State of Ohio Environmental Protection Agency

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

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

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

05/30/03

**CERTIFIED MAIL**

**RE: Final Title V Chapter 3745-77 permit**

02-43-00-0024
The Lubrizol Corporation
Robert J. Setele
155 Freedom Road
Painesville, OH 44077-1234

Dear Robert J. Setele:

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

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

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

Environmental Review Appeals Commission
236 East Town Street
Room 300
Columbus, Ohio 43215

If you have any questions, please contact Northeast District Office.

Very truly yours,

Michael W. Ahern

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

cc: Northeast District Office
File, DAPC PMU

State of Ohio Environmental Protection Agency

# FINAL TITLE V PERMIT

| Issue Date: **05/30/03** | Effective Date: **06/20/03** | Expiration Date: **06/20/08** |
|---|---|---|

This document constitutes issuance of a Title V permit for Facility ID: 02-43-00-0024 to:
The Lubrizol Corporation
155 Freedom Road
Painesville, OH 44077-1234

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

B001 (Steam Boiler #1)
Boiler

B002 (Steam Boiler #2)
Boiler

B003 (Steam Boiler #3)
Boiler

B004 (Steam Boiler #4)
Boiler

N001 (Waste Incinerator)
Waste Incinerator

P001 (Process C)
Reactor Process

P005 (Process F)
Reactor Process

P006 (Process G)
Reactor Process

P007 (Process H)
Reactor Process

P008 (Process I)
Reactor Process

P011 (Process L)
Reactor Process

P012 (Process M)
Reactor Process

P013 (Process N)
Reactor Process

P014 (Process O)
Reactor Process

P015 (Process P)
Reactor Process

P018 (Process S)
Reactor Process

P019 (Process T)
Reactor Process

P020 (Process U)
Reactor Process

P022 (Process W)
Reactor Process

P024 (Process Y)
Reactor Process

P025 (Process A)
Reactor Process

P026 (Process B)
Reactor Process

P027 (Process AB)
Reactor Process

P028 (Process AA)
Reactor Process

P029 (Process Z)
Reactor Process

P030 (Process AC)
Reactor Process

P033 (Process AF)
Reactor Process

P034 (Process AG)
Reactor Process

P035 (Process AH)
Reactor Process

P036 (Process AI)
Reactor Process

P038 (Rack A/B 8)
Tank Car Loading Rack

P039 (Rack A 11)
Tank Car Loading Rack

P040 (Rack C/D 8-9-10)
Tank Car Loading Rack

P041 (Rack C/D 11)
Tank Car Loading Rack

P042 (Rack C/D 12)
Tank Car Loading Rack

P043 (Rack C/D 15)
Tank Car Loading Rack

P044 (Rack 200 T/F West)
Tank Truck Loading Rack

P045 (Rack 500 T/F East)
Tank Truck Loading Rack

P046 (Rack 700 T/F East)
Tank Truck Loading Rack

P047 (Rack 700 T/F North)
Tank Truck Loading Rack

P048 (Rack 800 T/F South)
Tank Truck Loading Rack

P049 (Rack GEN III)
Tank Truck Loading Rack

P050 (Process AK)
Reactor Process

P051 (Process AL)
Reactor Process

P052 (Process AM)
Reactor Process

P053 (Process Z1)
Reactor Process

P054 (Process AB1)
Reactor Process

P055 (Rack A/B 1-2-3)
Tank Car Loading Rack

P056 (Rack A/B 6-7)
Tank Car Loading Rack

P057 (Rack C/D 4-5)

Tank Car Loading Rack

P058 (Rack Main)
Tank Truck Loading Rack

P059 (Rack G60)
Tank Truck Loading Rack

P060 (Rack A/B 5)
Tank Car Loading Rack

P061 (Rack C/D 2-3)
Tank Car Loading Rack

P062 (Rack C 6)
Tank Car Loading Rack

P063 (Rack C/D 7)
Tank Car Loading Rack

P064 (Rack Poly Plant)
Tank Truck Loading Rack

P065 (Rack Bldg. 18 West)
Tank Truck Loading Rack

P066 (Rack 200 Ball House)
Tank Truck Loading Rack

P067 (Rack 400 Ball House)
Tank Truck Loading Rack

P068 (Rack 403 Tank)
Tank Truck Loading Rack

P069 (Rack 458 Tank)
Tank Truck Loading Rack

P070 (Rack Bldg. 5/6 East)
Tank Truck Loading Rack

P071 (Misc Bottom Loading)
Miscellaneous bottom loading of tank cars and tank trucks.

P073 (Process AN)
Reactor Process

P074 (Process AO)
Reactor Process

T013 (Storage Tank 232)
Storage Tank

T022 (Storage Tank 404)
Storage Tank

T023 (Storage Tank 405)
Storage Tank

T034 (Storage Tank 458)
Storage Tank

T048 (Storage Tank 801)
Storage Tank

T073 (Storage Tank 12)
Storage Tank

T077 (Storage Tank 242)
Storage Tank

T122 (Storage Tank 465)
Storage Tank

T123 (Storage Tank 462)
Storage Tank

T136 (Storage Tank 109)
Storage Tank

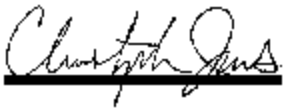
T186 (Storage Tank 159)
Storage Tank

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

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

Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087
(330) 425-9171

OHIO ENVIRONMENTAL PROTECTION AGENCY



Christopher Jones
Director

# PART I - GENERAL TERMS AND CONDITIONS

## *A. State and Federally Enforceable Section*

### 1. Monitoring and Related Record Keeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

i. The date, place (as defined in the permit), and time of sampling or measurements.
ii. The date(s) analyses were performed.
iii. The company or entity that performed the analyses.
iv. The analytical techniques or methods used.
v. The results of such analyses.
vi. The operating conditions existing at the time of sampling or measurement.
*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))*

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

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

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

ii. **All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) with respect to emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:**

(a) Written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations ; (ii) the probable cause of such deviations; and (iii) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Part III of this Title V permit, 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. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. These written reports shall satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the submission of monitoring reports every six

months and the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations. See B.6 below if no deviations occurred during the quarter.
*(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) ,(ii) and (iii))*

(b) Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the deviation reporting requirements for this Title V permit, written reports that identify each malfunction that occurred during each calendar quarter shall be submitted, at a minimum, quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year, and shall cover the previous calendar quarters.

In identifying each deviation caused by a malfunction, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Also, if a deviation caused by a malfunction is identified in a written report submitted pursuant to paragraph (a) above, a separate report is not required for that malfunction pursuant to this paragraph. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing, at a minimum, on a quarterly basis.

Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation, operational restriction, and control device operating parameter limitation shall be reported in the same manner as described above for malfunctions. These written reports for malfunctions (and scheduled maintenance projects, if appropriate) shall satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations.
*(Authority for term: OAC rules 3745-77-07(A)(3)(c)(iii))*

iii. **For monitoring, record keeping, and reporting requirements:**
Written reports that identify any deviations from the federally enforceable monitoring, record keeping, 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. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. These semi-annual written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the reporting of any deviations related to the monitoring, record keeping, and reporting requirements. 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.
*(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii))*

iv. Each written report shall be signed by a responsible official certifying that, "based on information and belief formed after reasonable inquiry, the statements and information in the

report (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."
*(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))*

**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 of any emissions unit(s) or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).
*(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iii))*

**3. Risk Management Plans**

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

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

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

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

**4. Title IV Provisions**

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

**5. Severability Clause**

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
*(Authority for term: OAC rule 3745-77-07(A)(6))*

**6. General Requirements**

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

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

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

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

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

*(Authority for term: OAC rule 3745-77-07(A)(7))*

**7. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.

*(Authority for term: OAC rule 3745-77-07(A)(8))*

**8. Marketable Permit Programs**

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

*(Authority for term: OAC rule 3745-77-07(A)(9))*

**9. Reasonably Anticipated Operating Scenarios**

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these general terms and conditions shall apply to all operating scenarios authorized in this permit.

*(Authority for term: OAC rule 3745-77-07(A)(10))*

**10. Reopening for Cause**

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

a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement.

No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

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

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

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

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

**11. Federal and State Enforceability**

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

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

**12. Compliance Requirements**

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

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

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

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

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

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

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

i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

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

i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
ii. Compliance certifications shall include the following:
(a) An identification of each term or condition of this permit that is the basis of the certification.
(b) The permittee's current compliance status.
(c) Whether compliance was continuous or intermittent.
(d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.
(e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

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

## 13. Permit Shield

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

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

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

## 14. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification

under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).
*(Authority for term: OAC rules 3745-77-07(H)(1) and (2))*

**15. Emergencies**

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

**16. Off-Permit Changes**

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

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

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

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

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

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

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

(I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(For purposes of clarification, the permittee can refer to Engineering Guide #63 that is available in the STARSHIP software package.)
*(Authority for term: OAC rule 3745-77-07(I))*

**17. Compliance Method Requirements**

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

**18. Insignificant Activities**

Each insignificant activity that has one or more applicable requirements shall comply with those applicable requirements.
*(Authority for term: OAC rule 3745-77-07(A)(1))*

**19. Permit to Install Requirement**

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

**20. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.
*(Authority for term: OAC rule 3745-77-07(A)(1))*

## B. *State Only Enforceable Section*

### 1. Reporting Requirements Related to Monitoring and Record Keeping Requirements

The permittee shall submit required reports in the following manner:

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

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted 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.)

### 2. Records Retention Requirements

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

### 3. Inspections and Information Requests

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

### 4. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with

paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

**5. Permit Transfers**

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

**6. Additional Reporting Requirements When There Are No Deviations of 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.

# Part II - Specific Facility Terms and Conditions

## A. State and Federally Enforcable Section

**1.** The terms and conditions of this permit for emissions unit N001, Waste Heat Recovery Incinerator, do not follow the standard STARS numbering format when referencing the requirements of the MACT rule for Hazardous Waste Combusters (Interim Standards Rule, Subpart EEE). The Ohio EPA deviated from the traditional format due to the length and complexity of the MACT rules. Listed below are the applicable MACT sections and their corresponding locations in this Title V permit.

Subpart EEE: Emission Standards and Operating Limits
63.1203: What are the standards for hazardous waste incinerators? - Part III.A.I.2.a.-f.

Subpart EEE: Monitoring and Compliance Provisions
63.1206: When and how must you comply with the standards and operating requirements? - Part III.A.II.3.-5.
63.1207: What are the performance testing requirements? - Part III.A.V.2.-14.
63.1208: What are the test methods? - Part III.A.V.15.-16.
63.1209: What are the monitoring requirements? - Part III.A.III.4.-20.

Subpart EEE: Notification, Reporting and Record keeping
63.1210: What are the notification requirements? - Part III.A.IV.4.-5.
63.1211: What are the record keeping and reporting requirements? - Part III.A.IV.6.-9.
63.1213: What are the other requirements pertaining to the NIC and associated progress reports? - Part III.A.IV.10.-12.

**2.** PROPOSED MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARDS

Within 120 days after promulgation of any applicable National Emission Standard for Hazardous Air Pollutants, 40 CFR 63, the permittee shall submit an Initial Notification Report which certifies whether or not the permittee is subject to the promulgated standard. If the permittee is subject to the final standard, the following information shall also be included in the Initial Notification Report:

a. the name and mailing address of the permittee;

b. the physical location of the source if it is different from the mailing address;

c. identification of the relevant MACT standard and the permittee's compliance date;

d. a brief description of the nature, design, size, and method of operation of the source, including the operating design capacity and an identification of each emission point of each hazardous air pollutant; and

e. a statement of whether or not the permittee is a major source or an area source according to the promulgated MACT.

## A. State and Federally Enforcable Section (continued)

**3.** PROPOSED MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARDS (cont.)

Within 60 days following completion of the required compliance demonstration activity specified in the 40 CFR 63, the permittee shall submit a notification of compliance status that contains the following information:

a. the methods used to determine compliance;

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

c. the methods that will be used for determining continuous compliance, including a description of monitoring and reporting requirements and test methods;

d. the type and quantity of hazardous air pollutants emitted by the source, reported in units and averaging times in accordance with the test methods specified in 40 CFR Part 63;

e. an analysis demonstrating whether the affected source is a major source or an area source;

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

g. a statement of whether or not the permittee has complied with the requirements of 40 CFR 63.

**4.** Chemical Accident Prevention Provisions, 40 CFR Part 68: Risk Management Programs Under the Clean Air Act, Section 112(r)(7). Chemicals covered are those regulated substances present above the threshold quantity in a process, as listed under 40 CFR 68.130 and determined under 40 CFR 68.115.

This facility developed and registered a risk management plan pursuant to section 112(r) of the Act and is required to comply with the requirements of section 112(r) and the regulations adopted thereunder.

