CFR 63.1564(b)(4)(i) through (iv) below to determine initial compliance with the emission limitations.

(a) [63.1564(b)(4)(i)]
If Option 1 is elected in 40 CFR 63.1564(a)(1)(i) [see section A.I.2.], the NSPS requirements, compute the PM emission rate (lb/1,000 lbs of coke burn-off) for each run using Equations 1, 2, and 3 (if applicable) below as follows:

*(Eq.1)*

~ = ~ K SUB 1 Q SUB r ~ ( %CO SUB 2 + %CO ) ~ + ~ K SUB 2 Q SUB a ~- ~ K SUB 3 Q SUB oxy ~ ( %O SUB xy ~- ~ %O SUB sd ) ~ / ~ R SUB c

Where:
$R_c$ = Coke burn-off rate, kg/hr (lb/hr);
$Q_r$ = Volumetric flow rate of exhaust gas from catalyst regenerator before adding air or gas streams. Example: The permittee may measure after an electrostatic precipitator, but the permittee shall measure before a carbon monoxide boiler, dscm/min (dscf/min);
$Q_a$ = Volumetric flow rate of air to catalytic cracking unit catalyst regenerator, as determined from instruments in the catalytic cracking unit control room, dscm/min (dscf/min);
$\%CO_2$ = Carbon dioxide concentration in regenerator exhaust, percent by volume (dry basis);
%CO = Carbon monoxide concentration in regenerator exhaust, percent by volume (dry basis);
$\%O_2$ = Oxygen concentration in regenerator exhaust, percent by volume (dry basis);
$K_1$ = Material balance and conversion factor, 0.2982 (kg-min)/(hr-dscm-%) (0.0186 (lb-min)/(hr-dscf-%));
$K_2$ = Material balance and conversion factor, 2.088 (kg-min)/(hr-dscm) (0.1303 (lb-min)/(hr-dscf));
$K_3$ = Material balance and conversion factor, 0.0994 (kg-min)/(hr-dscm-%) (0.0062 (lb-min)/(hr-dscf-%));
$Q_{oxy}$ = Volumetric flow rate of oxygen-enriched air stream to regenerator, as determined from instruments in the catalytic cracking unit control room, dscm/min (dscf/min); and
$\%O_{xy}$ = Oxygen concentration in oxygen-enriched air stream, percent by volume (dry basis).

E = ~ K SUB 1 Q SUB r ~ ( %CO SUB 2 + %CO ) ~ + ~ K SUB 2 Q SUB a ~- ~ K SUB 3 Q SUB oxy ~ ( %O SUB xy ~- ~ %O SUB sd } OVER R SUB c

*(Eq.2)*

Where:
E = Emission rate of PM, kg/1,000 kg (lb/1,000 lb) of coke burn-off;
$C_s$ = Concentration of PM, g/dscm (lb/dscf);
$Q_{sd}$ = Volumetric flow rate of the catalytic cracking unit catalyst regenerator flue gas as measured by Method 2 in 40 CFR Part 60, appendix A, dscm/hr (dscf/hr);
$R_c$ = Coke burn-off rate, kg coke/hr (1,000 lb coke/hr); and
K = Conversion factor, 1.0 (kg ²/g)/(1,000 kg) (1,000 lb/(1,000 lb)).

E SUB s ~ = ~ 1.0 ~ + ~ A ~ ( H/R SUB c ) ~ K

*(Eq.3)*

Where:
$E_s$ = Emission rate of PM allowed, kg/1,000 kg (1b/1,000 lb) of coke burn-off in catalyst regenerator;
1.0 = Emission limitation, kg coke/1,000 kg (lb coke/1,000 lb);
A = Allowable incremental rate of PM emissions, 0.18 g/million cal (0.10 lb/million Btu); and
H = Heat input rate from solid or liquid fossil fuel, million cal/hr (million Btu/hr). Make sure the Toledo Division of Environmental Services approves procedures for determining the heat input rate.
$R_c$ = Coke burn-off rate, kg coke/hr (1,000 lb coke/hr) determined using Equation 1 above; and
K' = Conversion factor to units to standard, 1.0 ($kg^2/g$)/(1,000 kg) ($10^3$ lb/(1,000 lb)).

(b) [63.1564(b)(4)(ii)]
If Option 2 is elected in 40 CFR 63.1564(a)(1)(ii) [see section A.I.2], the PM emission limit, compute the PM emission rate (lb/1,000 lbs of coke burn-off) using Equations 1 and 2 above and the site-specific opacity

o Opacity~ Limit~ = ~Opacity_st ~×~left( {1~ lb/1,000 lb~ coke~ burn} over p {PMEmR_st} right)
e
r
a
ting limit (if a continuous opacity monitoring system is used) using Equation 4 of this section as follows:

*(Eq. 4)*

Where:
Opacity limit = Maximum permissible hourly average opacity, percent, or 10 percent, whichever is greater;
$Opacity_{st}$ = Hourly average opacity measured during the emissions unit test runs, percent; and

$PMEmR_{st}$ = PM emission rate measured during the emissions unit test, lb/1,000 lbs coke burn.

(c) [63.1564(b)(4)(iii)]
If Option 3 is elected in 63.1564(a)(1)(iii) [see section A.I.2.], the Ni lb/hr emission limit, compute the Ni emission rate using Equation 5 below and the site-specific Ni operating limit (if the permittee uses a continuous opacity monitoring system) using Equations 6 and 7 of this section as follows:

FUNC {
{E SUB Ni SUB 1~=~C SUB Ni~x~Q

*(Eq. 5)*

Where:
$E_{Ni1}$ = Mass emission rate of Ni, mg/hr (lb/hr); and
$C_{Ni}$ = Ni concentration in the catalytic cracking unit catalyst regenerator flue gas as measured by Method 29 in appendix A of 40 CFR Part 60, mg/dscm (lbs/dscf).

Opacity SUB 1~ =~ {{13~ g~ Ni/hr} over {NiEmR1_st}}~x~Opacity SUB st

*(Eq. 6)*

Where:
$Opacity_1$ = Opacity value for use in Equation 7 below, percent, or 10 percent, whichever is greater; and
$NiEmR1_{st}$ = Average Ni emission rate calculated as the arithmetic average Ni emission rate using Equation 5 above for each of the performance test runs, g Ni/hr.

*(Eq. 7)*

FUNC {Ni~Operating ~Limit SUB 1~
=~Opacity_1 ~×~ Q_{mon,st}~×~E-Cat_st
}

Where:
Ni operating $limit_1$ = Maximum permissible hourly average Ni operating limit, percent-acfm-ppmw, i.e., site-specific Ni operating limit;
$Q_{mon,st}$ = Hourly average actual gas flow rate as measured by the continuous parameter monitoring system during the performance test or using the alternative procedure in 40 CFR 63.1573 [see section A.III.], acfm; and
$E\text{-}Cat_{st}$ = Ni concentration on equilibrium catalyst measured during emissions unit test, ppmw.

(d) [63.1564(b)(4)(iv)]
If Option 4 is elected in 63.1564(a)(1)(iv) [see section A.I.2.], the Ni lbs/1,000 lbs of coke burn-off emission limit, compute the Ni emission rate using
Equations 1FUNC {
(above) andE SUB Ni SUB 2~=~{C SUB Ni~x~Q SUB
8 (below)sd} OVER R SUB c
and the site}
specific Ni operating limit (if the permittee uses a continuous opacity monitoring system) using Equations 9 and 10 below as follows:

*(Eq. 8)*

Where:
$E_{Ni2}$ = Normalized mass emission rate of Ni, mg/kg coke (lb/1,000 lbs coke).

*(Eq. 9)* Opacity SUB 2 =~ {{1.0~mg/kg~coke}over {NiEmR2 SUB st}~x~Opacity SUB st}

Where:
$Opacity_2$ = Opacity value for use in Equation 10 below, percent, or 10 percent, whichever is greater; and
$NiEmR2_{st}$ = Average Ni emission rate calculated as the arithmetic average Ni emission rate using Equation 8 above for each of the performance test runs, mg/kg coke.

*(Eq. 10)*

Where:
Ni operating $limit_2$ = Maximum permissible hourly average Ni operating limit, percent-ppmw-acfm-hr/kg coke, i.e., the site-specific Ni operating limit; and
$R_{c,st}$ = Coke burn rate from Equation 1 above, as measured during the initial performance test, kg coke/hr.

v. [63.1564(b)(5)]
The permittee shall demonstrate initial compliance with each emission limitation that applies to this emissions unit according to Table 5 [see section A.VI.].

vi. [63.1564(b)(6)]
The permittee shall demonstrate initial compliance with the work practice standard in 63.1564(a)(3) [see section A.III.] by submitting the operation, maintenance, and monitoring plan to the Toledo Division of Environmental Services as part of the Notification of Compliance Status.

vii. [63.1564(b)(7)]
The permittee shall submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.1574 [see section A.IV.].

b. [63.1564(c)] DEMONSTRATING CONTINUOUS COMPLIANCE WITH THE METAL HAP EMISSIONS AND WORK PRACTICE STANDARDS FOR CATALYTIC CRACKING UNITS - 40 CFR Part 63 subpart UUU

i. [63.1564(c)(1)]
The permittee shall demonstrate continuous compliance with each emission limitation in Tables 1 and 2 [see section A.VI.] that applies to this emissions unit according to the methods specified in Tables 6 and 7 [see section A.VI.].

ii. [63.1564(c)(2)]
The permittee shall demonstrate continuous compliance with the work practice standard in 40 CFR 63.1564(a)(3) [see section A.III.] by maintaining records to

document conformance with the procedures in the operation, maintenance, and monitoring plan.

iii. [63.1564(c)(3)]
If the permittee uses a continuous opacity monitoring system and elects to comply with Option 3 in 40 CFR 63.1564(a)(1)(iii) [see section A.I.2.], the permittee shall determine continuous compliance with the site-specific Ni operating limit by using Equation 11 of this section as follows:

*(Eq. 11)*

{
N
i
~
O
p
e
r
a
t
i
n
g
~
V
a
l
u
e
S
U
B
1
~
=
~
O
p
a
c
i
t
y
~
×
~
Q
S
U
B
m
o
n
~
×
~

Where:
Ni operating value$_1$ = Maximum permissible hourly average Ni standard operating value, %-acfm-ppmw;
Opacity = Hourly average opacity, percent;
$Q_{mon}$ = Hourly average actual gas flow rate as measured by continuous parameter monitoring system or calculated by alternative procedure in 40 CFR 63.1573 [see section A.III.], acfm; and
E-Cat = Ni concentration on equilibrium catalyst from weekly or more recent measurement, ppmw.

iv. [63.1564(c)(4)]
If the permittee uses a continuous opacity monitoring system and elects to comply with Option 4 in 40 CFR 63.1564(a)(1)(iv) [see section A.I.2], the permittee shall determine continuous compliance with the site-specific Ni operating limit by using Equation 12 below as follows:

*(Eq. 12)*

Ni ~ Operating ~ ValueSUB2 ~ = ~ { Opacity ~ × ~ E-Cat ~ x ~ QSUBm

Where:
Ni operating value$_2$ = Maximum permissible hourly average Ni standard operating value, percent-acfm-ppmw-hr/kg coke.

c. [63.1565(b)] DEMONSTRATING INITIAL COMPLIANCE WITH THE ORGANIC HAP EMISSIONS AND WORK PRACTICE STANDARDS FOR CATALYTIC CRACKING UNITS - 40 CFR Part 63 subpart UUU

i. [63.1565(b)(1)]
The permittee shall install, operate, and maintain a continuous monitoring system according to the requirements in 40 CFR 63.1572 [see section A.III.] and Table 10 [see section A.VI.]. Except:

(a) [63.1565)(b)(1)(i)]
Whether or not the catalytic cracking unit is subject to the NSPS for CO in 40 CFR 60.103, the permittee doesn't have to install and operate a continuous emission monitoring system if its shown that CO emissions from the vent average less than 50 parts per million (ppm), dry basis. The permittee shall get an exemption from the permitting authority, based on the permittee's written request. To show that the emissions average is less than 50 ppm (dry basis), the permittee shall continuously monitor CO emissions for 30 days using a CO continuous emission monitoring system that meets the requirements in 40 CFR 63.1572 [see section A.III.].