## B. State Only Enforceable Section

**1.** The following insignificant emissions units are located at this facility:

B006 - Boiler A-1
T001 - Storage Tank 9
T002 - Storage Tank 10
T003 - Storage Tank 11
T005 - Storage Tank 101
T006 - Storage Tank 221
T007 - Storage Tank 222
T008 - Storage Tank 223
T009 - Storage Tank 224
T010 - Storage Tank 225
T011 - Storage Tank 226
T012 - Storage Tank 231
T014 - Storage Tank 233
T015 - Storage Tank 234
T016 - Storage Tank 235
T017 - Storage Tank 236
T018 - Storage Tank 310
T019 - Storage Tank 401
T020 - Storage Tank 402
T021 - Storage Tank 403
T024 - Storage Tank 441
T025 - Storage Tank 442
T026 - Storage Tank 443
T027 - Storage Tank 444
T028 - Storage Tank 445
T029 - Storage Tank 446
T030 - Storage Tank 447
T031 - Storage Tank 450
T032 - Storage Tank 456
T033 - Storage Tank 457
T035 - Storage Tank 481
T036 - Storage Tank 482
T037 - Storage Tank 484
T038 - Storage Tank W-33
T039 - Storage Tank W-34
T040 - Storage Tank 455
T041 - Storage Tank 483
T042 - Storage Tank 448
T043 - Storage Tank 311
T044 - Storage Tank 312
T045 - Storage Tank 660
T046 - Storage Tank 651
T047 - Storage Tank 650
T048 - Storage Tank 801
T049 - Storage Tank 802
T050 - Storage Tank 803
T051 - Storage Tank 804
T052 - Storage Tank M-80
T053 - Storage Tank 713
T054 - Storage Tank 715
T055 - Storage Tank 711
T056 - Storage Tank 712
T058 - Storage Tank 618
T059 - Storage Tank 620
T060 - Storage Tank 640

**B. State Only Enforceable Section**

T060 - Storage Tank 640
T063 - Storage Tank 313
T064 - Storage Tank 805
T071 - Storage Tank 639

T072 - Storage Tank 638
T074 - Storage Tank 8
T075 - Storage Tank 240
T076 - Storage Tank 241
T078 - Storage Tank 243
T079 - Storage Tank 244
T080 - Storage Tank 714
T081 - Storage Tank 716
T082 - Storage Tank 717
T083 - Storage Tank 15
T084 - Storage Tank 17
T085 - Storage Tank 19
T086 - Storage Tank 20
T087 - Storage Tank 21
T088 - Storage Tank 23

## B. State Only Enforceable Section (continued)

T089 - Storage Tank 104
T090 - Storage Tank 121
T092 - Storage Tank 142
T093 - Storage Tank 150
T094 - Storage Tank 202
T095 - Storage Tank 203
T096 - Storage Tank 207
T097 - Storage Tank 208
T098 - Storage Tank 213
T099 - Storage Tank 210
T100 - Storage Tank 212
T101 - Storage Tank 215
T102 - Storage Tank 216
T103 - Storage Tank 217
T104 - Storage Tank 218
T105 - Storage Tank 219
T106 - Storage Tank 410
T107 - Storage Tank 414
T108 - Storage Tank 418
T109 - Storage Tank 420
T110 - Storage Tank 421
T111 - Storage Tank 425
T112 - Storage Tank 426
T113 - Storage Tank 427
T114 - Storage Tank 430
T115 - Storage Tank 431
T116 - Storage Tank 432
T117 - Storage Tank 433
T118 - Storage Tank 434
T119 - Storage Tank 460
T120 - Storage Tank 461
T121 - Storage Tank 154 (466)
T124 - Storage Tank 155 (468)
T125 - Storage Tank 469
T126 - Storage Tank 470
T127 - Storage Tank 480
T128 - Storage Tank 554
T129 - Storage Tank 555
T130 - Storage Tank 556
T131 - Storage Tank 13
T132 - Storage Tank 16
T133 - Storage Tank 24
T134 - Storage Tank 107
T135 - Storage Tank 108
T137 - Storage Tank 112
T138 - Storage Tank 118
T139 - Storage Tank 120
T140 - Storage Tank 122
T141 - Storage Tank 123
T142 - Storage Tank 140
T143 - Storage Tank 147
T144 - Storage Tank 148
T145 - Storage Tank 149
T146 - Storage Tank 153
T147 - Storage Tank 201
T148 - Storage Tank 204
T149 - Storage Tank 205

T149 - Storage Tank 205

**B. State Only Enforceable Section (continued)**

T150 - Storage Tank 206
T151 - Storage Tank 209
T152 - Storage Tank 214
T153 - Storage Tank 220
T154 - Storage Tank 227
T155 - Storage Tank 409
T156 - Storage Tank 411
T157 - Storage Tank 412
T158 - Storage Tank 416
T159 - Storage Tank 417
T160 - Storage Tank 419
T161 - Storage Tank 422
T162 - Storage Tank 423
T163 - Storage Tank 424
T164 - Storage Tank 428
T165 - Storage Tank 429
T166 - Storage Tank 436
T167 - Storage Tank 437
T168 - Storage Tank 463
T169 - Storage Tank 464

## B. State Only Enforceable Section (continued)

T170 - Storage Tank 169 (467)
T171 - Storage Tank 596
T172 - Storage Tank 110
T173 - Storage Tank 158
T174 - Storage Tank 211
T175 - Storage Tank 702
T176 - Storage Tank 703
T177 - Storage Tank 134
T178 - Storage Tank B-11
T179 - Storage Tks WTG-1
T180 - Storage Tank 2
T181 - Storage Tank 3
T182 - Storage Tank 102
T183 - Storage Tank 111
T184 - Storage Tank 114
T185 - Storage Tank 152
T187 - Storage Tank 160
T188 - Storage Tank 168
T189 - Storage Tank 228
T190 - Storage Tank 229
T191 - Storage Tank 230
T192 - Storage Tank 237
T193 - Storage Tank 413
T194 - Storage Tank 471
T195 - Storage Tank 516
T196 - Storage Tank 517
T197 - Storage Tank 518
T198 - Storage Tank 519
T199 - Storage Tank 557
T200 - Storage Tank 558
T201 - Storage Tank 573
T202 - Storage Tank 574
T203 - Storage Tank 577
T204 - Storage Tank 578
T205 - Storage Tank 579
T206 - Storage Tank 594
T207 - Storage Tank 595
T208 - Storage Tank 597
T209 - Storage Tank 598
T210 - Storage Tank 599
T211 - Storage Tank 718
T212 - Storage Tank A-38
T213 - Storage Tank G-60
T214 - Storage Tank 130
T215 - Storage Tank 18
T217 - Storage Tank 301
T218 - Storage Tank 302
T219 - Storage Tank 303
T220 - Storage Tank 304
T221 - Storage Tank 415
T222 - Storage Tank 514
T223 - Storage Tank 515
T225 - Storage Tank A-27
T226 - Storage Tank A-31
T227 - Storage Tank A-32
T228 - Storage Tank A-33
T229 - Storage Tank A-34

**B. State Only Enforceable Section (continued)**

T229 - Storage Tank A-34
T230 - Storage Tank A-35
T231 - Storage Tank A-36

T232 - Storage Tank B-1
T233 - Storage Tank B-2
T234 - Storage Tank D-100
T235 - Storage Tank G-17
T236 - Storage Tank J-15
T237 - Storage Tank E-75
T238 - Storage Tank 619
T239 - Storage Tank 22
T240 - Storage Tank 31
T241 - Storage Tank 806
T242 - Storage Tank D32
T243 - Storage Tank D38
T244 - Storage Tank 25
Z009 - Computer Back-up Generator (diesel)
Z010 - W-5 Tank
Z011 - 339 Drip Trays
Z012 - 400 Ball House
Z013 - Painting
Z014 - 200 Ball House

## B. State Only Enforceable Section (continued)

Z015 - Process Sewer
Z016 - 500 Ball House
Z017 - 331 Drip Trays
Z018 - 332 Drip Trays
Z019 - 334 Drip Trays
Z020 - 336 Drip Trays
Z021 - Car Cleaning Tank
Z022 - Car Cleaning Pit
Z023 - Car Cleaning Vapors
Z024 - Drum Sump
Z025 - Cold Cleaner #1
Z026 - Cold Cleaner #2
Z027 - Cold Cleaner #3
Z028 - W-1 Tank
Z029 - 332-S Drum Heating
Z030 - 332-N Drum Heating
Z031 - 334 Drum Heating
Z032 - Gasoline Storage
Z033 - 331 Generator #1
Z034 - 331 Generator #2
Z035 - 331 Generator #3
Z036 - 332 Generator
Z037 - 333 Generator
Z038 - QA Generator
Z039 - Port. Generator #1
Z040 - Port. Generator #2
Z041 - Port. Generator #3
Z042 - Port. Generator #4
Z043 - Port. Pump #1
Z044 - Port. Pump #2
Z045 - Port. Pump #3
Z046 - Port. Pump #4
Z047 - 105 tk Water Pump
Z048 - Open Burning
Z049 - 331 Tank Flushing
Z050 - 332 Tank Flushing
Z051 - 333 Tank Flushing
Z052 - 334 Tank Flushing
Z053 - 336 Tank Flushing
Z054 - 339 Tank Flushing
Z055 - Bldg. 13 Cleaner
Z056 - QA Lab
Z057 - Paved Roadways
Z058 - Unpaved Roadways
Z059 - Storage Piles
Z060 - 534A Tank
Z061 - 534B Tank
Z062 - B-5 Tank
Z063 - B-6 Tank
Z064 - Boiler D-12
Z065 - Boiler J-60
Z118 - Cooling Tower North
Z119 - Cooling Tower South
Z120 - Cooling Tower West
Z121 - Degreaser VD2
Z122 - Heater Admin
Z123 - Heater Locker Rm

**B. State Only Enforceable Section (continued)**

Z123 - Heater Locker Rm
Z124 - Heater Maintenance
Z125 - Heater QA
Z126 - Heater Receiving

Z127 - H2O deareator
Z128 - H2O hot lime softener
Z129 - Storage Tank 31
Z130 - Storage Tank C60

Each insignificant emissions unit at this facility must comply with all State and federal regulations, as well as any emissions limitations and/or control requirements contained within a Permit to Install for the emissions unit.

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Steam Boiler #1 (B001)

**Activity Description:** Boiler

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Steam Boiler #1 (B001): Erie City natural gas or #2 fuel oil fired boiler rated at 41 mmBTU per hour. | OAC rule 3745-17-07 | See A.I.2.a. below. |
| | OAC rule 3745-17-10(B)(1) | See A.I.2.b. below. |
| | OAC rule 3745-18-06(D) | See A.I.2.c. below. |

**2. Additional Terms and Conditions**

**2.a** Visible particulate emissions shall not exceed 20 percent opacity as a 6-minute average, except as provided by the rule.

**2.b** Particulate emissions shall not exceed 0.020 pound per million Btu of actual heat input.

**2.c** Sulfur dioxide emissions shall not exceed 1.6 pounds per million Btu of actual heat input.

**2.d** As used in the terms and conditions for this emissions unit, "number two fuel oil" and/or "oil" includes number two fuel oil blends and diesel fuel blends, containing water and additives.

### II. Operational Restrictions

**1.** The permittee shall burn only natural gas and/or number two fuel oil in this emissions unit.

**2.** The quality of the oil burned in this emissions unit shall have a sulfur and heat content sufficient to comply with the allowable sulfur dioxide emission limitation of 1.6 pounds of sulfur dioxide per million Btu of actual heat input.

Compliance with the above-mentioned specifications shall be determined using the analytical results provided by the permittee or oil supplier for each shipment of oil.

### III. Monitoring and/or Record Keeping Requirements

**1.** For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

**2.** For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate in lbs/mmBtu.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternatively, equivalent methods may be used upon written approval by the Ohio EPA Northeast District Office.

## IV. Reporting Requirements

**1.** The permittee shall submit, on a quarterly basis, deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit.

**2.** The permittee shall submit, on a quarterly basis, copies of the permittee's or oil supplier's analyses for each shipment of oil which is received for burning in this emissions unit. The permittee's or oil supplier's analyses shall document the sulfur content (percent) and heat content (Btu/gallon) for each shipment of oil. The following information shall also be included with the copies of the permittee's or oil supplier's analyses:

a. the total quantity of oil received in each shipment (gallons); and

b. the calculated sulfur dioxide emission rate (lbs/mmBtu) for each shipment of oil.

These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the oil shipments received during the previous calendar quarters.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the emission limitations in Section A.I.1 and A.I.2. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: Visible particulate emissions shall not exceed 20 percent opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method: If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

**1.b** Emission Limitation: Particulate emissions shall not exceed 0.020 lb/mmBtu actual heat input.

Applicable Compliance Method: If required, the permittee shall demonstrate compliance with this emission limitation by stack testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, and the procedures specified in OAC rule 3745-17-03(B)(9).

## V. Testing Requirements (continued)

**1.c** Emission Limitation: 1.6 pounds of sulfur dioxide emissions per million Btu actual heat input.

Applicable Compliance Method: Compliance shall be determined based upon the record keeping in Section A.III.2 using the following equation specified in OAC rule 3745-18-04(F)(2) for each shipment of oil:

E (lb/mmBtu) = [(1 x 10^6) / H] x D x S x 1.974

where:

E = SO2 emission rate, in lbs/mmBtu;
H = heat content of the liquid fuel, in Btu/gal;
D = density of the liquid fuel, in lbs/gal; and
S = decimal fraction of sulfur in the liquid fuel.

**2.** If required, the permittee shall conduct, or have conducted, SO2 emission testing for this emissions unit to demonstrate compliance with the allowable mass emission rate of 1.6 lbs/mmBtu actual heat input in accordance with the following requirements:

Compliance with the allowable mass emission rate for SO2 shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6 or 6C and the procedures in OAC rule 3745-18-04.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity.

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

Personnel from the Ohio EPA shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northeast District Office.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Steam Boiler #2 (B002)

**Activity Description:** Boiler

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Steam Boiler #2 (B002): Erie City natural gas or #2 fuel oil fired boiler rated at 41 mmBTU per hour. | OAC rule 3745-17-07 | See A.I.2.a. below. |
| | OAC rule 3745-17-10(B)(1) | See A.I.2.b. below. |
| | OAC rule 3745-18-06(D) | See A.I.2.c. below. |

**2. Additional Terms and Conditions**

**2.a** Visible particulate emissions shall not exceed 20 percent opacity as a 6-minute average, except as provided by the rule.

**2.b** Particulate emissions shall not exceed 0.020 pound per million Btu of actual heat input.

**2.c** Sulfur dioxide emissions shall not exceed 1.6 pounds per million Btu of actual heat input.

**2.d** As used in the terms and conditions for this emissions unit, "number two fuel oil" and/or "oil" includes number two fuel oil blends and diesel fuel blends, containing water and additives.

### II. Operational Restrictions

**1.** The permittee shall burn only natural gas and/or number two fuel oil in this emissions unit.

**2.** The quality of the oil burned in this emissions unit shall have a sulfur and heat content sufficient to comply with the allowable sulfur dioxide emission limitation of 1.6 pounds of sulfur dioxide per million Btu of actual heat input.

Compliance with the above-mentioned specifications shall be determined using the analytical results provided by the permittee or oil supplier for each shipment of oil.

### III. Monitoring and/or Record Keeping Requirements

**1.** For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

**2.** For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate in lbs/mmBtu.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternatively, equivalent methods may be used upon written approval by the Ohio EPA Northeast District Office.

## IV. Reporting Requirements

**1.** The permittee shall submit, on a quarterly basis, deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit.

**2.** The permittee shall submit, on a quarterly basis, copies of the permittee's or oil supplier's analyses for each shipment of oil which is received for burning in this emissions unit. The permittee's or oil supplier's analyses shall document the sulfur content (percent) and heat content (Btu/gallon) for each shipment of oil. The following information shall also be included with the copies of the permittee's or oil supplier's analyses:

a. the total quantity of oil received in each shipment (gallons); and

b. the calculated sulfur dioxide emission rate (lbs/mmBtu) for each shipment of oil.

These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the oil shipments received during the previous calendar quarters.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the emission limitations in Section A.I.1 and A.I.2. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: Visible particulate emissions shall not exceed 20 percent opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method: If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

**1.b** Emission Limitation: Particulate emissions shall not exceed 0.020 lb/mmBtu actual heat input.

Applicable Compliance Method: If required, the permittee shall demonstrate compliance with this emission limitation by stack testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, and the procedures specified in OAC rule 3745-17-03(B)(9).

## V. Testing Requirements (continued)

**1.c** Emission Limitation: 1.6 pounds of sulfur dioxide emissions per million Btu actual heat input.

Applicable Compliance Method: Compliance shall be determined based upon the record keeping in Section A.III.2 using the following equation specified in OAC rule 3745-18-04(F)(2) for each shipment of oil:

E (lb/mmBtu) = [(1 x 10^6) / H] x D x S x 1.974

where:

E = SO2 emission rate, in lbs/mmBtu;
H = heat content of the liquid fuel, in Btu/gal;
D = density of the liquid fuel, in lbs/gal; and
S = decimal fraction of sulfur in the liquid fuel.

**2.** If required, the permittee shall conduct, or have conducted, SO2 emission testing for this emissions unit to demonstrate compliance with the allowable mass emission rate of 1.6 lbs/mmBtu actual heat input in accordance with the following requirements:

Compliance with the allowable mass emission rate for SO2 shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6 or 6Cand the procedures in OAC rule 3745-18-04.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity.

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

Personnel from the Ohio EPA shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northeast District Office.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Steam Boiler #3 (B003)

**Activity Description:** Boiler

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Steam Boiler #3 (B003): Erie City natural gas or #2 fuel oil fired boiler rated at 41 mmBTU per hour. | OAC rule 3745-17-07 | See A.I.2.a. below. |
| | OAC rule 3745-17-10(B)(1) | See A.I.2.b. below. |
| | OAC rule 3745-18-06(D) | See A.I.2.c. below. |

**2. Additional Terms and Conditions**

**2.a** Visible particulate emissions shall not exceed 20 percent opacity as a 6-minute average, except as provided by the rule.

**2.b** Particulate emissions shall not exceed 0.020 pound per million Btu of actual heat input.

**2.c** Sulfur dioxide emissions shall not exceed 1.6 pounds per million Btu of actual heat input.

**2.d** As used in the terms and conditions for this emissions unit, "number two fuel oil" and/or "oil" includes number two fuel oil blends and diesel fuel blends, containing water and additives.

### II. Operational Restrictions

**1.** The permittee shall burn only natural gas and/or number two fuel oil in this emissions unit.

**2.** The quality of the oil burned in this emissions unit shall have a sulfur and heat content sufficient to comply with the allowable sulfur dioxide emission limitation of 1.6 pounds of sulfur dioxide per million Btu of actual heat input.

Compliance with the above-mentioned specifications shall be determined using the analytical results provided by the permittee or oil supplier for each shipment of oil.

### III. Monitoring and/or Record Keeping Requirements

**1.** For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

**2.** For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate in lbs/mmBtu.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternatively, equivalent methods may be used upon written approval by the Ohio EPA Northeast District Office.

## IV. Reporting Requirements

**1.** The permittee shall submit, on a quarterly basis, deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit.

**2.** The permittee shall submit, on a quarterly basis, copies of the permittee's or oil supplier's analyses for each shipment of oil which is received for burning in this emissions unit. The permittee's or oil supplier's analyses shall document the sulfur content (percent) and heat content (Btu/gallon) for each shipment of oil. The following information shall also be included with the copies of the permittee's or oil supplier's analyses:

a. the total quantity of oil received in each shipment (gallons); and

b. the calculated sulfur dioxide emission rate (lbs/mmBtu) for each shipment of oil.

These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the oil shipments received during the previous calendar quarters.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the emission limitations in Section A.I.1 and A.I.2. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: Visible particulate emissions shall not exceed 20 percent opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method: If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

**1.b** Emission Limitation: Particulate emissions shall not exceed 0.020 lb/mmBtu actual heat input.

Applicable Compliance Method: If required, the permittee shall demonstrate compliance with this emission limitation by stack testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, and the procedures specified in OAC rule 3745-17-03(B)(9).

## V. Testing Requirements (continued)

**1.c** Emission Limitation: 1.6 pounds of sulfur dioxide emissions per million Btu actual heat input.

Applicable Compliance Method: Compliance shall be determined based upon the record keeping in Section A.III.2 using the following equation specified in OAC rule 3745-18-04(F)(2) for each shipment of oil:

E (lb/mmBtu) = [(1 x 10^6) / H] x D x S x 1.974

where:

E = SO2 emission rate, in lbs/mmBtu;
H = heat content of the liquid fuel, in Btu/gal;
D = density of the liquid fuel, in lbs/gal; and
S = decimal fraction of sulfur in the liquid fuel.

**2.** If required, the permittee shall conduct, or have conducted, SO2 emission testing for this emissions unit to demonstrate compliance with the allowable mass emission rate of 1.6 lbs/mmBtu actual heat input in accordance with the following requirements:

Compliance with the allowable mass emission rate for SO2 shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6 or 6C and the procedures in OAC rule 3745-18-04.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity.

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

Personnel from the Ohio EPA shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northeast District Office.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Steam Boiler #4 (B004)

**Activity Description:** Boiler

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Steam Boiler #4 (B004): Erie City natural gas or #2 fuel oil fired boiler rate at 81 mmBTU per hour. | OAC rule 3745-31-05(A)(3) PTI 02-862 | The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-17-07, 3745-17-10 and 3745-18-06. |
| | OAC rule 3745-17-07 | See A.I.2.a. below. |
| | OAC rule 3745-17-10(B)(1) | See A.I.2.b. below. |
| | OAC rule 3745-18-06(D) | See A.I.2.c. below. |

**2. Additional Terms and Conditions**

**2.a** Visible particulate emissions shall not exceed 20 percent opacity as a 6-minute average, except as provided by the rule.

**2.b** Particulate emissions shall not exceed 0.020 pound per million Btu of actual heat input.

**2.c** Sulfur dioxide emissions shall not exceed 1.6 pounds per million Btu of actual heat input.

**2.d** As used in the terms and conditions for this emissions unit, "number two fuel oil" and/or "oil" includes number two fuel oil blends and diesel fuel blends, containing water and additives.

### II. Operational Restrictions

**1.** The permittee shall burn only natural gas and/or number two fuel oil in this emissions unit.

**2.** The quality of the oil burned in this emissions unit shall have a sulfur and heat content sufficient to comply with the allowable sulfur dioxide emission limitation of 1.6 pounds of sulfur dioxide per million Btu of actual heat input.

Compliance with the above-mentioned specifications shall be determined using the analytical results provided by the permittee or oil supplier for each shipment of oil.

## III. Monitoring and/or Record Keeping Requirements

**1.** For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

**2.** For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate in lbs/mmBtu.

**3.** The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternatively, equivalent methods may be used upon written approval by the Ohio EPA Northeast District Office.

## IV. Reporting Requirements

**1.** The permittee shall submit, on a quarterly basis, deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit.

**2.** The permittee shall submit, on a quarterly basis, copies of the permittee's or oil supplier's analyses for each shipment of oil which is received for burning in this emissions unit. The permittee's or oil supplier's analyses shall document the sulfur content (percent) and heat content (Btu/gallon) for each shipment of oil. The following information shall also be included with the copies of the permittee's or oil supplier's analyses:

a. the total quantity of oil received in each shipment (gallons); and

b. the calculated sulfur dioxide emission rate (lbs/mmBtu) for each shipment of oil.

These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the oil shipments received during the previous calendar quarters.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the emission limitations in Section A.I.1 and A.I.2. of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: Visible particulate emissions shall not exceed 20 percent opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method: If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

**1.b** Emission Limitation: Particulate emissions shall not exceed 0.020 lb/mmBtu actual heat input.

Applicable Compliance Method: If required, the permittee shall demonstrate compliance with this emission limitation by stack testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, and the procedures specified in OAC rule 3745-17-03(B)(9).

## V. Testing Requirements (continued)

**1.c** Emission Limitation: 1.6 pounds of sulfur dioxide emissions per million Btu actual heat input.

Applicable Compliance Method: Compliance shall be determined based upon the record keeping in Section A.III.2 using the following equation specified in OAC rule 3745-18-04(F)(2) for each shipment of oil:

E (lb/mmBtu) = [(1 x 10^6) / H] x D x S x 1.974

where:

E = SO2 emission rate, in lbs/mmBtu;
H = heat content of the liquid fuel, in Btu/gal;
D = density of the liquid fuel, in lbs/gal; and
S = decimal fraction of sulfur in the liquid fuel.

**2.** If required, the permittee shall conduct, or have conducted, SO2 emission testing for this emissions unit to demonstrate compliance with the allowable mass emission rate of 1.6 lbs/mmBtu actual heat input in accordance with the following requirements:

Compliance with the allowable mass emission rate for SO2 shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6 or 6C and the procedures in OAC rule 3745-18-04.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity.