(b) [63.1565)(b)(1)(ii)]
If the catalytic cracking unit isn't subject to the NSPS for CO, the permittee doesn't have to install and operate a continuous emission monitoring system or a continuous parameter monitoring system if the permittee vents emissions to a boiler (including a "CO boiler") or process heater that has a design heat input capacity of at least 44 megawatts (MW).

(c) [63.1565)(b)(1)(iii)]
If the catalytic cracking unit isn't subject to the NSPS for CO, the permittee doesn't have to install and operate a continuous emission monitoring system or a continuous parameter monitoring system if the permittee vents emissions to a boiler or process heater in which all vent streams are introduced into the flame zone.

ii. [63.1565(b)(2)]

The permittee shall conduct each performance test for a catalytic cracking unit not subject to the NSPS for CO according to the requirements in 40 CFR 63.1571 [see section A.V.] and under the conditions specified in Table 11 [see section A.VI.] of 40 CFR Part 63 subpart UUU.

iii. [63.1565(b)(3)]
The permittee shall establish each site-specific operating limit in Table 9 [see section A.VI.] that applies to this emissions unit according to the procedures in Table 11 [see section A.VI.].

iv. [63.1565(b)(4)]
The permittee shall demonstrate initial compliance with each emission limitation that applies to this emissions unit according to Table 12 [see section A.VI.].

v. [63.1565(b)(5)]
The permittee shall demonstrate initial compliance with the work practice standard in 40 CFR 63.1656(a)(3) [see section A.I.2.] by submitting the operation, maintenance, and monitoring plan to the Toledo Division of Environmental Services as part of the Notification of Compliance Status according to 40 CFR 63.1574 [see section A.IV.].

vi. [63.1565(b)(6)]
The permittee shall submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.1574 [see section A.IV.].

d. [63.1565(c)] DEMONSTRATING CONTINUOUS COMPLIANCE WITH THE ORGANIC HAP EMISSIONS AND WORK PRACTICE STANDARDS FOR CATALYTIC CRACKING UNITS - 40 CFR Part 63 subpart UUU

i. [63.1565(c)(1)]
The permittee shall demonstrate continuous compliance with each emission limitation in Tables 8 and 9 [see section A.VI.] of this subpart that applies to this emissions unit according to the methods specified in Tables 13 and 14 [see section A.VI.].

ii. [63.1565(c)(2)]
The permittee shall demonstrate continuous compliance with the work practice standard in 40 CFR 63.1565(a)(3) [see section A.III.] by complying with the procedures in the operation, maintenance, and monitoring plan.

e. [63.1569(b)] DEMONSTRATING INITIAL COMPLIANCE WITH THE WORK PRACTICE STANDARDS FOR BYPASS LINES - 40 CFR Part 63 subpart UUU

i. [63.1569(b)(1)]
If the permittee elects the option in 63.1569(a)(1)(i) [see section A.I.2], the permittee shall conduct each performance test for a bypass line according to the requirements in 40 CFR 63.1571 [see section A.V.] and under the conditions specified in Table 37 [see section A.VI.].

ii. [63.1569(b)(2)]
The permittee shall demonstrate initial compliance with each work practice standard in Table 36 [see section A.VI.] that applies to this emissions unit according to Table 38 [see section A.VI.].

iii. [63.1569(b)(3)]
The permittee shall demonstrate initial compliance with the work practice standard in 63.1569(a)(3) [see section A.III.] by submitting the operation, maintenance, and monitoring plan to the Toledo Division of Environmental Services as part of the notification of compliance status.

iv. [63.1569(b)(4)]
The permittee shall submit the notification of compliance status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.1574 [see section A.IV.].

f. [63.1569(c)] DEMONSTRATING CONTINUOUS COMPLIANCE WITH THE WORK PRACTICE STANDARDS FOR BYPASS LINES - 40 CFR Part 63 subpart UUU

i. [63.1569(c)(1)]
The permittee shall demonstrate continuous compliance with each work practice standard in Table 36 [see section A.VI.] that applies to this emissions unit according to the requirements in Table 39 [see section A.VI.].

ii. [63.1569(c)(2)]
The permittee shall demonstrate continuous compliance with the work practice standard in 63.1569(a)(2) [see section A.I.2] by complying with the procedures in the operation, maintenance, and monitoring plan.

g. [63.1571] PERFORMANCE TEST AND OTHER INITIAL COMPLIANCE DEMONSTRATION - 40 CFR Part 63 subpart UUU

i. [63.1571(a)]
The permittee shall conduct performance tests and report the results by no later than 150 days after April 11, 2005 and according to the provisions in 40 CFR 63.6(a)(2) of subpart A.

(a) [63.1571(a)(1)]
For each emission limitation or work practice standard where initial compliance is not demonstrated using a performance test, opacity observation, or visible emission observation, the permittee shall conduct the initial compliance demonstration within 30 calendar days after April 11, 2005.

(b) [63.1571(a)(2)]
For each emission limitation where the averaging period is 30 days, the 30-day period for demonstrating initial compliance begins at 12:00 a.m. on April 11, 2005 and ends at 11:59 p.m., May 11, 2005.

ii. [63.1571(b)] GENERAL REQUIREMENTS FOR PERFORMANCE TESTS AND PERFORMANCE EVALUATIONS
The permittee shall:

(a) [63.1571(b)(1)]
conduct each performance test according to the requirements in 40 CFR 63.7(e)(1);

(b) [63.1571(b)(2)]
except for opacity and visible emission observations, conduct three separate test runs for each performance test as specified in 40 CFR 63.7(e)(3). Each test run shall last at least 1 hour;

(c) [63.1571(b)(3)]
conduct each performance evaluation according to the requirements in 40

CFR 63.8(e);

(d) [63.1571(b)(4)]
not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR 63.7(e)(1); and

(e) [63.1571(b)(5)]
calculate the average emission rate for the performance test by calculating the emission rate for each individual test run in the units of the applicable emission limitation using Equation 2, 5, or 8 of 40 CFR 63.1564 [see section A.V.], and determining the arithmetic average of the calculated emission rates.

iii. [63.1571(c)] ENGINEERING ASSESSMENT
The permittee may choose to use an engineering assessment to calculate the process vent flow rate, net heating value, TOC emission rate, and total organic HAP emission rate expected to yield the highest daily emission rate when determining the emission reduction or outlet concentration for the organic HAP standard for catalytic reforming units. If an engineering assessment is used, the permittee shall document all data, assumptions, and procedures to the satisfaction of the Toledo Division of Environmental Services. An engineering assessment may include the approaches listed in 40 CFR 63.1571(c)(1) through (c)(4) below. Other engineering assessments may be used but are subject to review and approval by the Toledo Division of Environmental Services.

(a) [63.1571(c)(1)]
The permittee may use previous test results provided the tests are representative of current operating practices at the emissions unit, and provided EPA methods or approved alternatives were used;

(b) [63.1571(c)(2)]
The permittee may use bench-scale or pilot-scale test data representative of the process under representative operating conditions;

(c) [63.1571(c)(3)]
The permittee may use maximum flow rate, TOC emission rate, organic HAP emission rate, or organic HAP or TOC concentration specified or implied within a permit limit applicable to the process vent; or

(d) [63.1571(c)(4)]

The permittee may use design analysis based on engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(i) [63.1571(c)(4)(i)]
use of material balances based on process stoichiometry to estimate maximum TOC concentrations;

(ii) [63.1571(c)(4)(ii)]
calculation of hourly average maximum flow rate based on physical equipment design such as pump or blower capacities; and

(iii) [63.1571(c)(4)(iii)]
calculation of TOC concentrations based on saturation conditions.

iv. [63.1571(d)] ADJUSTING THE PROCESS OR CONTROL DEVICE MEASURED VALUES WHEN ESTABLISHING AN OPERATING LIMIT
If the permittee does a performance test to demonstrate compliance, the permittee shall base the process or control device operating limits for continuous parameter monitoring systems on the results measured during the performance test. The permittee may adjust the values measured during the performance test according to the criteria in 40 CFR 63.1571(d)(1) through (d)(3) below.

(a) [63.1571(d)(1)]
If the permittee elects the option in 40 CFR 63.1564(a)(1)(iii) [see section A.I.2.] (Ni lb/hr), and uses continuous parameter monitoring systems, the permittee shall establish an operating limit for the equilibrium catalyst Ni concentration based on the laboratory analysis of the equilibrium catalyst Ni concentration from the initial performance test. 40 CFR 63.1564(b)(2) [see section A.V.] allows the permittee to adjust the laboratory measurements of

the equilibrium catalyst Ni concentration to the maximum level. The permittee shall make this adjustment using Equation 1 below as follows:

FUNC {Ecat-Limit~=~{13~g~Ni/hr} OVER {NiEmR1 SUB st}~x~Ecat SUB st
} *(Eq.1)*

Where:
Ecat-Limit = Operating limit for equilibrium catalyst Ni concentration, mg/kg;
$NiEmR1_{st}$ = Average Ni emission rate calculated as the arithmetic average

Ni emission rate using Equation 5 below for each performance test run, g Ni/hr; and
$Ecat_{st}$ = Average equilibrium Ni concentration from laboratory test results, mg/kg.

(b) [63.1571(d)(2)]
If the permittee elects the option in 40 CFR 63.1564(a)(1)(iv) [see section A.I.2.] (Ni lb/1,000 lb of coke burn-off), and use continuous parameter monitoring systems, the permittee shall establish an operating limit for the equilibrium catalyst Ni concentration based on the laboratory analysis of the equilibrium catalyst Ni concentration from the initial performance test. Section 63.1464(b)(2) [see section A.V.] allows the permittee to adjust the laboratory measurements of the equilibrium catalyst Ni concentration to the maximum level. The permittee shall make this adjustment using Equation 2 below as follows:

Ecat Limit = {1.0 mg/kg coke burn-off} OVER {NiEmR2 SUB st} x Ecat SUB st

*(Eq. 2)*

Where:

$NiEmR2_{st}$ = Average Ni emission rate calculated as the arithmetic average Ni emission rate using Equation 8 of 40 CFR 63.1564 [see section A.V.] for each performance test run, mg/kg coke burn-off.

(c) [63.1571(d)(3)]
If the permittee chooses to adjust the equilibrium catalyst Ni concentration to the maximum level, the permittee can't adjust any other monitored operating parameter (i.e., gas flow rate, voltage, pressure drop, liquid-to-gas ratio).