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

Personnel from the Ohio EPA shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northeast District Office.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Waste Incinerator (N001)

**Activity Description:** Waste Incinerator

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Waste heat recovery incinerator (N001): rated capacity of 5,500.00 pounds per hour. Combustible waste consists of waste oil and process by-products. Particulate emissions are controlled by a fabric filter baghouse (WHRI BagH). HCl and SO2 emissions are controlled by a caustic wet scrubber (WHRI CScrb). | OAC rule 3745-17-07 | Visible particulate emissions shall not exceed 20 percent opacity as a 6-minute average, except as provided by the rule. |
| | OAC rule 3745-17-09 | Particulate emissions shall not exceed 0.10 pound per one hundred pounds of liquid, semi-solid or solid refuse and salvageable material charged. |
| | OAC rule 3745-18-06(E) | SO2: 39.4 lbs/hour |
| | 40 CFR 63, Subpart EEE (MACT for Hazardous Waste Combustors, Interim Standards Rule) | See applicable references to section 63.1203 through section 63.1213 below.<br><br>Note: The terms and conditions derived directly from Subpart EEE are structured similar to the applicable standards as of February 13, 2002 and February 14, 2002 . Once changes are made to this subpart in subsequent CFR revisions, the most recent Subpart EEE revision will be included in the Title V permit. |

## 2. Additional Terms and Conditions

**2.a** 40 CFR 63, Subpart EEE: Emission Standards and Operating Limits

63.1203: What are the standards for hazardous waste incinerators?

(a) Emission limits for existing sources. You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) For dioxins and furans:

(i) Emissions in excess of 0.20 ng TEQ/dscm corrected to 7 percent oxygen; or

(ii) Emissions in excess of 0.40 ng TEQ/dscm corrected to 7 percent oxygen provided that the combustion gas temperature at the inlet to the initial particulate matter control device is 400 degrees F or lower based on the average of the test run average temperatures. (For purposes of compliance, operation of a wet particulate control device is presumed to meet the 400 degrees F or lower requirement);

(2) Mercury in excess of 130 micrograms/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 240 micrograms/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 97 micrograms/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

**2.b** 63.1203: continued

(a)(5)(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (a)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 77 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 34 mg/dscm corrected to 7 percent oxygen.

## 2. Additional Terms and Conditions (continued)

**2.c** 63.1203: continued

(b) Emission limits for new sources. You must not discharge or cause combustion gases to be emitted into the atmosphere that contain:

(1) Dioxins and furans in excess of 0.20 ng TEQ/dscm, corrected to 7 percent oxygen;

(2) Mercury in excess of 45 micrograms/dscm corrected to 7 percent oxygen;

(3) Lead and cadmium in excess of 120 micrograms/dscm, combined emissions, corrected to 7 percent oxygen;

(4) Arsenic, beryllium, and chromium in excess of 97 micrograms/dscm, combined emissions, corrected to 7 percent oxygen;

(5) For carbon monoxide and hydrocarbons, either:

(i) Carbon monoxide in excess of 100 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis and corrected to 7 percent oxygen. If you elect to comply with this carbon monoxide standard rather than the hydrocarbon standard under paragraph (b)(5)(ii) of this section, you must also document that, during the destruction and removal efficiency (DRE) test runs or their equivalent as provided by 63.1206(b)(7), hydrocarbons do not exceed 10 parts per million by volume during those runs, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane; or

(ii) Hydrocarbons in excess of 10 parts per million by volume, over an hourly rolling average (monitored continuously with a continuous emissions monitoring system), dry basis, corrected to 7 percent oxygen, and reported as propane;

(6) Hydrochloric acid and chlorine gas in excess of 21 parts per million by volume, combined emissions, expressed as hydrochloric acid equivalents, dry basis and corrected to 7 percent oxygen; and

(7) Particulate matter in excess of 34 mg/dscm corrected to 7 percent oxygen.

**2. Additional Terms and Conditions (continued)**

**2.d** 63.1203: continued

(c) Destruction and removal efficiency (DRE) standard.

(1) 99.99% DRE. Except as provided in paragraph (c)(2) of this section, you must achieve a destruction and removal efficiency (DRE) of 99.99% for each principle organic hazardous constituent (POHC) designated under paragraph (c)(3) of this section. You must calculate DRE for each POHC from the following equation:

DRE = [1-(Wout / Win)] x 100%

Where:

Win = mass feedrate of one principal organic hazardous constituent (POHC) in a waste feedstream; and

Wout = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) 99.9999% DRE. If you burn the dioxin-listed hazardous wastes F020, F021, F022, F023, F026, or F027 (see 261.31 of this chapter), you must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principle organic hazardous constituent (POHC) that you designate under paragraph (c)(3) of this section. You must demonstrate this DRE performance on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. You must use the equation in paragraph (c)(1) of this section to calculate DRE for each POHC. In addition, you must notify the Administrator of your intent to incinerate hazardous wastes F020, F021, F022, F023, F026, or F027.

**2.e** 63.1203: continued

(c)(3) Principal organic hazardous constituents (POHCs).

(i) You must treat the Principal Organic Hazardous Constituents (POHCs) in the waste feed that you specify under paragraph (c)(3)(ii) of this section to the extent required by paragraphs (c)(1) and (c)(2) of this section.

(ii) You must specify one or more POHCs from the list of hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactam (CAS number 105602) as provided by 63.60, for each waste to be burned. You must base this specification on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses or other data and information.

**2.f** 63.1203: continued

(d) Significant figures. The emission limits provided by paragraphs (a) and (b) of this section are presented with two significant figures. Although you must perform intermediate calculations using at least three significant figures, you may round the resultant emission levels to two significant figures to document compliance.

## II. Operational Restrictions

**1.** The pressure drop across the baghouse shall be maintained within the range of 1.5 - 8 inches of water while the emissions unit is in operation.

## II. Operational Restrictions (continued)

**2.** This permittee shall operate and maintain the wet scrubber at all times the process vent stream is vented to the scrubber in accordance with the following parameters:

a. the pH of the scrubber liquor shall be maintained at or above 2.9;

b. the liquid-to-gas ratio shall be maintained at or above five gallons per 1000 cubic feet; and

c. the pressure drop across the scrubber shall be maintained at a value of not less than 3.5 inches of water.

**3.** 40 CFR 63, Subpart EEE: Monitoring and Compliance Provisions

63.1206: When and how must you comply with the standards and operating requirements?

(a) Compliance dates

**3.a** 63.1206: continued

(a)(1) Compliance date for existing sources. You must comply with the standards of this subpart no later than September 30, 2003 unless the Administrator grants you an extension of time under 63.6(i) or 63.1213.
(2) New or reconstructed sources.

(i) If you commenced construction or reconstruction of your hazardous waste combustor after April 19, 1996, you must comply with this subpart by the later of September 30, 1999 or the date the source starts operations, except as provided by paragraph (a)(2)(ii) of this section. The costs of retrofitting and replacement of equipment that is installed specifically to comply with this subpart, between April 19, 1996 and a source's compliance date, are not considered to be reconstruction costs.

(ii) For a standard in this subpart that is more stringent than the standard proposed on April 19, 1996, you may achieve compliance no later than September 30, 2002 if you comply with the standard proposed on April 19, 1996 after September 30, 1999. This exception does not apply, however, to new or reconstructed area source hazardous waste combustors that become major sources after September 30, 1999. As provided by 63.6(b)(7), such sources must comply with this subpart at startup.

(3) Early compliance. If you choose to comply with the emissions standards of this subpart prior to September 30, 2002, your compliance date is the date you postmark the Notification of Compliance under Sec. 63.1207(j)(1).

**4.** 63.1206: continued

(b) Compliance with standards

## II. Operational Restrictions (continued)

**4.a** 63.1206: continued

(b)(1) Applicability. The emission standards and operating requirements set forth in this subpart apply at all times except:

(i) During periods of startup, shutdown, and malfunction; and provided that hazardous waste is not in the combustion chamber (i.e., the hazardous waste feed to the combustor has been cutoff for a period of time not less than the hazardous waste residence time) during those periods of operation, as provided by paragraph (c)(2)(ii) of this section; and

(ii) When hazardous waste is not in the combustion chamber (i.e., the hazardous waste feed to the combustor has been cutoff for a period of time not less than the hazardous waste residence time), and you have documented in the operating record that you are complying with all otherwise applicable requirements and standards promulgated under authority of sections 112 (e.g., subpart LLL of this part for cement kilns) or 129 of the Clean Air Act in lieu of the emission standards of Secs. 63.1203 through 63.1205; the monitoring and compliance standards of this section and Secs. 63.1207 through 63.1209, except the modes of operation requirements of Sec 63.1209 (q); and the notification, reporting, and recordkeeping requirements of Secs 63.1210 through 63.1212.

**4.b** 63.1206: continued

(b)(2) Methods for determining compliance. The Administrator will determine compliance with the emission standards of this subpart as provided by 63.6(f)(2). Conducting performance testing under operating conditions representative of the extreme range of normal conditions is consistent with the requirements of 63.6(f)(2)(iii)(B) and 63.7(e)(1) to conduct performance testing under representative operating conditions.

(3) Finding of compliance. The Administrator will make a finding concerning compliance with the emission standards and other requirements of this subpart as provided by 63.6(f)(3).

(4) Extension of compliance with emission standards. The Administrator may grant an extension of compliance with the emission standards of this subpart as provided by 63.6(i) and 63.1213.

(5) Changes in design, operation, or maintenance.

(i) Changes that may adversely affect compliance. If you plan to change (as defined in paragraph (b)(5)(iii) of this section) the design, operation, or maintenance practices of the source in a manner that may adversely affect compliance with any emission standard that is not monitored with a CEMS:

(A) Notification. You must notify the Administrator at least 60 days prior to the change, unless you document circumstances that dictate that such prior notice is not reasonably feasible. The notification must include:

(1) A description of the changes and which emission standards may be affected; and

(2) A comprehensive performance test schedule and test plan under the requirements of 63.1207(f) that will document compliance with the affected emission standard(s);

## II. Operational Restrictions (continued)

**4.c** 63.1206: continued

(b)(5)(i)(B) Performance test. You must conduct a comprehensive performance test under the requirements of 63.1207(f)(1) and (g)(1) to document compliance with the affected emission standard(s) and establish operating parameter limits as required under 63.1209, and submit to the Administrator a Notification of Compliance under 63.1207(j) and 63.1210(d); and

(C) Restriction on waste burning.

(1) Except as provided by paragraph (b)(5)(i)(C)(2) of this section, after the change and prior to submitting the notification of compliance, you must not burn hazardous waste for more than a total of 720 hours (renewable at the discretion of the Administrator) and only for the purposes of pretesting or comprehensive performance testing. Pretesting is defined at 63.1207(h)(2)(i) and (ii).

(2) You may petition the Administrator to obtain written approval to burn hazardous waste in the interim prior to submitting a Notification of Compliance for purposes other than testing or pretesting. You must specify operating requirements, including limits on operating parameters, that you determine will ensure compliance with the emission standards of this subpart based on available information. The Administrator will review, modify as necessary, and approve if warranted the interim operating requirements.

(ii) Changes that will not affect compliance. If you determine that a change will not adversely affect compliance with the emission standards or operating requirements, you must document the change in the operating record upon making such change. You must revise as necessary the performance test plan, Documentation of Compliance, Notification of Compliance, and start-up, shutdown, and malfunction plan to reflect these changes.

**4.d** 63.1206: continued

(b)(5)(iii) Definition of "change." For purposes of paragraph (b)(5) of this section,"change" means any change in design, operation, or maintenance practices that were documented in the comprehensive performance test plan, Notification of Compliance, or startup, shutdown, and malfunction plan.

(6) Compliance with the carbon monoxide and hydrocarbon emission standards. This paragraph applies to sources that elect to comply with the carbon monoxide and hydrocarbon emissions standards under 63.1203 through 63.1205 by documenting continuous compliance with the carbon monoxide standard using a continuous emissions monitoring system and documenting compliance with the hydrocarbon standard during the destruction and removal efficiency (DRE) performance test or its equivalent.

(i) If a DRE test performed pursuant to Sec 63.1207(c)(2) is acceptable as documentation of compliance with the DRE standard, you may use the the highest hourly rolling average hydrocarbon level achieved during the DRE test runs to document compliance with the hydrocarbon standard. An acceptable DRE test is any test for which the data and results are determined to meet quality assurance objectives (on a site-specific basis) such that the results adequately demonstrate compliance with the DRE standard.

(ii) If during this acceptable DRE test you did not obtain hydrocarbon emissions data sufficient to document compliance with the hydrocarbon standard, you must either:

## II. Operational Restrictions (continued)

**4.e** 63.1206: continued

(b)(6)(ii)(A) Perform, as part of the performance test, an "equivalent DRE test" to document compliance with the hydrocarbon standard. An equivalent DRE test is comprised of a minimum of three runs each with a minimum duration of one hour during which you operate the combustor as close as reasonably possible to the operating parameter limits that you established based on the initial DRE test. You must use the highest hourly rolling average hydrocarbon emission level achieved during the equivalent DRE test to document compliance with the hydrocarbon standard; or (B) Perform a DRE test as part of the performance test.