(d) [63.1571(d)(4)]
If the permittee uses continuous parameter monitoring systems, the permittee may adjust one of the monitored operating parameters (flow rate, voltage and secondary current, pressure drop, liquid-to-gas ratio) from the average of measured values during the performance test to the maximum

value (or minimum value, if applicable) representative of worst-case operating conditions, if necessary. This adjustment of measured values may be done using control device design specifications, manufacturer recommendations, or other applicable information. The permittee shall provide supporting documentation and rationale in the Notification of Compliance Status, demonstrating to the satisfaction of the Toledo Division of Environmental Services, that the affected source complies with the applicable emission limit at the operating limit based on adjusted values.

v. [63.1571(e)]
The permittee may change the established operating limit by meeting the requirements in 40 CFR 63.1571(e)(1) through (3) below.

(a) [63.1571(e)(1)]
The permittee may change the established operating limit for a continuous parameter monitoring system by doing an additional performance test, a performance test in conjunction with an engineering assessment, or an engineering assessment to verify that, at the new operating limit, the emissions unit is in compliance with the applicable emission limitation.

(b) [63.1571(e)(2)]
The permittee shall establish a revised operating limit for the continuous parameter monitoring system if changes are made in the process or operating conditions that could affect control system performance or designated conditions are changed after the last performance or compliance tests were done. The permittee can establish the revised operating limit as described in 40 CFR 63.1571(e)(1) above.

(c) [63.1571(e)(3)]
The permittee may change the site-specific opacity operating limit or Ni operating limit only by doing a new performance test.

## VI. Miscellaneous Requirements

1. Excessive Audit Inaccuracy. If the RA, using the RATA, CGA, or RAA exceeds the criteria in section 5.2.3 of 40 CFR Part 60 Appendix F Procedure 1, the CEMS is out-of-control. If the CEMS is out-of-control, take necessary corrective action to eliminate the problem. Following corrective action, the permittee shall audit the CEMS with a RATA, CGA, or RAA to determine if the CEMS is operating within the specifications. A RATA shall always be used following an out-of-control period resulting from a RATA. The audit following corrective action does not require

analysis of EPA performance audit samples. If audit results show the CEMS to be out-of-control, the CEMS operator shall report both the audit showing the CEMS to be out-of-control and the results of the audit following corrective action showing the CEMS to be operating within specifications.

2. The requirements of this PTI shall supercede all requirements for this emissions unit contained in PTI 04-01290.

3. [40 CFR Part 63 subpart UUU]
The following requirements of 40 CFR Part 63 subpart UUU, apply from April 11, 2005 onward, however the initial compliance reports and initial testing will need to be done before that date.

   a. The following tables from 40 CFR Part 63 subpart UUU are attached:
   Tables 1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 36; 37; 38; 39; 40; 41; 42; 43 and 44.

**TABLE 1 TO SUBPART UUU OF PART 63**.—METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1564(a)(1), you shall meet each emission limitation in the following table that applies to you]

| For each new or existing catalytic cracking unit * * * | You shall meet the following emission limits for each catalyst regenerator vent * * |
|---|---|
| 1. Subject to the new source performance standard (NSPS) for PM in 40 CFR 60.102. | PM emissions shall not exceed 1.0 kilogram (kg) per 1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, you shall limit the incremental rate of PM to no more than 43.0 grams per Megajoule (g/MJ) or 0.10 pounds per million British thermal units (lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions shall not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period. |
| 2. Option 1: NSPS requirements not subject to the NSPS for PM in 40 CFR 60.102. | PM emissions shall not exceed 1.0 kg/1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or in supplemental liquid or solid fossil fuel, you shall limit the incremental rate of PM to no more than 43.0 g/MJ or lb/million Btu of heat input attributable to the liquid or solid fossil fuel; and the opacity of emissions shall not exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period. |
| 3. Option 2: PM limit not subject to the NSPS for PM in 40 CFR 60.102. | PM emissions shall not exceed 1.0 kg/1,000 kg (1.0 lb/1,000 lbs) of coke burn-off in the catalyst regenerator. |
| 4. Option 3: Ni lb/hr not subject to the NSPS for PM in 40 CFR 60.102. | Nickel (Ni) emissions shall not exceed 13,000 milligrams per hour (mg/hr) (0.029 lb/hr). |
| 5. Option 4: Ni Lb/1,000 lbs of coke burn-off not subject to the NSPS for PM in 40 CFR 60.102. | Ni emissions shall not exceed 1.0 mg/kg (0.001 lb/1,000 lbs) of coke burn-off in the catalyst regenerator. |

**TABLE 2 TO SUBPART UUU OF PART 63**.—OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(a)(2), you shall meet each operating limit in the following table that applies to you]

| For each new or existing catalytic cracking unit * * * | For this type of continuous monitoring system * * * | For this type of control device * * * | You shall meet this operating limit * * * |
|---|---|---|---|

Emissions Unit ID: P007

| | | | |
|---|---|---|---|
| 1. Subject to the NSPS for PM in 40 CFR 60.102. | Continuous opacity monitoring system. | Not applicable ..... | Not applicable. |
| 2. Option 1: NSPS requirements not subject to the NSPS for PM in 40 CFR 60.102. | Continuous opacity monitoring system. | Not applicable ..... | Not applicable. |
| 3. Option 2: PM limit not subject to the NSPS for PM in 40 CFR 60.102. | a. Continuous opacity monitoring system. | Electrostatic precipitator ..... | Maintain the hourly average opacity of emissions from your catalyst regenerator vent no higher than the site-specific opacity limit established during the performance test. |
| | b. Continuous parameter monitoring systems. | Electrostatic precipitator ..... | Maintain the daily average gas flow rate no higher than the limit established in the performance test; and maintain the daily average voltage and secondary current (or total power input) above the limit established in the performance test. |
| | c. Continuous parameter monitoring systems. | Wet scrubber ..... | Maintain the daily average pressure drop above the limit established in the performance test (not applicable to a wet scrubber of the non-venturi jet-ejector design); and maintain the daily average liquid-to-gas ratio above the limit established in the performance test. |
| 4. Option 3: Ni lb/hr not subject to the NSPS for PM in 40 CFR 60.102. | a. Continuous opacity monitoring system. | Electrostatic precipitator ..... | Maintain the daily average Ni operating value no higher than the limit established during the performance test. |
| | b. Continuous parameter monitoring systems. | i. Electrostatic precipitator .... | Maintain the daily average gas flow rate no higher than the limit established during the performance test; maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test; and maintain the daily average voltage and secondary current (or total power input) above the established during the performance test. |
| *(Continued)* | | | |

**(Cont.) TABLE 2 TO SUBPART UUU OF PART 63**.—OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(a)(2), you shall meet each operating limit in the following table that applies to you]

| For each new or existing catalytic cracking unit * * * | For this type of continuous monitoring system * * * | For this type of control device * * * | You shall meet this operating limit * * * |
|---|---|---|---|

| | | | |
|---|---|---|---|
| | | ii. Wet scrubber ..... | Maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test; maintain the daily average pressure drop above the limit established during the performance test (not applicable to a non-venturi wet scrubber of the jet-ejector design);and maintain the daily average liquid-to-gas ratio above the limit established during the performance test. |
| 5. Option 4: Ni lb/1,000 lbs of coke burn-off not subject to the NSPS for PM in 40 CFR 60.102. | a. Continuous opacity monitoring system | Electrostatic precipitator ..... | Maintain the daily average Ni operating value no higher than the Ni operating limit established during the performance test. |
| | b. Continuous parameter monitoring systems. | i. Electrostatic precipitator .... | Maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test; and maintain the daily average voltage and secondary current for total power input) above the limit established |
| | | ii. Wet scrubber ..... | during the performance test. Maintain the monthly rolling average of the equilibrium catalyst Ni concentration no higher than the limit established during the performance test; maintain the daily average pressure drop above the limit established during the performance test (not applicable to a non-venturi wet scrubber of the jet-ejector design); and maintain the daily average liquid-to-gas ratio above the limit established during the performance test. |

**TABLE 3 TO SUBPART UUU OF PART 63**.—CONTINUOUS MONITORING SYSTEMS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(b)(1), you shall meet each requirement in the following table that applies to you]

| For each new or existing catalytic cracking unit * * * | If your catalytic cracking unit is * * * | And you use this type of control device for your vent * * * | You shall install, operate, and maintain a * * * |
|---|---|---|---|

Emissions Unit ID: P007

| | | | |
|---|---|---|---|
| 1. Subject to the NSPS for PM in 40 CFR 60.102. | Any size ..... | Electrostatic precipitator or wet scrubber or no control device. | CONTINUOUS opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent. |
| 2. Option 1: NSPS limits not subject to the NSPS for PM in 40 CFR 60.102. | Any size ..... | Electrostatic precipitator or wet scrubber or no control device. | Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent. |
| 3. Option 2: PM limit not subject to the NSPS for PM in 40 CFR 60.102. | a. Over 20,000 barrels per day fresh feed capacity. | Electrostatic precipitator ..... | CONTINUOUS opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent. |
| | b. Up to 20,000 barrels per day fresh feed capacity. | Electrostatic precipitator ..... | Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent; or continuous parameter monitoring systems to measure and record the gas flow rate to the control device and the voltage and secondary current (or total power input) to the control device. |
| | c. Any size ..... | i. Wet scrubber ..... | (1) Continuous parameter monitoring system to measure and record the pressure drop across the scrubber, gas flow rate to the scrubber, and total liquid (or scrubbing liquor) flow rate to the scrubber.<br><br>(2) If you use a wet scrubber of the non-venturi jet-ejector design, you're not required to install and operate a continuous parameter monitoring system for pressure drop. |
| | d. Any size ..... | No electrostatic precipitator or wet scrubber. | CONTINUOUS opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent. |
| 4. Option 3: Ni lb/hr not subject to the NSPS for PM in 40 CFR 60.102. | a. Over 20,000 barrels per day fresh feed capacity. | Electrostatic precipitator ..... | CONTINUOUS opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate. |

*(Continued)*

**(Continued) TABLE 3 TO SUBPART UUU OF PART 63**.—CONTINUOUS MONITORING SYSTEMS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(b)(1), you shall meet each requirement in the following table that applies to you]

| For each new or existing catalytic cracking unit * * * | If your catalytic cracking unit is * * * | And you use this type of control device for your vent * * * | You shall install, operate, and maintain a * * * |
|---|---|---|---|

| | | | |
|---|---|---|---|
| | b. Up to 20,000 barrels per day fresh feed capacity. | Electrostatic precipitator ..... | Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate; or continuous parameter monitoring systems to measure and record the gas flow rate and the voltage and secondary current (or total power input) to the control device. |
| | c. Any size ..... | Wet scrubber ..... | (1) Continuous parameter monitoring system to measure and record the pressure drop across the scrubber, gas flow rate to the scrubber, and total liquid (or scrubbing liquor) flow rate to the scrubber.<br><br>(2) If you use a wet scrubber of the non-venturi jet-ejector, design, you're not required to install and operate a continuous parameter monitoring system for pressure drop. |
| | d. Any size ..... | No electrostatic precipitator or wet scrubber. | Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate. |
| 5. Option 4: Ni lb/1,000 lbs of coke burn-off not subject to the NSPS for PM in 40 CFR 60.102. | a. Over 20,000 barrels per day fresh feed capacity. | Electrostatic precipitator ..... | Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate. |
| | b. Up to 20,000 barrels per day fresh feed capacity. | Electrostatic precipitator ..... | Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate; or continuous parameter monitoring systems to measure and record the gas flow rate and the voltage and secondary current (or total power input) to the control device. |