(7) Compliance with the DRE standard.

(i) Except as provided in paragraphs (b)(7)(ii) and (b)(7)(iii) of this section:

(A) You must document compliance with the Destruction and Removal Efficiency (DRE) standard under 63.1203 through 63.1205 only once provided that you do not modify the source after the DRE test in a manner that could affect the ability of the source to achieve the DRE standard;

(B) You may use any DRE test data that documents that your source achieves the required level of DRE provided:

(1) You have not modified the design or operation of your source in a manner that could effect the ability of your source to achieve the DRE standard since the DRE test was performed; and

(2) The DRE test data meet quality assurance objectives determined on a site-specific basis.

(ii) Sources that feed hazardous waste at a location in the combustion system other than the normal flame zone must demonstrate compliance with the DRE standard during each comprehensive performance test;

(iii) For sources that do not use DRE previous testing to document conformance with the DRE standard pursuant to Sec. 63.1207(c)(2), you must perform DRE testing during the initial comprehensive performance test.

**4.f** 63.1206: continued

(b)(8) Applicability of particulate matter and opacity standards during particulate matter CEMS correlation test.

(i) Any particulate matter and opacity standards of parts 60, 61, 63, 264, 265, and 266 of this chapter (i.e., any title 40 particulate or opacity standards) applicable to a hazardous waste combustor do not apply while you conduct particulate matter continuous emissions monitoring system (CEMS) correlation tests (i.e., correlation with manual stack methods) under the conditions of paragraphs (b)(8)(iii) through (vii) of this section.

(ii) Any permit or other emissions or operating parameter limits or conditions, including any limitation on workplace practices, that are applicable to hazardous waste combustors to ensure compliance with any particulate matter and opacity standards of parts 60, 61, 63, 264, 265, and 266 of this chapter (i.e., any title 40 particulate or opacity standards) do not apply while you conduct particulate matter CEMS correlation tests under the conditions of paragraphs (b)(8)(iii) through (vii) of this section.

## II. Operational Restrictions (continued)

**4.g** 63.1206: continued

(b)(8)(iii) For the provisions of this section to apply, you must:

(A) Develop a particulate matter CEMS correlation test plan that includes the following information. This test plan may be included as part of the comprehensive performance test plan required under 63.1207(e) and (f):

(1) Number of test conditions and number of runs for each test condition;

(2) Target particulate matter emission level for each test condition;

(3) How you plan to modify operations to attain the desired particulate matter emission levels; and

(4) Anticipated normal particulate matter emission levels; and

(B) Submit the test plan to the Administrator for approval at least 90 calendar days before the correlation test is scheduled to be conducted.

(iv) The Administrator will review and approve/disapprove the correlation test plan under the procedures for review and approval of the site-specific test plan provided by 63.7(c)(3)(i) and (iii). If the Administrator fails to approve or disapprove the correlation test plan within the time period specified by 63.7(c)(3)(i), the plan is considered approved, unless the Administrator has requested additional information.

(v) The particulate matter and opacity standards and associated operating limits and conditions will not be waived for more than 96 hours, in the aggregate, for a correlation test, including all runs of all test conditions, unless more time is approved by the Administrator.

(vi) The stack sampling team must be on-site and prepared to perform correlation testing no later than 24 hours after you modify operations to attain the desired particulate matter emissions concentrations, unless you document in the correlation test plan that a longer period of conditioning is appropriate.

(vii) You must return to operating conditions indicative of compliance with the applicable particulate matter and opacity standards as soon as possible after correlation testing is completed.

## II. Operational Restrictions (continued)

**4.h** 63.1206: continued

(b)(9) This paragraph of the regulation is not applicable to this permittee.

(10) This paragraph of the regulation is not applicable to this permittee.

(11) Calculation of hazardous waste residence time. You must calculate the hazardous waste residence time and include the calculation in the performance test plan under 63.1207(f) and the operating record. You must also provide the hazardous waste residence time in the Documentation of Compliance under 63.1211(c) and the Notification of Compliance under 63.1207(j) and 63.1210(b).

(12) Documenting compliance with the standards based on performance testing.

(i) You must conduct a minimum of three runs of a performance test required under 63.1207 to document compliance with the emission standards of this subpart.

(ii) You must document compliance with the emission standards based on the arithmetic average of the emission results of each run, except that you must document compliance with the destruction and removal efficiency standard for each run of the comprehensive performance test individually.

(13) This paragraph of the regulation is not applicable to this permittee.

(14) This paragraph of the regulation is not applicable to this permittee.

**5.** 63.1206: continued

(c) Operating requirements

## II. Operational Restrictions (continued)

**5.a** 63.1206: continued

(c)(1) General

(i) You must operate only under the operating requirements specified in the Documentationof Compliance under Sec. 63.1211(c) or the Notification of Compliance under Secs 63.1207(j) and 63.1210(b), except:

(c)(1)(i)(A) During performance tests under approved test plans according to Sec. 63.1207(e), (f), and (g); and,

(B) Under the conditions of paragraph (b)(1)(i) or (ii) of this section.

(ii) The Documentation of Compliance and the Notification of Compliance must contain operating requirements including, but not limited to, the operating requirements in this section and Sec. 63.1209

(iii) Failure to comply with the operating requirements is failure to ensure compliance with the emission standards of this subpart.

(iv) Operating requirements in the Notification of Compliance are applicable requirements for purposes of parts 70 and 71 of this chapter.

(v) The operating requirements specified in the Notification of Compliance will be incorporated in the title V permit.

(2) Startup, shutdown, and malfunction plan.

(i) You are subject to the startup, shutdown, and malfunction plan requirements of Sec. 63.6(e)(3).

(ii) If you elect to comply with Secs. 270.235(a)(1)(iii), 270.235(a)(2)(iii), or 270.235(b)(1)(ii) of this chapter to address RCRA concerns that you minimize emissions of toxic compounds from startup, shutdown, and malfunction events (including releases from emergency safety vents):

## II. Operational Restrictions (continued)

**5.b** 63.1206: continued

(c)(2)(ii)(A) The startup, shutdown, and malfunction plan must include a description of potential causes of malfunctions, including releases from emergency safety vents, that may result in significant releases of hazardous air pollutants, and actions the source is taking to minimize the frequency and severity of those malfunctions.

(B) You must submit the startup, shutdown, and malfunction plan to the Administrator for review and approval.

(1) Approval procedure. The Administrator will notify you of approval or intention to deny approval of the startup, shutdown, and malfunction plan within 90 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplemental information that you submit. Before disapproving the plan, the Administrator will notify you of the Administrator's intention to disapprove the plan together with:

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

(ii) Notice of opportunity for you to present additional information to the Administrator before final action on disapproval of the plan. At the time the Administrator notifies you of intention to disapprove the plan, the Administrator will specify how much time you will have after being notified on the intended disapproval to submit additional information.

(2) Responsibility of owners and operators. You are responsible for ensuring that you submit any supplementary and additional information supporting your plan in a timely manner to enable the Administrator to consider whether to approve the plan. Neither your submittal of the plan, nor the Administrator's failure to approve or disapprove the plan, relieves you of the responsibility to comply with the provisions of this subpart.

(C) Changes to the plan that may significantly increase emissions.

**5.c** 63.1206: continued

(c)(2)(ii)(C)(1) You must request approval from the Administrator within 5 days after making a change to the startup, shutdown, and malfunction plan that may significantly increase emissions of hazardous air pollutants.

(2) To request approval of such changes to the startup, shutdown, and malfunctionplan, you must follow the procedures provided by paragraph (c)(2)(ii)(B) of this section for initial approval of the plan.

(iii) You must identify in the plan a projected oxygen correction factor based on normal operations to use during periods of startup and shutdown.

(iv) You must record the plan in the operating record.

(A) Compliance with AWFCO requirements during malfunctions.

(1) During malfunctions, the automatic waste feed cutoff requirements of Sec. 63.1206(c)(3) continue to apply, except for paragraph (c)(3)(v) and (c)(3)(vi) of this section. If you exceed a part 63, subpart EEE, of this chapter emission standard monitored by a CEMS or COMs or operating limit specified under Sec. 62.1209, the automatic waste feed cutoff system must immediately and automatically cutoff the hazardous waste feed, except as provided by paragraph (c)(3)(viii) of this section. If the malfunction itself prevents immediate and automatic cutoff of the hazardous waste feed, however, you must cease feeding hazardous waste as quickly as possible.

(2) Although the automatic waste feed cutoff requirements continue to apply a malfunction, an exceedance of an emission standard monitored by a CEMS or COMS or operating limit specified under Sec. 63.1209 is not a violation of this subpart if you take the corrective measures prescribed in the startup, shutdown, and malfunction plan.

## II. Operational Restrictions (continued)

**5.d** 63.1206: continued

(c)(2)(v)(A)(3) Excessive exceedances during malfunctions. For each set of 10 exceedances of an emission standard or operating requirement while hazardous waste remains in the combustion chamber (i.e., when the hazardous waste residence time has not transpired since the hazardous waste feed was cutoff) during a 60-day block period, you must:

(i) Within 45 days of the 10th exceedance, complete an investigation of the cause of each exceedance and evaluation of approaches to minimize the frequency, duration, and severity of each exceedance, and revise the startup, shutdown, and malfunction plan as warranted by the evaluation to minimize the frequency, duration, and severity of each exceedance; and,

(ii) Record the results of the investigation and evaluation in the operating record, and include a summary of the investigation and evaluation, and any changes to the startup, shutdown, and malfunction plan, inthe excess emissions report required under Sec. 63.10(e)(3).

(B) Compliance with AWFCO requirements when burning hazardous waste during startup and shutdown.

(1) If you feed hazardous waste during startup or shutdown, you must include waste feed restrictions (e.g., type and quantity), and other appropriate operating conditions and limits in the startup, shutdown, and malfunction plan.

(2) You must interlock the operating limits you establish under paragraph (c)(2)(v)(B)(1) of this section with the automatic waste feed cutoff system required under Sec. 63.1206(c)(3), except for paragraphs (c)(3)(v) and (c)(3)(vi) of this section.

(3) When feeding hazardous waste during startup or shutdown, the automatic waste feed cutoff system must immediately and automatically cutoff the hazardous waste feed if you exceed the operating limits you establish under paragraph (c)(2)(v)(B)(1) of this section, except as provided by paragraph (c)(3)(viii) of this section.

**5.e** 63.1206 continued

(c)(2)(v)(B)(4) Although the automatic waste feed cutoff requirements of this paragraph apply during startup and shutdown, an exceedance of an emission standard or operating limit is not a violation of subpart if you comply with the operating procedures prescribed in the startup, shutdown, and malfunction plan.

(3) Automatic waste feed cutoff (AWFCO).

(i) General. Upon the compliance date, you must operate the hazardous waste combustor with a functioning system that immediately and automatically cuts off the hazardous waste feed, except as provided by paragraph (c)(3)(viii) of this section:

(A) When any of the following are exceeded: Operating parameter limits specified under Sec. 63.1209; an emission standard monitored by a CEMS; and the allowable combustion chamber pressure;

(B) When the span value of any CMS detector, except a CEMS, is met or exceeded;

(C) Upon malfunctin of a CMS monitoring an operating parameter limit specified under Sec. 63.1209 or an emission level; or

(D) When any component of the automatic waste feed cutoff system fails.

## II. Operational Restrictions (continued)

**5.f** 63.1206: continued

(c)(3)(ii) Ducting of combustion gases. During an AWFCO, you must continue to duct combustion gasses to the air pollution control system while hazardous waste remains in the combustion chamber (i.e., if the hazardous waste residence time has not transpired since the hazardous waste feed cutoff system was activated).

(iii) Restarting waste feed. You must continue to monitor during the cutoff the operating parameters for which limits are established under 63.1209 and the emissions required under that section to be monitored by a CEMS, and you must not restart the hazardous waste feed until the operating parameters and emission levels are within the specified limits.

(iv) Failure of the AWFCO system. If the AWFCO system fails to automatically and immediately cutoff the flow of hazardous waste upon exceedance of parameter required to be interlocked with the AWFCO system under paragraph (c)(3)(i) of this section, you have failed to comply with the AWFCO requirements of paragraph (c)(3) of this section.

**5.g** 63.1206: continued

(c)(3)(v) Corrective measures. If, after any AWFCO, there is an exceedance of an emission standard or operating requirement, irrespective of whether the exceedance occurred while hazardous waste remained in the combustion chamber (i.e., whether the hazardous waste residence time has transpired since the hazardous waste feed cutoff system was activated), you must investigate the cause of the AWFCO, take appropriate corrective measures to minimize future AWFCOs, and record the findings and corrective measures in the operating record.

(vi) Excessive exceedance reporting.

(A) For each set of 10 exceedances of an emission standard or operating requirement while hazardous waste remains in the combustion chamber (i.e., when the hazardous waste residence time has not transpired since the hazardous waste feed was cutoff) during a 60-day block period, you must submit to the Administrator a written report within 5 calendar days of the 10th exceedance documenting the exceedances and results of the investigation and corrective measures taken.

(B) On a case-by-case basis, the Administrator may require excessive exceedance reporting when fewer than 10 exceedances occur during a 60-day block period.

(vii) Testing. The AWFCO system and associated alarms must be tested at least weekly to verify operability, unless you document in the operating record that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, you must conduct operability testing at least monthly. You must document and record in the operating record AWFCO operability test procedures and results.

## II. Operational Restrictions (continued)

**5.h** 63.1206: continued

(c)(3)(viii) Ramping down waste feed.

(A) You may ramp down the waste feedrate of pumpable hazardous waste over a period not to exceed one minute, except as provided by paragraph (c)(3)(viii)(B) of this section. If you elect to ramp down the waste feed, you must document ramp down procedures in the operating and maintenance plan. The procedures must specify that the ramp down begins immediately upon initiation of automatic waste feed cutoff and the procedures must prescribe a bona fide ramping down. If an emission standard or operating limit is exceeded during the ramp down, you have failed to comply with the emission standards or operating requirements of this subpart.

(B) If the automatic waste feed cutoff is triggered by an exceedance of any of the following operating limits, you may not ramp down the waste feed cutoff: Minimum combustion chamber temperature, maximum hazardous waste feedrate, or any hazardous waste firing system operating limits that may be established for your combustor.

(4) ESV openings

(i) Failure to meet standards. If an emergency safety vent (ESV) opens when hazardous waste remains in the combustion chamber (i.e., when the hazardous waste residence time has not expired) during an event other than a malfunction as defined in the startup, shutdown, and malfunction plan such that combustion gases are not treated as during the most recent comprehensive performance test (e.g., if the combustion gas by-passes any emission control device that was operating during the performance test), you must document in the operating record whether you remain in compliance with the emission standards of this subpart considering emissions during the ESV opening.

## II. Operational Restrictions (continued)

**5.i** 63.1206: continued

(c)(4)(ii) ESV operating plan.

(A) You must develop an ESV operating plan, comply with the operating plan, and keep the plan in the operating record.

(B) The ESV operating plan must provide detailed procedures for rapidly stopping the waste feed, shutting down the combustor, and maintaining temperature and negative pressure in the combustion chamber during the hazardous waste residence time, if feasible. The plan must include calculations and information and data documenting the effectiveness of the plan's procedures for ensuring that combustion chamber temperature and negative pressure are maintained as is reasonably feasible.

(iii) Corrective measures. After any ESV opening that results in a failure to meet the emission standards as defined in paragraph (c)(4)(i) of this section, you must investigate the cause of the ESV opening, take appropriate corrective measures to minimize such future ESV openings, and record the findings and corrective measures in the operating record.

(iv) Reporting requirement. You must submit to the Administrator a written report within 5 days of an ESV opening that results in failure to meet the emission standards of this subpart (as defined in paragraph (c)(4)(i) of this section) documenting the result of the investigation and corrective measures taken.

(5) Combustion system leaks.

(i) Combustion system leaks of hazardous air pollutants must be controlled by:

(A) Keeping the combustion zone sealed to prevent combustion system leaks; or

(B) Maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor; or

(C) Upon prior written approval of the Administrator, an alternative means of control to provide control of combustion system leaks equivalent to maintenance of combustion zone pressure lower than ambient pressure; or

## II. Operational Restrictions (continued)

**5.j** 63.1206: continued

(c)(5)(i)(D) Upon prior written approval of the Administrator, other technique(s) which can be demonstrated to prevent fugitive emissions without use of instantaneous pressure limits; and

(ii) You must specify in the operating record the method used for control of combustion system leaks.

(6) Operator training and certification.

(i) You must establish training programs for all categories of personnel whose activities may reasonably be expected to directly affect emissions of hazardous air pollutants from the source. Such persons include, but are not limited to, chief facility operators, control room operators, continuous monitoring system operators, persons that sample and analyze feedstreams, persons that manage and charge feedstreams to the combustor, persons that operate emission control devices, and ash and waste handlers. Each training program shall be of a technical level commensurate with the person's job duties specified in the training manual. Each commensurate training program shall require an examination to be administered by the instructor at the end of the training course. Passing of this test shall be deemed the "certification" for personnel, except that for control room operators and shift supervisors, the training and certification program shall be as specified in paragraphs (c)(6)(iii) and (vi) of this section.

(ii) You must ensure that the source is operated and maintained at all times by persons who are trained and certified to perform these and any other duties that may affect emissions of hazardous air pollutants. A certified control room operator must be on duty at the site at all times the source is in operation.

(iii) Hazardous waste incinerator control room operators must:

(A) Be trained and certified under a site-specific, source-developed and implemented program that meets the requirements of paragraph (c)(6)(v) of this section; or

## II. Operational Restrictions (continued)

**5.k** 63.1206: continued

(c)(6)(iii)(B) Be trained under the requirements of, and certified under, the American Society of Mechanical Engineers Standard Number QHO-1-1994 and QHO-1a-1996 Addenda (incorporated by reference--see Sec. 63.14(e)). If you choose to use the ASME program:

(1) Control room operators must, prior to the compliance date, achieve provisional certification, and must submit an application to ASME and be scheduled for the full certification exam. Within one year of the compliancedate, control room operators must achieve full certification;

(2) New operators and operators of new sources must, before assuming their duties, achieve provisional certification, and must submit an application to ASME, and be scheduled for the full certification exam. Within one year of assuming their duties, these operators must achieve full certification; or

(C) Be trained and certified under a State program.

(iv) This paragraph of the regulation is not applicable to this permittee.

(v) Site-specific, source developed and implemented training programs for control room operators must include the following elements:

(A) Training on the following subjects:

(1) Environmental concerns, including types of emissions;

(2) Basic combustion principles, including products of combustion;

(3) Operation of the specific type of combustor used by the operator, including proper startup, waste firing, and shutdown procedures;

(4) Combustion controls and continuous monitoring systems;

(5) Operation of air pollution control equipment and factors affecting performance;

(6) Inspection and maintenance of the combustor, continuous monitoring systems, and air pollution control devices;

(7) Actions to correct malfunctions or conditions that may lead to malfunction;

(8) Residue characteristics and handling procedures; and

(9) Applicable Federal, state, and local regulations, including Occupational Safety and Health Administration workplace standards and

## II. Operational Restrictions (continued)

**5.l** 63.1206 continued:

(c)(6)(v)(B) An examination designed and administered by the instructor; and

(C) Written material covering the training course topics that may serve as reference material following completion of the course.

(vi) To maintain control room operator qualification under a site-specific, source developed and implemented training program as provided by paragraph (c)(6)(v) of this section, control room operators must complete an annual review or refresher course covering, at a minimum, the following topics:

(A) Update of regulations;

(B) Combustor operation, including startup and shutdown procedures, waste firing, and residue handling;

(C) Inspection and maintenance;

(D) Responses to malfunctions or conditions that may lead to malfunction; and

(E) Operating problems encountered by the operator.

(vii) You must record the operator training and certification program in the operating record.

(7) Operation and maintenance plan

(i) General.

(A) You must prepare and at all times operate according to an operation and maintenance plan that describes in detail procedures for operation, inspection, maintenance, and corrective measures for all components of the combustor, including associated pollution control equipment, that could affect emissions of regulated hazardous air pollutants.

(B) The plan must prescribe how you will operate and maintain the combustor in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels achieved during the comprehensive performance test.

(C) This plan ensures compliance with the operation and maintenance requirements of 63.6(e) and minimizes emissions of pollutants, automatic waste feed cutoffs, and malfunctions.

(D) You must record the plan in the operating record.

## II. Operational Restrictions (continued)

**5.m** 63.1206: continued

(c)(7)(ii) Bag leak detection system requirements for baghouses at lightweight aggregate kilns and incinerators. If you own or operate a hazardous waste incinerator or hazardous waste burning lightweight aggregate kiln equipped with a baghouse (fabric filter), you must continuously operate a bag leak detection system that meets the specifications and requirements of paragraph (c)(7)(ii)(A) of this section and you must comply with the corrective measures requirements of paragraph (c)(7)(ii)(B) of this section:

(A) Bag leak detection system specification and requirements.

(1) The bag leak detection system must be certified by the manufacturer to be capable of continuously detecting and recording particulate matter emissions at concentrations of 1.0 milligrams per actual cubic meter unless you demonstrate, pursuant to procedures in Sec. 63.1209(a)(1), that a higher sensitivity would adequately detect bag leaks;

(2) The bag leak detection system shall provide output of relative particulate matter loadings;

(3) The bag leak detection system shall be equipped with an alarm system that will sound an audible alarm when an increase in relative particulate loadings is detected over a preset level;

(4) The bag leak detection system shall be installed and operated in a manner consistent with available written guidance from the US EPA or, inthe absence of such written guidance, the manufacturer's written specifications and recommendations for installation, operation, and adjustment of the system;

(5) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time;

## II. Operational Restrictions (continued)

**5.n** 63.1206: continued:

(c)(7)(ii)(A)(6) Following initial adjustment, you must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the operation and maintenance plan required under paragraph (c)(7)(i) of this section. You must not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365 day period unless such adjustment follows a complete baghouse inspection which demonstrates the baghouse is in good operating condition;

(7) For negative pressure or induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector shall be installed downstream of the baghouse and upstream of any wet acid gas scrubber; and

(8) Where multiple detectors are required, the system's instrumentation and alarm system may be shared among the detectors.

(B) Bag leak detection system corrective measures requirements. The operating and maintenance plan required by paragraph (c)(7)(i) of this section must include a corrective measures plan that specifies the proceures you will follow in the case of a bag leak detection system alarm. The corrective measures plan must include, at a minimum, the procedures used to determine and record the time and cause of the alarm as well as the corrective measures taken to correct the control device malfunction or minimize emissions as specified below. Failure to initiatethe corrective measures required by this paragraph is failure to ensure compliance with the emission standards in this subpart.

(1) You must initiate the procedures used to determine the cause of the alarm within 30 minutes of the time the alarm first sounds; and

(2) You must alleviate the cause of the alarm by taking the necessary corrective measure(s) which may include, but are not to be limited to, the following measures:

**5.o** 63.1206: continued

(c)(7)(ii)(B)(2)(i) Inspecting the baghouse for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions;

(ii) Sealing off defective bags or filter media;

(iii) Replacing defective bags or filter media, or otherwise repairing the control device;

(iv) Sealing off a defective baghouse compartment;

(v) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; or

(vi) Shutting down the combustor.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a continuous basis.

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber liquor flow rate of wet scrubber G-3 while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, on a continuous basis;

b. the liquid-to-gas ratio, in gallons per 1000 cubic feet, on a continuous basis;

c. the pressure drop across the scrubber, on a continuous basis; and

d. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**3.** The permittee shall operate and maintain existing equipment to continuously monitor and record SO2 from this emissions 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(d)(1), (e)(2) and (h), respectively. The permittee may request alternative monitoring procedures or requirements and alternative relative accuracy test procedures, in accordance with the relevant provisions of 40 CFR Parts 60.13(i) and (j), by submitting a written request to the Director. Any alternative monitoring and/or testing acceptable to the Director shall be approved by the U.S. EPA as a revision to the State Implementation Plan (SIP) prior to the implementation of the alternative monitoring and/or testing.

A statement of certification of the existing continuous SO2 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 6. Proof of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

The permittee shall maintain records of all data obtained by the continuous SO2 monitoring system including, but not limited to, parts per million SO2 on an instantaneous (one-minute) basis, emissions of SO2 in units of pounds per three-hour rolling average, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

The permittee shall implement a quality assurance/quality control plan for the continuous SO2 monitoring system designed to ensure continuous valid and representative readings of SO2 emission concentrations and exhaust gas flow rates. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and include provisions for conducting a relative accuracy test following each monitor probe replacement. The relative accuracy test shall be performed, and the monitoring system operated, in accordance with the procedures specified in Performance Specification Tests 2 and 3, 40 CFR Part 60, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous SO2 monitoring system must be kept on site and available for inspection during regular office hours. Each record of any monitoring data, testing data, and support information required shall be retained for a period of five years from the date the record was created. Support information shall include, but not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation.

**4.** 40 CFR 63, Subpart EEE: Monitoring and Compliance Provisions

63.1209: What are the monitoring requirements?

(a) Continuous emissions monitoring systems (CEMS).

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.a** 63.1209: continued

(a)(1)(i) You must use either a carbon monoxide or hydrocarbon CEMS to demonstrate and monitor compliance with the carbon monoxide and hydrocarbon standard under this subpart. You must also use an oxygen CEMS to continuously correct the carbon monoxide or hydrocarbon level to 7 percent oxygen.