*Continued)*

**Continued) TABLE 3 TO SUBPART UUU OF PART 63**.—CONTINUOUS MONITORING SYSTEMS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(b)(1), you shall meet each requirement in the following table that applies to you]

| For each new or existing catalytic cracking unit * * * | If your catalytic cracking unit is * * * | And you use this type of control device for your vent * * * | You shall install, operate, and maintain a * * * |
|---|---|---|---|
| | c. Any size ..... | Wet scrubber ..... | Continuous parameter monitoring system to measure and record the pressure drop across the scrubber, gas flow rate to the scrubber, and total liquid (or scrubbing liquor) flow rate to the scrubber. |
| | d. Any size ..... | No electrostatic precipitator or wet scrubber | Continuous opacity monitoring system to measure and record the opacity of emissions from each catalyst regenerator vent and continuous parameter monitoring system to measure and record the gas flow rate. |

Emissions Unit ID: P007

**TABLE 4 TO SUBPART UUU OF PART 63**.—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR PARTICULATE MATTER (PM)

[As stated in § 63.1564(b)(2), you shall meet each requirement in the following table that applies to you]

| For each new or existing catalytic cracking unit catalyst regenerator vent * * * | You shall * * * | Using * * * | According to these requirements * * * |
|---|---|---|---|
| 1. If you elect Option 1 in item 2 of Table 1, Option 2 in item 3 of Table 1, Option 3 in item 4 of Table 1, or Option 4 in item 5 of Table 1 of this subpart. | a. Select sampling port's location and the number of traverse ports. | Method 1 or 1A in appendix A to part 60 of this chapter. | Sampling sites shall be located at the outlet of the control device or the outlet of the regenerator, as applicable, and prior to any releases to the atmosphere. |
| | b. Determine velocity and volumetric flow rate. | Method 2, 2A, 2C, 2D, 2F, or 2G in appendix A to part 60 of this chapter, as applicable. | |
| | c. Conduct gas molecular weight analysis. | Method 3, 3A, or 3B in appendix A to part 60 of this chapter, as applicable. | |
| | d. Measure moisture content of the stack gas. | Method 4 in appendix A to part 60 of this chapter. | |
| | e. If you use an electro-static precipitator, record the total number of fields in the control system and how many operated during the applicable performance test. | | |
| | f. If you use a wet scrubber, record the total amount (rate) of water (or scrubbing liquid) and the amount (rate) of makeup liquid to the scrubber during each test run. | | |
| | a. Measure PM emissions ..... | | |
| 2. Option 1: Elect NSPS ..... | | Method 5B or 5F (40 CFR part 60, appendix A) to determine PM emissions and associated moisture content for units without wet scrubbers. Method 5B (40 CFR part 60, appendix A) to determine PM emissions and associated moisture content for unit with wet scrubber. | You shall maintain a sampling rate of at least 0.15 dry standard cubic meters per minute (dscm/min) (0.53 dry standard cubic feet per minute (dscf/min)). |
| | b. Compute PM emission rate (lbs/1,000 lbs) of coke burn-off. | Equations 1, 2, and 3 of § 63.1564 (if applicable). | |
| | c. Measure opacity of emissions. | Continuous opacity monitoring system. | You shall collect opacity monitoring data every 10 seconds during the entire period of the initial Method 5 performance test and reduce the data to 6-minute averages. |
| | a. Measure PM emissions ..... | | |
| 3. Option 2: PM limit ..... | b. Compute coke burn-off rate and PM emission rate. | See item 2. of this table ..... Equations 1 and 2 of § 63.1564 | See item 2. of this table. |

*(Continued)*

**(Continued) TABLE 4 TO SUBPART UUU OF PART 63**.—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR PARTICULATE MATTER (PM)
[As stated in § 63.1564(b)(2), you shall meet each requirement in the following table that applies to you]

| | | | |
|---|---|---|---|
| For each new or existing catalytic cracking unit catalyst regenerator vent * * * | You shall * * * | Using * * * | According to these requirements * * * |

| | | | |
|---|---|---|---|
| | c. Establish your site-specific opacity operating limit if you use a continuous opacity monitoring system. | Data from the continuous opacity monitoring system. | You shall collect opacity monitoring data every 10 seconds during the entire period of the initial Method 5 performance test and reduce the data to 6-minute averages; determine and record the hourly average opacity from all the 6-minute averages; and compute the site-specific limit using Equation 4 of § 63.1564. |
| 4. Option 3: Ni lb/hr ..... | a. Measure concentration of Ni and total metal HAP. | Method 29 (40 CFR part 60, appendix A). | You shall maintain a sampling rate of at least 0.028 dscm/min (0.74 dscf/min). |
| | b. Compute Ni emission rate (lb/hr). | Equation 5 of § 63.1564 | |
| | c. Determine the equilibrium catalyst Ni concentration. | EPA Method 6010B or 6020 or EPA Method 7520 or 7521 in SW–846 [1]; or, you can use an alternative method satisfactory to the Administrator. | You shall obtain 1 sample for each of the 3 runs; determine and record the average equilibrium catalyst Ni concentration for each of the 3 runs; and you may adjust the results for an individual run to the maximum value using Equation 1 of § 63.1571. |
| | d. If you use a continuous opacity monitoring system, establish your site-specific Ni operating limit. | i. Equations 6 and 7 of § 63.1564 using data from continuous opacity monitoring system, gas flow rate, results of equilibrium catalyst Ni concentration analysis, and Ni emission rate from Method 29 test. | (1) You shall collect opacity monitoring data every 10 seconds during the entire period of the initial Ni performance test; reduce the data to 6-minute averages; and determine and record the hourly average opacity from all the 6-minute averages.<br><br>(2) You shall collect gas flow rate monitoring data every 15 minutes during the entire period of the initial Ni performance test; measure the gas flow as near as practical to the continuous opacity monitoring system; and determine and record the hourly average actual gas flow rate from all the readings. |
| 5. Option 4: Ni lbs/1,000 lbs of coke burn-off. | a. Measure concentration of Ni and total metal HAP. | Method 29 (40 CFR part 60, appendix A). | You shall maintain a sampling rate of at least 0.028 dscm/min (0.74 dscf/min). |
| | b. Compute Ni emission rate (lb/1,000 lbs of coke burn-off). | Equations 1 and 8 of § 63.1564. | |
| | c. Determine the equilibrium catalyst Ni concentration. | EPA Method 6010B or 6020 or EPA Method 7520 or 7521 (SW–846) [1]; or, you can use an alternative method satisfactory to the Administrator. | You shall obtain 1 sample for each of the 3 runs; determine and record the equilibrium catalyst Ni concentration for each of the 3 samples; and you may adjust the laboratory results to the maximum value using Equation 2 of § 63.1571. |

*(Continued)*

**(Continued) TABLE 4 TO SUBPART UUU OF PART 63**.—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR PARTICULATE MATTER (PM)
[As stated in § 63.1564(b)(2), you shall meet each requirement in the following table that applies to you]

| | | | |
|---|---|---|---|
| For each new or existing catalytic cracking unit catalyst regenerator vent * * * | You shall * * * | Using * * * | According to these requirements * * * |

| | | | |
|---|---|---|---|
| | d. If you use a continuous opacity monitoring system, establish your site-specific Ni operating limit. | i. Equations 9 and 10 of § 63.1564 with data from continuous opacity monitoring system, coke burn-off rate, gas flow rate, results of equilibrium catalyst Ni concentration analysis, and Ni emission rate from Method 29 test. | (1) You shall collect opacity monitoring data every 10 seconds during the entire period of the initial Ni performance test; reduce the data to 6-minute averages; and determine and record the hourly average opacity from all the 6-minute averages.<br><br>(2) You shall collect gas flow rate monitoring data every 15 minutes during the entire period of the initial Ni performance test; measure the gas flow rate as near as practical to the continuous opacity monitoring system; and determine and record the hourly average actual gas flow rate from all the readings. |
| | e. Record the catalyst addition rate for each test and schedule for the 10-day period prior to the test. | Data from the continuous parameter monitoring systems and applicable performance test methods. | |
| 6. If you elect Option 2 in Entry 3 in Table 1, Option 3 in Entry 4 in Table 1, or Option 4 in Entry 5 in Table 1 of this subpart and you use continuous parameter monitoring systems. | a. Establish each operating limit in Table 2 of this subpart that applies to you. | Data from the continuous parameter monitoring systems and applicable performance test methods. | |
| | b. Electrostatic precipitator or wet scrubber: gas flow rate. | Data from the continuous parameter monitoring systems and applicable performance test methods. | You shall collect gas flow rate monitoring data every 15 minutes during the entire period of the initial performance test; and determine and record the maximum hourly average gas flow rate from all the readings. |
| | c. Electrostatic precipitator: voltage and secondary current (or total power input). | | You shall collect voltage and secondary current (or total power input) monitoring data every 15 minutes during the entire period of the initial performance test; and determine and record the minimum hourly average voltage and secondary current (or total power input) from all the readings. |
| | d. Electrostatic precipitator or wet scrubber: equilibrium catalyst Ni concentration. | Results of analysis for equilibrium catalyst Ni concentration. | You shall determine and record the average equilibrium catalyst Ni concentration for the 3 runs based on the laboratory results. You may adjust the value using Equation 1 or 2 of § 63.1571 as applicable. |
| | e. Wet scrubber: pressure drop (not applicable to non-venturi scrubber of jet ejector design). | Data from the continuous parameter monitoring systems and applicable performance test methods | You shall collect pressure drop monitoring data every 15 minutes during the entire period of the initial performance test; and determine and record the minimum hourly average pressure drop from all the readings. |

*(Continued)*

**(Continued) TABLE 4 TO SUBPART UUU OF PART 63**.—REQUIREMENTS FOR PERFORMANCE TESTS FOR METAL HAP EMISSIONS FROM

CATALYTIC CRACKING UNITS NOT SUBJECT TO THE NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR PARTICULATE MATTER (PM)
[As stated in § 63.1564(b)(2), you shall meet each requirement in the following table that applies to you]

| For each new or existing catalytic cracking unit catalyst regenerator vent * * * | You shall * * * | Using * * * | According to these requirements * * * |
|---|---|---|---|
| | f. Wet scrubber: liquid-to-gas ratio | Data from the continuous parameter monitoring systems and applicable performance test methods. | You shall collect gas flow rate and total water (or scrubbing liquid) flow rate monitoring data every 15 minutes during the entire period of the initial performance test; determine and record the hourly average gas flow rate and total water (or scrubbing liquid) flow rate from all the readings; and determine and record the minimum liquid-to-gas ratio |
| | g. Alternative procedure for gas flow rate. | Data from the continuous parameter monitoring systems and applicable performance test methods. | You shall collect air flow rate monitoring data or determine the air flow rate using control room instrumentation every 15 minutes during the entire period of the initial performance test; determine and record the hourly average rate of all the readings; and determine and record the maximum gas flow rate using Equation 1 of § 63.1573. |

**TABLE 5 TO SUBPART UUU OF PART 63**.—INITIAL COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS
[As stated in § 63.1564(b)(5), you shall meet each requirement in the following table that applies to you]

| | | |
|---|---|---|
| For each new and existing catalytic cracking unit catalyst regenerator vent** | For the following emission limit*** | You have demonstrated initial compliance if*** |

| | | |
|---|---|---|
| 1. Subject to the NSPS for PM in 40 CFR 60.102. | PM emissions shall not exceed 1.0 kg/1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the e | You have already conducted a performance test to demonstrate initial compliance wi |

**(Cont.) TABLE 5 TO SUBPART UUU OF PART 63**.—INITIAL COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1564(b)(5), you shall meet each requirement in the following table that applies to you]

| For each new and existing catalytic cracking unit catalyst regenerator vent * * | For the following emission limit * * * | You have demonstrated initial compliance if * * * |
|---|---|---|
| 3. Option 2: not subject to the NSPS for PM ..... | PPM emissions shall not exceed 1.0 kg/1,000 kg (1.0 lb/1,000 lb) of coke burn-off in the catalyst regenerator. | The average PM emission rate, measured using EPA Method 5 over the period of the initial performance test, is less than or equal to 1.0 kg/1,000 kg (1.0 lb/1,000 lbs) of coke burn-off in the catalyst regenerator. The PM emission rate is calculated using Equations 1 and 2 of § 63.1564; and if you use a continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572. |
| 4. Option 3: not subject to the NSPS for PM ..... | Nickel (Ni) emissions from your catalyst regenerator vent shall not exceed 13,000 mg/ hr (0.029 lb/hr). | The average Ni emission rate, measured using Method 29 over the period of the initial performance test, is not more than 13,000 mg/hr (0.029 lb/hr). The Ni emission rate is calculated using Equation 5 of § 63.1564; and if you use a continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572. |
| 5. Option 4: Ni lb/1,000 lbs of coke burn-off not subject to the NSPS for PM. | Ni emissions from your catalyst regenerator vent shall not exceed 1.0 mg/kg (0.001 lb/ 1,000 lbs) of coke burn-off in the catalyst regenerator. | The average Ni emission rate, measured using Method 29 over the period of the initial performance test, is not more than 1.0 mg/kg (0.001 lb/1,000 lbs) of coke burn-off in the catalyst regenerator. The Ni emission rate is calculated using Equation 8 of § 63.1564; and if you use a continuous opacity monitoring system, your performance evaluation shows the system meets the applicable requirements in § 63.1572. |

**TABLE 6 TO SUBPART UUU OF PART 63**.—CONTINUOUS COMPLIANCE WITH METAL HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1564(c)(1), you shall meet each requirement in the following table that applies to you]

| For each new and existing catalytic cracking unit * * * | Subject to this emission limit for your catalyst regenerator vent * * * | You shall demonstrate continuous compliance by * * * |
|---|---|---|

Emissions Unit ID: P007

| | | |
|---|---|---|
| 1. Subject to the NSPS for PM in 40 CFR 60.102. | a. PM emissions shall not exceed 1.0 lb/ 1,000 lbs of coke burn-off in the catalyst regenerator; if the discharged gases pass through an incinerator or waste heat boiler in which you burn auxiliary or supplemental liquid or solid fossil fuel, incremental rate of PM can't exceed 43.0 g/MJ (0.10 lb/million Btu) of heat input attributable to the liquid or solid fossil fuel; and opacity of emissions can't exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period. | i. Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) using Equation 2 in § 63.1564 and the hours of operation for each catalyst regenerator; maintaining PM emission rate below 1.0 kg/1,000 kg (1.0 lb/ 1,000 lbs) of coke burn-off; if applicable, determining and recording each day the rate of combustion of liquid or solid fossil fuels (liters/hour or kilograms/hour) using Equation 3 of § 63.1564 and the hours of operation during which liquid or solid fossil fuels are combusted in the incinerator waste heat boiler; if applicable, maintaining PM rate below 43 g/MJ (0.10 lb/million Btu) of heat input attributable to the solid or liquid fossil fuel; collecting the continuous opacity monitoring data for each catalyst regenerator vent according to § 63.1572; and maintaining each 6-minute average at or below 30 percent except that one 6-minute average during a 1-hour period can exceed 30 percent. |
| 2. Option 1: Elect NSPS not subject to the NSPS for PM in 40 CFR 60.102. | See item 1.a. of this table ..... | See item 1.a.i. of this table. |
| 3. Option 2: PM limit not subject to the NSPS for PM. | PM emissions shall not exceed 1.0 lb/1,000 lbs of coke burn-off in the catalyst regenerator. | Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) and the hours of operation for each catalyst regenerator by Equation 2 of § 63.1564. You can use process data to determine the volumetric flow rate; and maintaining PM emission rate below 1.0 kg/ 1,000 kg (1.0 lb/1,000 lbs) of coke burn-off.<br><br>Maintaining Ni emission rate below 13,000 mg/hr (0.029 lb/hr). |
| 4. Option 3: Ni lb/hr not subject to the NSPS for PM.<br><br>5. Option 4: Ni lb/1,000 lbs of coke burn-off not subject to the NSPS for PM. | Ni emissions shall not exceed 13,000 mg/hr (0.029 lb/hr).<br><br>Ni emissions shall not exceed 1.0 mg/kg (0.001 lb/1,000 lbs) of coke burn-off in the catalyst regenerator. | Determining and recording each day the average coke burn-off rate (thousands of kilograms per hour) and the hours of operation for each catalyst regenerator by Equation 2 of § 63.1564. You can use process data to determine the volumetric flow rate; and maintaining Ni emission rate below 1.0 mg/ kg (0.001 lb/1,000 lbs) of coke burn-off in the catalyst regenerator. |

**TABLE 7 TO SUBPART UUU OF PART 63**.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(c)(1), you shall meet each requirement in the following table that applies to you]

Emissions Unit ID: P007

| | | | |
|---|---|---|---|
| For each new or existing catalytic cracking unit*** | If you use*** | For this operating limit*** | You shall demonstrate continuous compliance by*** |

| | | | |
|---|---|---|---|
| 1. Subject to NSPS for PM in 40 CFR 60.102.<br><br>2. Option 1: Elect NSPS not subject to the NS | Continuous opacity monitoring system.<br><br>Continuous opacity monitoring system. | Not applicable.<br><br>Not applicable. | Complying with Table 6 of this subpart.<br><br>Complying with Table 6 of this subpart.<br><br>Co |

**(Cont.) TABLE 7 TO SUBPART UUU OF PART 63**.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(c)(1), you shall meet each requirement in the following table that applies to you]

| For each new or existing catalytic cracking unit *** | If you use *** | For this operating limit *** | You shall demonstrate continuous compliance by *** |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 4. Option 3: Nilb/hr not subject to the NSPS for PM in 40 CFR 60.102. | a. Continuous opacity monitoring system.<br><br>b. Continuous parame te | The daily average Nioperating value shall not exceed the site-specific Nioperating | Collecting the hourly average continuous opacity monitoring system data according in |

**(Cont.) TABLE 7 TO SUBPART UUU OF PART 63**.—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR METAL HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1564(c)(1), you shall meet each requirement in the following table that applies to you

| For each new or existing catalytic cracking unit *** | If you use *** | For this operating limit *** | You shall demonstrate continuous compliance by *** |
|---|---|---|---|

Emissions Unit ID: P007

| | | | |
|---|---|---|---|
| 5. Option 4: Nilb/ton of coke burn on/off not subject to the NSPS for PM in 40 CFR 60.102 | a. Continuous opacity monitoring system. | The daily average Nioperating value shall not exceed the site specific Nioperating limit | Collecting the hourly average continuous opacity monitoring system data according to |
| | b. Continuous parameter mon | | |

1 If applicable, you can use the alternative in § 63.1573 for gas flow rate instead of a continuous parameter monitoring system if you used the alternative method in the initial performance test. If so, you shall continuously monitor and record the air flow rate to the regenerator and the temperature of the gases entering the control device as described in § 63.1573. You shall determine and record the hourly average gas flow rate using Equation 1 of § 63.1573 and the daily average gas flow rate. You shall maintain the daily average gas flow rate below the operating limit established during the performance test.

**TABLE 8 TO SUBPART UUU OF PART 63**.—ORGANIC HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1565(a)(1), you shall meet each emission limitation in the following table that applies to you]

| For each new and existing catalytic cracking unit * * * | You shall meet the following emission limit for each catalyst regenerator vent * * * |
|---|---|
| 1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103. | CO emissions from the catalyst regenerator vent or CO boiler serving the catalytic cracking unit shall not exceed 500 parts per million volume (ppmv) (dry basis). |
| 2. Not subject to the NSPS for CO in 40 CFR 60.103. | a. CO emissions from the catalyst regenerator vent or CO boiler serving the catalytic cracking unit shall not exceed 500 ppmv (dry basis).<br><br>b. If you use a flare to meet the CO limit, the flare shall meet the requirements for control devices in § 63.11(b): visible emissions shall not exceed a total of 5 minutes during any 2 consecutive hours. |

**TABLE 9 TO SUBPART UUU OF PART 63**.—OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1565(a)(2), you shall meet each operating limit in the following table that applies to you]

| For each new or existing catalytic cracking unit * * * | For this type of continuous monitoring system * * * | For this type of control device * * * | You shall meet this operating limit * * * |
|---|---|---|---|
| 1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103. | Continuous emission monitoring system. | Not applicable ..... | Not applicable. |
| 2. Not subject to the NSPS for CO in 40 CFR 60.103. | a. Continuous emission monitoring system. | Not applicable ..... | Not applicable. |
| | b. Continuous parameter monitoring systems. | i. Thermal incinerator ..... | Maintain the daily average combustion zone temperature above the limit established during the performance test; and maintain the daily average oxygen concentration in the vent stream (percent, dry basis) above the limit established during the performance test. |
| | | ii. Boiler or process heater with a design heat input capacity under 44 MW or a boiler or process heater in which all vent streams are not introduced into the flame zone. | Maintain the daily average combustion zone temperature above the limit established in the performance test. |
| | | iii. Flare ..... | The flare pilot light shall be present at all times and the flare shall be operating at all times that emissions may be vented to it. |

**TABLE 10 TO SUBPART UUU OF PART 63**.—CONTINUOUS MONITORING SYSTEMS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS—Continued

[As stated in § 63.1565(b)(1), you shall meet each requirement in the following table that applies to you]

| For each new or existing catalytic cracking unit * * * | And you use this type of control device for your vent * * * | You shall install, operate, and maintain this type of continuous monitoring system * * * |
|---|---|---|
| 1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103. | Not applicable ..... | Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent. |
| 2. Not subject to the NSPS for CO in 40 CFR 60.103. | a. Thermal incinerator ..... | Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent; or continuous parameter monitoring systems to measure and record the combustion zone temperature and oxygen content (percent, dry basis) in the incinerator vent stream. |
| | b. Process heater or boiler with a design heat input capacity under 44 MW or process heater or boiler in which all vent streams are not introduced into the flame zone. | Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent; or continuous parameter monitoring systems to measure and record the combustion zone temperature. |
| | c. Flare ..... | Monitoring device such as a thermocouple, an ultraviolet beam sensor, or infrared sensor to continuously detect the presence of a pilot flame. |
| | d. No control device ..... | Continuous emission monitoring system to measure and record the concentration by volume (dry basis) of CO emissions from each catalyst regenerator vent. |

**TABLE 11 TO SUBPART UUU OF PART 63**.—REQUIREMENTS FOR PERFORMANCE TESTS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR CARBON MONOXIDE (CO)

[As stated in § 63.1565(b)(2) and (3), you shall meet each requirement in the following table that applies to you]

| | | | |
|---|---|---|---|
| For*** | You shall *** | Using *** | According to these requirements** |

| | | | |
|---|---|---|---|
| l. Each new or existing catalytic cracking unit catalyst regenerator vent. | a. Select sampling port's location and the number of traverse points.<br><br>b. Determ | Method 1 or 1A in appendix A to part 60 of this chapter.<br><br>Method 2, 2A, 2D, 2F, or 2Gi | Sampling sites shall be located at the outlet of the control device or the outlet of th |