(ii) This paragraph of the regulations is not applicable to this permittee.

(iii) You must install, calibrate, maintain, and operate a particulate matter CEMS to demonstrate and monitor compliance with the particulate matter standards under this subpart. However, compliance with the requirements in this section to install, calibrate, maintain, and operate the PM CEMS is not required until such time that the Agency promulgates all performances specifications and operational requirements applicable to PM CEMS.

(iv) This paragraph of the regulation is not applicable to this permittee.

(v) This paragraph of the regulation is not applicable to this permittee.

(2) Performance specifications. You must install, calibrate, maintain, and continuously operate the CEMS in compliance with the quality assurance procedures provided in the appendix to this subpart and Performance Specifications 1 (opacity), 4B (carbon monoxide and oxygen), and 8A (hydrocarbons) in appendix B, part 60 of this chapter.

**4.b** 63.1209: continued

(a)(3) Carbon monoxide readings exceeding the span.

(i) Except as provided by paragraph (a)(3)(ii) of this section, if a carbon monoxide CEMS detects a response that results in a one-minute average at or above the 3,000 ppmv span level required by Performance Specification 4B in appendix B, part 60 of this chapter, the one-minute average must be recorded as 10,000 ppmv. The one-minute 10,000 ppmv value must be used for calculating the hourly rolling average carbon monoxide level.

(ii) Carbon monoxide CEMS that use a span value of 10,000 ppmv when one-minute carbon monoxide levels are equal to or exceed 3,000 ppmv are not subject to paragraph (a)(3)(i) of this section. Carbon monoxide CEMS that use a span value of 10,000 are subject to the same CEMS performance and equipment specifications when operating in the range of 3,000 ppmv to 10,000 ppmv that are provided by Performance Specification 4B for other carbon monoxide CEMS, except:

(A) Calibration drift must be less than 300 ppmv; and

(B) Calibration error must be less than 500 ppmv.

(4) This paragraph of the regulation is not applicable to this permittee.

(5) Petitions to use CEMS for other standards. You may petition the Administrator to use CEMS for compliance monitoring for particulate matter, mercury, semivolatile metals, low volatile metals, and hydrochloric acid/chlorine gas under 63.8(f) in lieu of compliance with the corresponding operating parameter limits under this section.

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.c** 63.1209: continued

(a)(6) Calculation of rolling averages.

(i) Calculation of rolling averages initially. The carbon monoxide CEMS must begin recording one-minute average values by 12:01 a.m. and hourly rolling average values by 1:01 a.m., when 60 one-minute values will be available for calculating the initial hourly rolling average for those sources that come into compliance on the regulatory compliance date. Sources that elect to come into compliance before the regulatory compliance date must begin recording one-minute and hourly rolling average values within 60 seconds and 60 minutes (when 60 one-minute values will be available for calculating the initial hourly rolling average), respectively, from the time at which compliance begins.

(ii) Calculation of rolling averages upon intermittant operations. You must ignore periods of time when one-minute values are not available for calculating rolling averages. When one-minute values become available again, the first one-minute value is added to the previous 59 values to calculate the hourly rolling average.

(iii) Calculation of rolling averages when the hazardous waste feed is cutoff.

(A) Except as provided by paragraph (a)(6)(iii)(B) of this section, you must continue monitoring carbon monoxide and hydrocarbons when the hazardous waste feed is cutoff if the source is operating. You must not resume feeding hazardous waste if the emission levels exceed the standard.

(B) You are not subject to the CEMS requirements of this subpart during periods of time you meet the requirements of 63.1206(b)(1)(ii) (compliance with emissions standards for nonhazardous waste burning sources when you are not burning hazardous waste).

**4.d** 63.1209: continued

(a)(7) Operating parameter limits for hydrocarbons. If you elect to comply with the carbon monoxide emission standard by continuously monitoring carbon monoxide with a CEMS, you must demonstrate that hydrocarbon emissions during the comprehensive performance test do not exceed the hydrocarbon emissions standard. In addition, the limits you establish on the destruction and removal efficiency (DRE) operating parameters required under paragraph (j) of this section also ensure that you maintain compliance with the hydrocarbon emission standard. If you do not conduct the hydrocarbon demonstration and DRE tests concurrently, you must establish separate operating parameter limits under paragraph (j) of this section based on each test and the more restrictive of the operating parameter limits applies.

**5.** 63.1209: continued

(b) Other continuous monitoring systems (CMS).

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.a** 63.1209: continued

(b)(1) You must use CMS (e.g., thermocouples, pressure transducers, flow meters) to document compliance with the applicable operating parameter limits under this section.

(2) Except as specified in paragraphs (b)(2)(i) and (ii) of this section, you must install and operate continuous monitoring systems other than CEMS in conformance with 63.8(c)(3) that requires you, at a minimum, to comply with the manufacturer's written specifications or recommendations for installation, operation, and calibration of the system:

(i) Calibration of thermocouples and ptrometers. The calibration of thermocouples must be verified at a frequency and in a manner consistent with manufacturer specifications, but no less frequent than once per year. You must operate and maintain optical pyrometers in accordance with manufacturer specifications unless otherwise approved by the Administrator. You must calibrate optical pyrometers in accordance with the frequency and procedures recommended by the manufacturer, but no less frequent than once per year, unless otherwise approved by the Administrator. And,

**5.b** 63.1209: continued

(b)(1)(ii) This paragraph of the regulation is not applicable to this permittee.

(3) CMS must sample the regulated parameter without interruption, and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds.

(4) The span of the non-CEMS CMS detector must not be exceeded. You must interlock the span limits into the automatic waste feed cutoff system required by 63.1206(c)(3).

(5) Calculation of rolling averages.

(i) Calculation of rolling averages initially. Continuous monitoring systems must begin recording one-minute average values by 12:01 a.m., hourly rolling average values by 1:01 a.m.(e.g., when 60 one-minute values will be available for calculating the initial hourly rolling average), and twelve-hour rolling averages by 12:01 p.m.(e.g., when 720 one-minute averages are available to calculate a 12-hour rolling average), for those sources that come into compliance on the regulatory compliance date. Sources that elect to come into compliance before the regulatory compliance date must begin recording one-minute, hourly rolling average, and 12-hour rolling average values within 60 seconds, 60 minutes (when 60 one-minute values will be available for calculating the initial hourly rolling average), and 720 minutes (when 720 one-minute values will be available for calculating the initial 12-hour hourly rolling average) respectively, from the time at which compliance begins.

**5.c** 63.1209: continued

(b)(5)(ii) Calculation of rolling averages upon intermittent operations. You must ignore periods of time when one-minute values are not available for calculating rolling averages. When one-minute values become available again, the first one-minute value is added to the previous one-minute values to calculate rolling averages.

(iii) Calculation of rolling averages when the hazardous waste feed is cutoff.

(A) Except as provided by paragraph (b)(5)(iii)(B) of this section, you must continue to monitoring operating parameter limits with a CMS when the hazardous waste feed is cutoff if the source is operating. You must not resume feeding hazardous waste if an operating parameter exceeds its limit.

(B) You are not subject to the CMS requirements of this subpart during periods of time you meet the requirements of 63.1206(b)(1)(ii) (compliance with emissions standards for nonhazardous waste burning sources when you are not burning hazardous waste).

## III. Monitoring and/or Record Keeping Requirements (continued)

**6.** 63.1209: continued

(c) Analysis of feedstreams.

**6.a** 63.1209: continued

(c)(1) General. Prior to feeding the material, you must obtain an analysis of each feedstream that is sufficient to document compliance with the applicable feedrate limits provided by this section.

(2) Feedstream analysis plan. You must develop and implement a feedstream analysis plan and record it in the operating record. The plan must specify at a minimum:

(i) The parameters for which you will analyze each feedstream to ensure compliance with the operating parameter limits of this section;

(ii) Whether you will obtain the analysis by performing sampling and analysis or by other methods, such as using analytical information obtained from others or using other published or documented data or information;

**6.b** 63.1209: continued

(c)(2)(iii) How you will use the analysis to document compliance with applicable feedrate limits (e.g., if you blend hazardous wastes and obtain analyses of the wastes prior to blending but not of the blended, as-fired, waste, the plan must describe how you will determine the pertinent parameters of the blended waste);

(iv) The test methods which you will use to obtain the analyses;

(v) The sampling method which you will use to obtain a representative sample of each feedstream to be analyzed using sampling methods described in appendix I, part 26, of this chapter, or an equivalent method; and

(vi) The frequency with which you will review or repeat the initial analysis of the feedstream to ensure that the analysis is accurate and up to date.

(3) Review and approval of analysis plan. You must submit the feedstream analysis plan to the Administrator for review and approval, if requested.

(4) Compliance with feedrate limits. To comply with the applicable feedrate limits of this section, you must monitor and record feedrates as follows:

(i) Determine and record the value of the parameter for each feedstream by sampling and analysis or other method;

(ii) Determine and record the mass or volume flowrate of each feedstream by a CMS. If you determine flowrate of a feedstream by volume, you must determine and record the density of the feedstream by sampling and analysis (unless you report the constituent concentration in units of weight per unit volume (e.g., mg/l)); and

(iii) Calculate and record the mass feedrate of the parameter per unit time.

**6.c** 63.1209: continued

(c)(5) Waiver of monitoring of constituents in certain feedstreams. You are not required to monitor levels of metals or chlorine in the following feedstreams to document compliance with the feedrate limits under this section provided that you document in the comprehensive performance test plan the expected levels of the constituent in the feedstream and account for those assumed feedrate levels in documenting compliance with feedrate limits: natural gas, process air, and feedstreams from vapor recovery systems.

## III. Monitoring and/or Record Keeping Requirements (continued)

**7.** 63.1209: continued

(d) Performance evaluations.

(1) The requirements of Sec. 63.8(d) (Quality control program) and (e) (Performance evaluation of continuous monitoring systems) apply, except that you must conduct performance evaluations of components of the CMS under the frequency and procedures (for example, submittal of performance evaluation test plan for review and approval) applicable to performance tests as provided by 63.1207.

(2) You must comply with the quality assurance procedures for CEMS prescribed in the appendix to this subpart.

**8.** 63.1209: continued

(e) Conduct of monitoring. The provisions of 63.8(b) apply.

**9.** 63.1209: continued

(f) Operation and maintenance of continuous monitoring systems. The provisions of 63.8(c) apply except:

(1) Section 63.8(c)(3). The requirements of Sec. 63.1211(c), that requires CMSs to be installed, calibrated, and operational on the compliance date, shall be complied with instead of section 63.8(c)(3);

(2) Section 63.8(c)(4)(ii). The performance specifications for carbon monoxide, hydrocarbon, and oxygen CEMSs in subpart B, part 60 of this chapter that requires detectors to measure the sample concentration at least once every 15 seconds for calculating an average emission rate once every 60 seconds shall be complied with instead of section 63.8(c)(4)(ii); and

(3)This paragraph of the regulation is not applicable to this permittee.

**10.** 63.1209: continued

(g) Alternative monitoring requirements other than continuous emissions monitoring systems (CEMS).

## III. Monitoring and/or Record Keeping Requirements (continued)

**10.a** 63.1209: continued

(g)(1) Requests to use alternative methods.

(i) You may submit an application to the Administrator under this paragraph for approval of alternative monitoring requirements to document compliance with the emission standards of this subpart. For requests to use additional CEMS, however, you must use paragraph (a)(5) of this section and 63.8(f).

(A) The Administrator will not approve averaging periods for operating parameter limits longer than specified in this section unless you document using data or information that the longer averaging period will ensure that emissions do not exceed levels achieved during the comprehensive performance test over any increment of time equivalent to the time required to conduct three runs of the performance test.

(B) If the Administrator approves the application to use an alternative monitoring requirement, you must continue to use that alternative monitoring requirement until you receive approval under this paragraph to use another monitoring requirement.

(ii) You may submit an application to waive an operating parameter limit specified in this section based on documentation that neither that operating parameter limit nor an alternative operating parameter limit is needed to ensure compliance with the emission standards of this subpart.

(iii) You must comply with the following procedures for applications submitted under paragraphs (g)(1)(i) and (ii) of this section:

(A) Timing of the application. You must submit the application to the Administrator not later than with the comprehensive performance test plan.

(B) Content of the application. You must include in the application:

**10.b** 63.1209: continued

(g)(1)(iii)(B)(1) Data or information justifying your request for an alternative monitoring requirement (or for a waiver of an operating parameter limit), such as the technical or economic infeasibility or the impracticality of using the required approach;

(2) A description of the proposed alternative monitoring requirement, including the operating parameter to be monitored, the monitoring approach/technique (e.g., type of detector, monitoring location), the averaging period for the limit, and how the limit is to be calculated; and

(3) Data or information documenting that the alternative monitoring requirement would provide equivalent or better assurance of compliance with the relevant emission standard, or that it is the monitoring requirement that best assures compliance with the standard and that is technically and economically practicable.