**(Continued) TABLE 11 TO SUBPART UUU OF PART 63**.—REQUIREMENTS FOR PERFORMANCE TESTS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS NOT SUBJECT TO NEW SOURCE PERFORMANCE STANDARD (NSPS) FOR CARBON MONOXIDE (CO)

[As stated in § 63.1565(b)(2) and (3), you shall meet each requirement in the following table that applies to you]

| For * * * | You shall * * * | Using * * * | According to these requirements * * * |
|---|---|---|---|
| | f. If you use a flare, conduct visible emission observations. | Method 22 (40 CFR part 60, appendix A). | Maintain a 2-hour observation period; and record the presence of a flame at the pilot light over the full period of the test. |
| | g. If you use a flare, determine that the flare meets the requirements for net heating value of the gas being combusted and exit velocity. | 40 CFR 60.11(b)(6)through(8). | |

**TABLE 12 TO SUBPART UUU OF PART 63**.—INITIAL COMPLIANCE WITH ORGANIC HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1565(b)(4), you shall meet each requirement in the following table that applies to you]

| For each new and existing catalytic cracking unit * * * | For the following emission limit * * * | You have demonstrated initial compliance if * * |
|---|---|---|
| 1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103. | CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit shall not exceed 500 ppmv (dry basis). | You have already conducted a performance test to demonstrate initial compliance with the NSPS and the measured CO emissions are less than or equal to 500 ppm (dry basis). As part of the Notification of Compliance Status, you shall certify that your vent meets the CO limit. You are not required to conduct another performance test to demonstrate initial compliance. You have already conducted a performance evaluation to demonstrate initial compliance with the applicable performance specification. As part of your Notification of Compliance Status, you shall certify that your continuous emission monitoring system meets the applicable requirements in § 63.1572. You are not required to conduct another performance evaluation to demonstrate initial compliance. |
| 2. Not subject to the NSPS for CO in 40 CFR 60.103. | a. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit shall not exceed 500 ppmv (dry basis). | i. If you use a continuous parameter monitoring system, the average CO emissions measured by Method 10 over the period of the initial performance test are less than or equal to 500 ppmv (dry basis).<br><br>ii. If you use a continuous emission monitoring system, the hourly average CO emissions over the 24-hour period for the initial performance test are not more than 500 ppmv (dry basis); and your performance evaluation shows your continuous emission monitoring system meets the applicable requirements in § 63.1572. |
| | b. If you use a flare, visible emissions shall not exceed a total of 5 minutes during any 2 operating hours. | Visible emissions, measured by Method 22 during the 2-hour observation period during the initial performance test, are no higher than 5 minutes. |

**TABLE 13 TO SUBPART UUU OF PART 63**—CONTINUOUS COMPLIANCE WITH ORGANIC HAP EMISSION LIMITS FOR CATALYTIC CRACKING UNITS

[As stated in § 63.1565(c)(1), you shall meet each requirement in the following table that applies to you]

| For each new and existing catalytic cracking unit * * ;* | Subject to this emission limit for your catalyst regenerator vent * * * | If you shall * * * | You shall demonstrate continuous compliance by * * * |
|---|---|---|---|
| 1. Subject to the NSPS for carbon monoxide (CO) in 40 CFR 60.103. | CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit shall not exceed 500 ppmv (dry basis). | Continuous emission monitoring system. | Collecting the hourly average CO monitoring data according to § 63.1572; and maintaining the hourly average CO concentration at or below 500 ppmv (dry basis). |
| 2. Not subject to the NSPS for CO in 40 CFR 60.103. | i. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit shall not exceed 500 ppmv (dry basis). | Continuous emission monitoring system. | Same as above. |
| | ii. CO emissions from your catalyst regenerator vent or CO boiler serving the catalytic cracking unit shall not exceed 500 ppmv (dry basis). | Continuous parameter monitoring system. | Maintaining the hourly average CO concentration below 500 ppmv (dry basis). |
| | iii. Visible emissions from a flare shall not exceed a total of 5 minutes during any 2-hour period. | Control device-flare ..... | Maintaining visible emissions below a total of 5 minutes during any 2-hour operating period. |

**TABLE 14 TO SUBPART UUU OF PART 63**—CONTINUOUS COMPLIANCE WITH OPERATING LIMITS FOR ORGANIC HAP EMISSIONS FROM CATALYTIC CRACKING UNITS

[As stated in § 63.1565(c)(1), you shall meet each requirement in the following table that applies to you]

| For each new existing catalytic cracking unit * * * | If you use * * * | For this operating limit * * * | You shall demonstrate continuous compliance by * * * |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 1. Subject to NSPS for carbon monoxide (CO) in 40 CFR 60.103. | Continuous emission monitoring system. | Not applicable ..... | Complying with Table 13 of this subpart. |
| 2. Not subject to the NSPS for CO in 40 CFR 60.103. | a. Continuous emission monitoring system. | Not applicable ..... | Complying with Table 13 of this subpart. |
| | b. Continuous parameter monitoring systems—thermal incinerator. | i. The daily average combustion zone temperature shall not fall below the level established during the performance test. | Collecting the hourly and daily average temperature monitoring data according to § 63.1572; and maintaining the daily average combustion zone temperature above the limit established during the performance test. |
| | | ii. The daily average oxygen concentration in the vent stream (percent, dry basis) shall not fall below the level established during the performance test. | Collecting the hourly and daily average oxygen concentration monitoring data according to § 63.1572; and maintaining the daily average oxygen concentration above the limit established during the performance test. |
| | c. Continuous parameter monitoring systems—boiler or process heater with a design heat input capacity under 44 MW or boiler or process heater in which all vent streams are not introduced into the flame zone. | The daily combustion zone temperature shall not fall below the level established in the performance test. | Collecting the average hourly and daily temperature monitoring data according to § 63.1572; and maintaining the daily average combustion zone temperature above the limit established during the performance test. |
| | d. Continuous parameter monitoring system—flare. | The flare pilot light shall be present at all times and the flare shall be operating at all times that emissions may be vented to it. | Collecting the flare monitoring data according to § 63.1572; and recording for each 1-hour period whether the monitor was continuously operating and the pilot light was continuously present during each 1-hour period. |

**TABLE 36 TO SUBPART UUU OF PART 63**.—WORK PRACTICE STANDARDS FOR HAP EMISSIONS FROM BYPASS LINES

[As stated in § 63.1569(a)(1), you shall meet each work practice standard in the following table that applies to you]

| Option | You shall meet one of these equipment standards * * * |
|---|---|
| 1. Option 1 ..... | Install and operate a device (including a flow indicator, level recorder, or electronic valve position monitor) to continuously detect, at least every hour, whether flow is present in the bypass line. Install the device at or as near as practical to the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere. |
| 2. Option 2 ..... | Install a car-seal or lock-and-key device placed on the mechanism by which the bypass device flow position is controlled (e.g., valve handle, damper level) when the bypass device is in the closed position such that the bypass line valve cannot be opened without breaking the seal or removing the device. |
| 3. Option 3 ..... | |
| 4. Option 4 ..... | Seal the bypass line by installing a solid blind between piping flanges. |
| | Vent the bypass line to a control device that meets the appropriate requirements in this subpart. |

**TABLE 37 TO SUBPART UUU OF PART 63**.—REQUIREMENTS FOR PERFORMANCE TESTS FOR BYPASS LINES

[As stated in § 63.1569(b)(1), you shall meet each requirement in the following table that applies to you]

| For this standard . . . | You shall . . . |
|---|---|

| | |
|---|---|
| 1. Option 1: Install and operate a flow indicator, level recorder, or electronic valve position monitor. | Record during the performance test for each type of control device whether the flow indicator, level recorder, or electronic valve position monitor was operating and whether flow was detected at any time during each hour of level the three runs comprising the performance test. |

**TABLE 38 TO SUBPART UUU OF PART 63**.—INITIAL COMPLIANCE WITH WORK PRACTICE STANDARDS FOR HAP EMISSIONS FROM BYPASS LINES

[As stated in § 63.1569(b)(2), you shall meet each requirement in the following table that applies to you]

| For * * * | For this work practice standard * * * | You have demonstrated initial compliance if * * * |
|---|---|---|
| 1. Each new or existing bypass line associated with a catalytic cracking unit, catalytic reforming unit, or sulfur recovery unit. | a. Option 1: Install and operate a device (including a flow indicator, level recorder, or electronic valve position monitor) to continuously detect, at least every hour, whether flow is present in the bypass line. Install the device at or as near as practical to the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere. | The installed equipment operates properly during each run of the performance test and no flow is present in the line during the test. |
| | b. Option 2: Install a car-seal or lock-and-key device placed on the mechanism by which the bypass device flow position is controlled (e.g., valve handle, damper level) when the bypass device is in the closed position such that the bypass line valve cannot be opened without breaking the seal or removing the device. | As part of the notification of compliance status, you certify that you installed the equipment, the equipment was operational by your compliance date, and you identify what equipment was installed. |
| | c. Option 3: Seal the bypass line by installing a solid blind between piping flanges. | See item 1.b. of this table. |
| | d. Option 4: Vent the bypass line to a control device that meets the appropriate requirements in this subpart. | See item 1.b. of this table. |

**TABLE 39 TO SUBPART UUU OF PART 63.**—CONTINUOUS COMPLIANCE WITH WORK PRACTICE STANDARDS FOR HAP EMISSIONS FROM BYPASS LINES

[As stated in § 63.1569(c)(1), you shall meet each requirement in the following table that applies to you]

| If you elect this standard * * * | You shall demonstrate continuous compliance by * * * |
|---|---|
| 1. Option 1: Flow indicator, level recorder, or electronic valve position monitor. | Continuously monitoring and recording whether flow is present in the bypass line; visually inspecting the device at least once every hour if the device is not equipped with a recording system that provides a continuous record; and recording whether the device is operating properly and whether flow is present in the bypass line. |
| 2. Option 2: Car-seal or lock-and-key device ..... | Visually inspecting the seal or closure mechanism at least once every month; and recording whether the bypass line valve is maintained in the closed position and whether flow is present in the line. |
| 3. Option 3: Solid blind flange ..... | Visually inspecting the blind at least once a month; and recording whether the blind is maintained in the correct position such that the vent stream cannot be diverted through the bypass line. |
| 4. Option 4: Vent to control device ..... | Monitoring the control device according to appropriate subpart requirements. |
| 5. Option 1, 2, 3, or 4 ..... | Recording and reporting the time and duration of any bypass. |

**TABLE 40 TO SUBPART UUU OF PART 63**.—REQUIREMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE OF CONTINUOUS OPACITY MONITORING SYSTEMS AND CONTINUOUS EMISSION MONITORING SYSTEMS

[As stated in § 63.1572(a)(1) and (b)(1), you shall meet each requirement in the following table that applies to you]

| This type of continuous opacity or emission monitoring system * * * | Shall meet these requirements * * * |
|---|---|
| 1. Continuous opacity monitoring system ..... | Performance specification 1 (40 CFR part 60, appendix B). |
| 2. CO continuous emission monitoring system ..... | Performance specification 4 (40 CFR part 60, appendix B); span value of 1,000 ppm; and procedure 1 (40 CFR part 60, appendix F) except relative accuracy test audits are required annually instead of quarterly. |
| 3. CO continuous emission monitoring system used to demonstrate emissions average under 50 ppm (dry basis). | Performance specification 4 (40 CFR part 60, appendix B); and span value of 100 ppm. |
| 4. $SO_2$ continuous emission monitoring for sulfur recovery unit with oxidation control system or reduction control system; this monitor shall include an $O_2$ monitor for correcting the data for excess air. | Performance specification 2 (40 CFR part 60, appendix B); span values of 500 ppm $SO_2$ and 10 percent $O_2$; use Methods 6 or 6C and 3A or 3B (40 CFR part 60, appendix A) for certifying $O_2$ monitor; and procedure 1 (40 CFR part 60, appendix F) except relative accuracy test audits are required annually instead of quarterly. |
| 5. Reduced sulfur and $O_2$ continuous emission monitoring system for sulfur recovery unit with reduction control system not followed by incineration; this monitor shall include an $O_2$ monitor for correcting the data for excess air unless exempted. | Performance specification 5 (40 CFR part 60, appendix B), except calibration drift specification is 2.5 percent of the span value instead of 5 percent; 450 ppm reduced sulfur and 10 percent $O_2$; use Methods 15 or 15A and 3A or 3B (40 CFR part 60, appendix A) for certifying $O_2$ monitor; if Method 3A or 3B yields $O_2$ concentrations below 0.25 percent during the performance evaluation, the $O_2$ concentration can be assumed to be zero and the $O_2$ monitor is not required; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly. |
| 6. Instrument with an air or O2 dilution and oxidation system to convert reduced sulfur to $SO_2$ for continuously monitoring the concentration of $SO_2$ instead of reduced sulfur monitor and $O_2$ monitor. | Performance specification 5 (40 CFR part 60, appendix B); span value of 375 ppm $SO_2$ and 10 percent $O_2$; use Methods 15 or 15A and 3A or 3B for certifying $O_2$ monitor; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly. |
| 7. TRS continuous emission monitoring system for sulfur recovery unit; this monitor shall include an $O_2$ monitor for correcting the data for excess air. | Performance specification 5 (40 CFR part 60, appendix B). |
| 8. $O_2$ monitor for oxygen concentration ..... | If necessary due to interferences, locate the oxygen sensor prior to the introduction of any outside gas stream; performance specification 3 (40 CFR part 60, appendix B; span value for $O_2$ sensor is 10 percent; and procedure 1 (40 CFR part 60, appendix F), except relative accuracy test audits, are required annually instead of quarterly. |

**TABLE 41 TO SUBPART UUU OF PART 63**.—REQUIREMENTS FOR INSTALLATION, OPERATION, AND MAINTENANCE OF CONTINUOUS PARAMETER MONITORING SYSTEMS—Continued

[As stated in § 63.1572(c)(1), you shall meet each requirement in the following table that applies to you]

| If you use a continuous parameter monitoring system to measure and record * * * | You shall * * * |
|---|---|

Emissions Unit ID: P007

| | |
|---|---|
| 1. Voltage and secondary current or total power input. | At least monthly, inspect all components of the continuous parameter monitoring system for integrity and all electrical connections for continuity; and record the results of each inspection. |
| 2. Pressure drop [1] ..... | Locate the pressure sensor(s) in a position that provides a representative measurement of the pressure; minimize or eliminate pulsating pressure, vibration, and internal and external corrosion; use a gauge with an accuracy ± 2 percent over the operating range; check pressure tap for plugs at least once a week; using a manometer, check gauge calibration quarterly and transducer calibration monthly; for a semi-regenerative catalytic reforming unit, you can check the calibration quarterly and monthly or prior to regeneration, whichever is longer; record the results of each calibration; conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range, or install a new pressure sensor; at least monthly, inspect all components for integrity, all electrical connections for continuity, and all mechanical connections for leakage; and record the results of each inspection. |
| 3. Air flow rate, gas flow rate, or total water (or scrubbing liquid) flow rate. | Locate the flow sensor(s) and other necessary equipment such as straightening vanes in a position that provides representative flow; use a flow rate sensor with an accuracy within ±5 percent; reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances; conduct a flow sensor calibration check at least semiannually; for a semi-regenerative catalytic reforming unit, you can check the calibration at least semiannually or prior to regeneration, whichever is longer; record the results of each calibration; if you elect to comply with Option 3 (Ni lb/hr) or Option 4 (Ni lb/1,000 lbs of coke burn-off) for the HAP metal emission limitations in § 63.1564, install the continuous parameter monitoring system for gas flow rate as close as practical to the continuous opacity monitoring system; and if you don't use a continuous opacity monitoring system, install the continuous parameter monitoring system for gas flow rate as close as practical to the control device. |
| 4. Combustion zone temperature ..... | Install the temperature sensor in the combustion zone or in the ductwork immediately downstream of the combustion zone before any substantial heat exchange occurs; locate the temperature sensor in a position that provides a representative temperature; use a temperature sensor with an accuracy of ±1 percent of the temperature being measured, expressed in degrees Celsius (C) or ±0.5 degrees C, whichever is greater; shield the temperature sensor system from electromagnetic interference and chemical contaminants; if you use a chart recorder, it shall have a sensitivity in the minor division of at least 20 degrees Fahrenheit; perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owners manual; following the electronic calibration, conduct a temperature sensor validation check, in which a second or redundant temperature sensor placed nearby the process temperature sensor shall yield a reading within 16.7 degrees C of the process temperature sensor's reading; record the results of each calibration and validation check; conduct calibration and validation checks any time the sensor exceeds the manufacturer's specified maximum operating temperature range, or install a new temperature sensor; and at least monthly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion. |
| 5. pH ..... | Locate the pH sensor in a position that provides a representative measurement of pH; ensure the sample is properly mixed and representative of the fluid to be measured; check the pH meter's calibration on at least two points every 8 hours of process operation; at least monthly, inspect all components for integrity and all electrical components for continuity; record the results of each inspection; and if you use pH strips to measure the pH of the water exiting a wet scrubber as an alternative to a continuous parameter monitoring system, you shall use pH strips with an accuracy of ±10 percent. |
| 6. HCl concentration ..... | Use a colormetric tube sampling system with a printed numerical scale in ppmv, a standard measurement range of 1 to 10 ppmv (or 1 to 30 ppmv if applicable), and a standard deviation for measured values of no more than ±15 percent. System shall include a gas detection pump and hot air probe if needed for the measurement range. |

**TABLE 42 TO SUBPART UUU OF PART 63.—ADDITIONAL INFORMATION FOR INITIAL NOTIFICATION OF COMPLIANCE STATUS**

[As stated in § 63.1574(d), you shall meet each requirement in the following table that applies to you]

| For * * * | You shall provide this additional information * * * |
|---|---|

Emissions Unit ID: P007

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|---|---|
| 1. Identification of affected sources and emission points. | Nature, size, design, method of operation, operating design capacity of each affected source; identify each emission point for each HAP; identify any affected source or vent associated with an affected source not subject to the requirements of subpart UUU. |
| 2. Initial compliance ..... | Identification of each emission limitation you will meet for each affected source, including any option you select (i.e., NSPS, PM or Ni, flare, percent reduction, concentration, options for bypass lines); if applicable, certification that you have already conducted a performance test to demonstrate initial compliance with the NSPS for an affected source; certification that the vents meet the applicable emission limit and the continuous opacity or that the emission monitoring system meets the applicable performance specification; if applicable, certification that you have installed and verified the operational status of equipment by your compliance date for each bypass line that meets the requirements of Option 2, 3, or 4 in § 63.1569 and what equipment you installed; identification of the operating limit for each affected source, including supporting documentation; if your affected source is subject to the NSPS, certification of compliance with NSPS emission limitations and performance specifications; a brief description of performance test conditions (capacity, feed quality, catalyst, etc.); an engineering assessment (if applicable); and if applicable, the flare design (e.g., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the Method 22 test. |
| 3. Continuous compliance ..... | Each monitoring option you elect; and identification of any unit or vent for which monitoring is not required; and the definition of ''operating day.'' (This definition, subject to approval by the applicable permitting authority, shall specify the times at which a 24-hr operating day begins and ends.) |

**TABLE 43 TO SUBPART UUU OF PART 63**.—REQUIREMENTS FOR REPORTS

[As stated in § 63.1575(a), you shall meet each requirement in the following table that applies to you]

| You shall submit a(n) * * * | The report shall contain * * * | You shall submit the report * * * |
|---|---|---|
| 1. Compliance report ..... | If there are not deviations from any emission limitation or work practice standard that applies to you, a statement that there were no deviations from the standards during the reporting period and that no continuous opacity monitoring system or continuous emission monitoring system was inoperative, inactive, out-of-control, repaired, or adjusted; and if you have a deviation from any emission limitation or work practice standard during the reporting period, the report shall contain the information in § 63.1575(d) or (e) | Semiannually according to the requirements in § 63.1575(b). |

**Table 44 to Subpart UUU of Part 63 -** Applicability of NESHAP General Provisions to Subpart UUU

As stated in §63.1577, you shall meet each requirement in the following table that applies to you.

| Citation | Subject | Applies to Subpart UUU | Explanation |
|---|---|---|---|
| §63.1 | Applicability | Yes | Except that subpart UUU specifies calendar or operating day. |
| §63.2 | Definitions | Yes | |
| §63.3 | Units and Abbreviations | Yes | |
| §63.4 | Prohibited Activities | Yes | |
| §63.5(a)-(c) | Construction and Reconstruction | Yes | In §63.5(b)(4), replace the reference to §63.9 with §63.9(b)(4) and (5). |
| §63.5(d)(1)(i) | Application for Approval of Construction or Reconstruction - General Application Requirements | Yes | Except, subpart UUU specifies the application is submitted as soon as practicable before startup but no later than 90 days (rather than 60) after the promulgation date where construction or reconstruction had commenced and initial startup had not occurred before promulgation. |
| §63.5(d)(1)(ii) | | Yes | Except that emission estimates specified in §63.5(d)(1) (ii)(H) are not required. |

Emissions Unit ID: P007

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|---|---|---|---|
| §63.5(d)(1)(iii) | | No | Subpart UUU specifies submission of notification of compliance status. |
| §63.5(d)(2) | | No | |
| §63.5(d)(3) | | Yes | Except that §63.5(d)(3)(ii) does not apply. |
| §63.5(d)(4) | | Yes | |
| §63.5(e) | Approval of Construction or Reconstruction | Yes | |
| §63.5(f)(1) | Approval of Construction or Reconstruction Based on State Review | Yes | |
| §63.5(f)(2) | | Yes | Except that 60 days is changed to 90 days and cross-reference to §63.9(b)(2) does not apply. |
| §63.6(a) | Compliance with Standards and Maintenance - Applicability | Yes | |
| §63.6(b)(1)-(4) | Compliance Dates for New and Reconstructed Sources | Yes | |
| §63.6(b)(5) | | Yes | Except that subpart UUU specifies different compliance dates for sources. |
| §63.6(b)(6) | [Reserved] | Not appli-cable | |
| §63.6(b)(7) | Compliance Dates for New and Reconstructed Area Sources That Become Major | Yes | |
| §63.6(c)(1)-(2) | Compliance Dates for Existing Sources | Yes | Except that subpart UUU specifies different compliance dates for sources subject to Tier II gasoline sulfur control requirements. |
| §63.6(c)(3)-(4) | [Reserved] | Not appli-cable | |
| §63.6(c)(5) | Compliance Dates for Existing Area Sources That Become Major | Yes | |
| §63.6(d) | [Reserved] | Not appli-cable | |
| §63.6(e)(1)-(2) | Operation and Maintenance Requirements | Yes | |
| §63.6(e)(3)(i)-(iii) | Startup, Shutdown, and Malfunction Plan | Yes | |
| §63.6(e)(3)(iv) | | Yes | Except that reports of actions not consistent with plan are not required within 2 and 7 days of action but rather shall be included in next periodic report. |
| §63.6(e)(3)(v)-(viii) | | Yes | The owner or operator is only required to keep the latest version of the plan. |
| §63.6(f)(1)-(2)(iii)(C) | Compliance with Emission Standards | Yes | |
| §63.6(f)(2)(iii)(D) | | No | |
| §63.6(f)(2)(iv)-(v) | | Yes | |
| §63.6(f)(3) | | Yes | |
| §63.6(g) | Alternative Standard | Yes | |
| §63.6(h) | Opacity/VE Standards | Yes | |
| §63.6(h)(2)(i) | Determining Compliance with Opacity/VE Standards | No | Subpart UUU specifies methods. |
| §63.6(h)(2)(ii) | [Reserved] | Not appli-cable | |
| §63.6(h)(2)(iii) | | Yes | |
| §63.6(h)(3) | [Reserved] | Not appli-cable | |
| §63.6(h)(4) | Notification of Opacity/VE Observation Date | Yes | Applies to Method 22 tests. |
| §63.6(h)(5) | Conducting Opacity/VE Observations | No | |
| §63.6(h)(6) | Records of Conditions During Opacity/VE Observations | Yes | Applies to Method 22 observations. |

| | | | |
|---|---|---|---|
| §63.6(h)(7)(i) | Report COM Monitoring Data from Performance Test | Yes | |
| §63.6(h)(7)(ii) | Using COM Instead of Method 9 | No | |
| §63.6(h)(7)(iii) | Averaging Time for COM during Performance Test | Yes | |
| §63.6(h)(7)(iv) | COM Requirements | Yes | |
| §63.6(h)(8) | Determining Compliance with Opacity/VE Standards | Yes | |
| §63.6(h)(9) | Adjusted Opacity Standard | Yes | |
| §63.6(i)(1)-(14) | Extension of Compliance | Yes | Not applicable to an affected source with Tier II compliance date. May be applicable to an affected source exempt from Tier II rule. |
| §63.6(i)(15) | [Reserved] | Not appli-cable | |
| §63.6(i)(16) | | Yes | |
| §63.6(j) | Presidential Compliance Exemption | Yes | |
| §63.7(a)(1) | Performance Test Requirements-Applicability | Yes | Except that subpart UUU specifies the applicable test and demonstration procedures. |
| §63.7(a)(2) | Performance Test Dates | No | Test results shall be submitted in the Notification of Compliance Status report due 150 days after the compliance date. |
| §63.7(a)(3) | Section 114 Authority | Yes | |
| §63.7(b) | Notifications | Yes | Except that subpart UUU specifies notification at least 30 days prior to the scheduled test date rather than 60 days. |
| §63.7(c) | Quality Assurance Program/Site-Specific Test Plan | Yes | |
| §63.7(d) | Performance Test Facilities | Yes | |
| §63.7(e) | Conduct of Tests | Yes | |
| §63.7(f) | Alternative Test Method | Yes | |
| §63.7(g) | Data Analysis, Recordkeeping, Reporting | Yes | Except performance test reports shall be submitted with notification of compliance status due 150 days after the compliance date. |
| §63.7(h) | Waiver of Tests | Yes | |
| §63.8(a)(1) | Monitoring Requirements - Applicability | Yes | |
| §63.8(a)(2) | Performance Specifications | Yes | |
| §63.8(a)(3) | [Reserved] | Not appli-cable | |
| §63.8(a)(4) | Monitoring with Flares | Yes | |
| §63.8(b)(1) | Conduct of Monitoring | Yes | |
| §63.8(b)(2)-(3) | Multiple Effluents and Multiple Monitoring Systems | Yes | Subpart UUU specifies the required monitoring locations. |
| §63.8(c)(1) | Monitoring System Operation and Maintenance | Yes | |
| §63.8(c)(1)(i)-(ii) | Startup, Shutdown, and Malfunctions | Yes | Except that subpart UUU specifies that reports are not required if actions are consistent with the SSM plan, unless requested by the permitting authority. If actions are not consistent, actions shall be described in next compliance report. |
| §63.8(c)(1)(iii) | Compliance with Operation and Maintenance Requirements | Yes | |

Emissions Unit ID: P007

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|---|---|---|---|
| §63.8(c)(2)-(3) | Monitoring System Installation | Yes | Except that subpart UUU specifies that for continuous parameter monitoring systems, operational status verification includes completion of manufacturer written specifications or installation operation, and calibration of the system or other written procedures that provide adequate assurance that the equipment will monitor accurately. |
| §63.8(c)(4) | Continuous Monitoring System Requirements | No | Subpart UUU specifies operational requirements. |
| §63.8(c)(4)(i)-(ii) | Continuous Monitoring System Requirements | Yes | Except that these requirements apply only to a continuous opacity monitoring system or a continuous emission monitoring system if you are subject to the NSPS or elect to comply with the NSPS opacity, CO, or $SO_2$ limits. |
| §63.8(c)(5) | COM Minimum Procedures | Yes | |
| §63.8(c)(6) | CMS Requirements | No | Except that these requirements apply only to a continuous opacity monitoring system or continuous emission monitoring system if you are subject to the NSPS or elect to comply with the NSPS opacity, CO, or $SO_2$ limits. |
| §63.8(c)(7)-(8) | CMS Requirements | Yes | |
| §63.8(d) | Quality Control Program | Yes | Except that these requirements apply only to a continuous opacity monitoring system or continuous emission monitoring system if you are subject to the NSPS or elect to comply with the NSPS opacity, CO, or $SO_2$ limits. |
| §63.8(e) | CMS Performance Evaluation | Yes | Except that these requirements apply only to a continuous opacity monitoring system or continuous emission monitoring system if you are subject to the NSPS or elect to comply with the NSPS opacity, CO, or $SO_2$ limits. Results are to be submitted as part of the Notification of Compliance Status due 150 days after the compliance date. |
| §63.8(f)(1)-(5) | Alternative Monitoring Method | Yes | Except that subpart UUU specifies procedures for requesting alternative monitoring systems and alternative parameters. |
| §63.8(f)(6) | Alternative to Relative Accuracy Test | Yes | Applicable to continuous emission monitoring systems if performance specification requires a relative accuracy test audit. |
| §63.8(g)(1)-(4) | Reduction of Monitoring Data | Yes | Applies to a continuous opacity monitoring system or continuous emission monitoring system. |
| §63.8(g)(5) | Data Reduction | No | Subpart UUU specifies requirements. |
| §63.9(a) | Notification Requirements - Applicability | Yes | Duplicate Notification of Compliance Status report to the Regional Administrator may be required. |

| | | | |
|---|---|---|---|
| §63.9(b)(1)-(5) | Initial Notifications | Yes | Except that notification of construction or reconstruction is to be submitted as soon as practicable before startup but no later than 30 days (rather than 60 days) after the effective date if construction or reconstruction had commenced but startup had not occurred before the effective date. |
| §63.9(c) | Request for Extension of Compliance | Yes | |
| §63.9(d) | New Source Notification for Special Compliance Requirements | Yes | |
| §63.9(e) | Notification of Performance Test | Yes | Except that notification is required at least 30 days before test. |
| §63.9(f) | Notification of VE/Opacity Test | Yes | |
| §63.9(g) | Additional Notification Requirements for Sources with Continuous Monitoring Systems | Yes | Except that these requirements apply only to a continuous opacity monitoring system or continuous emission monitoring system if you are subject to the NSPS or elect to comply with the NSPS opacity, CO, or $SO_2$ limits. |
| §63.9(h) | Notification of Compliance Status | Yes | Except that subpart UUU specifies the notification is due no later than 150 days after compliance date. |
| §63.9(i) | Adjustment of Deadlines | Yes | |
| §63.9(j) | Change in Previous Information | Yes | |
| §63.10(a) | Recordkeeping and Reporting-Applicability | Yes | |
| §63.10(b) | Records | Yes | Except that §63.10(b)(2)(xiii) applies if you use a continuous emission monitoring system to meet the NSPS or you elect to meet the NSPS, CO, or $SO_2$ reduced sulfur limit and the performance evaluation requires a relative accuracy test audit. |
| §63.10(c)(1)-(6), (9)-(15) | Additional Records for Continuous Monitoring Systems | Yes | Except that these requirements apply if you use a continuous opacity monitoring system or a continuous emission monitoring system to meet the NSPS or elect to meet the NSPS opacity, CO, or $SO_2$ limits. |
| §63.10(c)(7)-(8) | Records of Excess Emissions and Exceedances | No | Subpart UUU specifies requirements. |
| §63.10(d)(1) | General Reporting Requirements | Yes | |
| §63.10(d)(2) | Performance Test Results | No | Subpart UUU requires performance test results to be reported as part of the Notification of Compliance Status due 150 days after the compliance date. |
| §63.10(d)(3) | Opacity or VE Observations | Yes | |
| §63.10(d)(4) | Progress Reports | Yes | |
| §63.10(d)(5)(i) | Startup, Shutdown, and Malfunction Reports | Yes | Except that reports are not required if actions are consistent with the SSM plan, unless requested by permitting authority. |

Emissions Unit ID: P007

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|---|---|---|---|
| §63.10(d)(5)(ii) | | Yes | Except that actions taken during a startup, shut- down, or malfunction that are not consistent with the plan do not need to be reported within 2 and 7 days of commencing and completing the action, respectively, but shall be included in the next periodic report. |
| §63.10(e)(1)-(2) | Additional CMS Reports | Yes | Except that these requirements apply only to a continuous opacity monitoring system or continuous emission monitoring system if you are subject to the NSPS or elect to comply with the NSPS opacity, CO, or $SO_2$ limits. Reports of performance evaluations shall be submitted in Notification of Compliance Status. |
| §63.10(e)(3) | Excess Emissions/CMS Performance Reports | No | Subpart UUU specifies the applicable requirements. |
| §63.10(e)(4) | COMS Data Reports | Yes | |
| §63.10(f) | Recordkeeping/ Reporting Waiver | Yes | |
| §63.11 | Control Device Requirements | Yes | Applicable to flares. |
| §63.13 | Addresses | Yes | |
| §63.14 | Incorporation by Reference | Yes | |
| §63.15 | Availability of Information | Yes | |

## 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 |
|---|---|---|
| P007 - Fluidized Catalytic Cracking Unit (FCCU) consisting of an FCC Reactor, catalyst regenerator, fractionator, strippers and absorbers with an average processing capacity of 55,000 barrels per day of fresh feed; and a Carbon Monoxide (CO) Boiler with a maximum input capacity of 669 MMBtu per hour. The CO Boiler also serves as control for CO emissions from the FCCU. | | |

**2. Additional Terms and Conditions**

**2.a** None

## II. Operational Restrictions

None

## III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit P007 was evaluated based on the actual materials and

the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Ammonia

TLV (mg/m3): 17

Maximum Hourly Emission Rate (lbs/hr): 9.5

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 4.5

MAGLC (ug/m3): 400

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

## IV. Reporting Requirements

None

## V. Testing Requirements

None

## VI. Miscellaneous Requirements

None