(C) Approval of request to use an alternative monitoring requirement or waive an operating parameter limit. The Administrator will notify you of approval or intention to deny approval of the request within 90 calendar days after receipt of the original request and within 60 calendar days after receipt of any supplementary information that you submit. The Administrator will not approve an alternative monitoring request unless the alternative monitoring requirement provides equivalent or better assurance of compliance with the relevant emission standard, or is the monitoring requirement that best assures compliance with the standard and that is technically and economically practicable. Before disapproving any request, the Administrator will notify you of the Administrator's intention to disapprove the request together with:

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

## III. Monitoring and/or Record Keeping Requirements (continued)

**10.c** 63.1209: continued

(g)(1)(iii)(C)(2) Notice of opportunity for you to present additional information to the Administrator before final action on the request. At the time the Administrator notifies you of intention to disapprove the request, the Administrator will specify how much time you will have after being notified of the intended disapproval to submit the additional information.

(D) Responsibility of owners and operators. You are responsible for ensuring that you submit any supplementary and additional information supporting your application in a timely manner to enable the Administrator to consider your application during review of the comprehensive performance test plan. Neither your submittal of an application, nor the Administrator's failure to approve or disapprove the application, relieves you of the responsibility to comply with the provisions of this subpart.

(2) Administrator's discretion to specify additional or alternative requirements. The Administrator may determine on a case-by-case basis at any time (e.g., during review of the comprehensive performance test plan, during compliance certification review) that you may need to limit additional or alternative operating parameters (e.g., opacity in addition to or in lieu of operating parameter limits on the particulate matter control device) or that alternative approaches to establish limits on operating parameters may be necessary to document compliance with the emission standards of this subpart.

**11.** 63.1209: continued

(h) Reduction of monitoring data. The provisions of 63.8(g) apply.

**12.** 63.1209: continued

(i) When an operating parameter is applicable to multiple standards. Paragraphs (j) through (p) of this section require you to establish limits on operating parameters based on comprehensive performance testing to ensure you maintain compliance with the emission standards of this subpart. For several parameters, you must establish a limit for the parameter to ensure compliance with more than one emission standard. An example is a limit on minimum combustion chamber temperature to ensure compliance with both the DRE standard of paragraph (j) of this section and the dioxin/furan standard of paragraph (k) of this section. If the performance tests for such standards are not performed simultaneously, the most stringent limit for a parameter derived from independent performance tests applies.

**13.** 63.1209: continued

(j) DRE. To remain in compliance with the destruction and removal efficiency (DRE) standard, you must establish operating limits during the comprehensive performance test (or during a previous DRE test under provisions of Sec. 63.1206(b)(7)) for the following parameters, unless the limits are based on manufacturer specifications, and comply with those limits at all times that hazardous waste remains in the combustion chamber (i.e., the hazardous waste residence time has not transpired since the hazardous waste feed cutoff system was activated):

## III. Monitoring and/or Record Keeping Requirements (continued)

**13.a** 63.1209: continued

(j)(1) Minimum combustion chamber temperature.

(i) You must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must document the temperature measurement location in the test plan you submit under Sec. 63.1207(e);

(ii) You must establish a minimum hourly rolling average limit as the average of the test run averages;

(2) Maximum flue gas flowrate or production rate.

(i) As an indicator of gas residence time in the control device, you must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) Maximum hazardous waste feedrate.

(i) You must establish limits on the maximum pumpable and total (i.e., pumpable and nonpumpable) hazardous waste feedrate for each location where hazardous waste is fed.

(ii) You must establish the limits as the average of the maximum hourly rolling averages for each run.

(iii) You must comply with the feedrate limit(s) on a hourly rolling average basis;

(4) Operation of waste firing system. You must specify operating parameters and limits to ensure that good operation of each hazardous waste firing system is maintained.

**14.** 63.1209: continued

(k) Dioxins and furans. You must comply with the dioxin and furans emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

**14.a** 63.1209: continued

(k)(1) Gas temperature at the inlet to a dry particulate matter control device.

(i) For hazardous waste burning incinerators and cement kilns, if the combustor is equipped with an electrostatic precipitator, baghouse (fabric filter), or other dry emissions control device where particulate matter is suspended in contact with combustion gas, you must establish a limit on the maximum temperature of the gas at the inlet to the device on an hourly rolling average. You must establish the hourly rolling average limit as the average of the test run averages.

## III. Monitoring and/or Record Keeping Requirements (continued)

**14.b** 63.1209: continued

(k)(1)(ii) This paragraph of the regulation is not applicable to this permittee.

(2) Minimum combustion chamber temperature.

(i) You must measure the temperature of each combustion chamber at a location that best represents, as practicable, the bulk gas temperature in the combustion zone. You must document the temperature measurement location in the test plan you submit under Sec. 63.1207(e) and (f);

(ii) You must establish a minimum hourly rolling average limit as the average of the test run averages.

(3) Maximum flue gas flowrate or production rate.

(i) As an indicator of gas residence time in the control device, you must establish and comply with a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(4) Maximum waste feedrate.

(i) You must establish limits on the maximum pumpable and total (pumpable and nonpumpable) waste feedrate for each location where waste is fed.

(ii) You must establish the limits as the average of the maximum hourly rolling averages for each run.

(iii) You must comply with the feedrate limit(s) on a hourly rolling average basis;

(5) - (9) These paragraphs of the regulation are not applicable to this permittee.

**15.** 63.1209: continued

(l) Mercury. You must comply with the mercury emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

**15.a** 63.1209: continued

(l)(1) Feedrate of total mercury. You must establish a 12-hour rolling average limit for the total feedrate of mercury in all feedstreams as the average of the test run averages, unless mercury feedrate limits are extrapolated from performance test feedrate levels under the following provisions.

(i) You may request as part of the performance test plan under Sec. 63.7(b) and (c) and Sec. 63.1207(e) and (f) to use the mercury feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates.

(ii) The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

## III. Monitoring and/or Record Keeping Requirements (continued)

**15.b** 63.1209: continued

(l)(1)(ii)(A) Performance test metal feedrates are appropriate (i.e., whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(B) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

(iii) The Administrator will review the performance test results in making a finding of compliance required by Sec. 63.6(f)(3) and Sec. 63.1206(b)(3) to ensure that you have interpreted emission test results properly and that the extrapolation procedure is appropriate for your source.

(2) Wet scrubber. If your combustor is equipped with a wet scrubber, you must establish operating parameter limits prescribed by paragraph (o)(3) of this section, except for paragraph (o)(3)(iv).

(3) Activated carbon injection. If your combustor is equipped with an activated carbon injection system, you must establish operating parameter limits prescribed by paragraph (k)(5) and (k)(6) of this section.

(4) Activated carbon bed. If your combustor is equipped with a carbon bed system, you must establish operating parameter limits prescribed by paragraph (k)(7) of this section.

**16.** 63.1209: continued

(m) Particulate matter. You must comply with the particulate matter emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

## III. Monitoring and/or Record Keeping Requirements (continued)

**16.a** 63.1209: continued

(m)(1) Control device operating parameter limits (OPLs).

(i) Wet scrubbers. For sources equipped with wet scrubbers, including ionizing wet scrubbers, high energy wet scrubbers such as venturi, hydrosonic, collision, or free jet wet scrubbers, and low energy wet scrubbers such as spray towers, packed beds, or tray towers, you must establish limits on the following parameters:

(A) This paragraph of the regulation is not applicable to this permittee.

(B) For all wet scrubbers:

(1) To ensure that the solids content of the scrubber liquid does not exceed levels during the performance test, you must either:

(i) Establish a limit on solids content of the scrubber liquid using a CMS or by manual sampling and analysis. If you elect to monitor solids content manually, you must sample and analyze the scrubber liquid hourly unless you support an alternative monitoring frequency in the performance test plan that you submit for review and approval; or

(ii) Establish a minimum blowdown rate using a CMS and either a minimum scrubber tank volume or liquid level using a CMS.

(2) For maximum solids content monitored with a CMS, you must establish a limit on a 12-hour rolling average as the average of the test run averages.

(3) Maximum ash feedrate. Owners and operators of hazardous waste incinerators must establish a maximum ash feedrate limit as the average of the test run averages.

(4) For minimum blowdown rate and either a minimum scrubber tank volume or liquid level using a CMS, you must establish a limit on an hourly rolling average as the average of the test run averages.

## III. Monitoring and/or Record Keeping Requirements (continued)

**16.b** 63.1209: continued

(m)(1)(i)(C) This paragraph of the regulation is not applicable to this permittee.

(D) This paragraph of the regulation is not applicable to this permittee.

(ii) Reserved

(iii) Reserved

(iv) Other particulate matter control devices. For each control device that is not a high energy or ionizing wet scrubber, baghouse, or electrostatic precipitator but is operated to comply with the particulate matter emission standards of this subpart, you must ensure that the control device is properly operated and maintained as required by 63.1206(c)(7) and by monitoring the operation of the control device as follows:

(A) During each comprehensive performance test conducted to demonstrate compliance with the particulate matter emissions standard, you must establish a range of operating values for the control device that is a representative and reliable indicator that the control device is operating within the same range of conditions as during the performance test. You must establish this range of operating values as follows:

(1) You must select a set of operating parameters appropriate for the control device design that you determine to be a representative and reliable indicator of the control device performance.

(2) You must measure and record values for each of the selected operating parameters during each test run of the performance test. A value for each selected parameter must be recorded using a continuous monitor.

**16.c** 63.1209: continued

(m)(1)(iv)(A)(3) For each selected operating parameter measured in accordance with the requirements of paragraph (m)(1)(iv)(A)(1) of this section, you must establish a minimum operating parameter limit or a maximum operating parameter limit, as appropriate for the parameter, to define the operating limits within which the control device can operate and still continuously achieve the same operating conditions as during the performance test.

(4) You must prepare written documentation to support the operating parameter limits established for the control device and you must include this documentation in the performance test plan that you submit for review and approval. This documentation must include a description for each selected parameter and the operating range and monitoring frequency required to ensure the control device is being properly operated and maintained.

(B) You must install, calibrate, operate, and maintain a monitoring device equipped with a recorder to measure the values for each operating parameter selected in accordance with the requirements of paragraph (m)(1)(iv)(A)(1) of this section. You must install, calibrate, and maintain the monitoring equipment in accordance with the equipment manufacturer's specifications. The recorder must record the detector responses at least every 60 seconds, as required in the definition of continuous monitor.

(C) You must regularly inspect the data recorded by the operating parameter monitoring system at a sufficient frequency to ensure the control device is operating properly. An excursion is determined to have occurred any time that the actual value of a selected operating parameter is less than the minimum operating limit (or, if applicable, greater than the maximum operating limit) established for the parameter in accordance with the requirements of paragraph (m)(1)(iv)(A)(3) of this section.

## III. Monitoring and/or Record Keeping Requirements (continued)

**16.d** 63.1209: continued

(m)(1)(iv)(D) Operating parameters selected in accordance with paragraph (m)(1)(iv) of this section may be based on manufacturer specifications provided you support the use of manufacturer specifications in the performance test plan that you submit for review and approval.

(2) Maximum flue gas flowrate or production rate.

(i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

(3) Maximum ash feedrate. Owners and operators of hazardous waste incinerators must establish a maximum ash feedrate limit as the average of the highest hourly rolling averages for each run.

**17.** 63.1209: continued

(n) Semivolatile metals and low volatility metals. You must comply with the semivolatile metal (cadmium and lead) and low volatile metal (arsenic, beryllium, and chromium) emission standards by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

**17.a** 63.1209: continued

(n)(1) Maximum inlet temperature to dry particulate matter air pollution control device. You must establish a limit on the maximum inlet temperature to the primary dry metals emissions control device (e.g., electrostatic precipitator, baghouse) on an hourly rolling average basis as the average of the test run averages.

(2) Maximum feedrate of semivolatile and low volatile metals.

(i) General. You must establish feedrate limits for semivolatile metals (cadmium and lead) and low volatile metals (arsenic, beryllium, and chromium) as follows, except as provided by paragraph (n)(2)(ii) of this section:

## III. Monitoring and/or Record Keeping Requirements (continued)

**17.b** 63.1209: continued

(n)(2)(i)(A) You must establish a 12-hour rolling average limit for the feedrate of cadmium and lead, combined, in all feedstreams as the average of the test run averages;

(B) You must establish a 12-hour rolling average limit for the feedrate of arsenic, beryllium, and chromium, combined, in all feedstreams as the average of the test run averages; and

(C) You must establish a 12-hour rolling average limit for the feedrate of arsenic, beryllium, and chromium, combined, in all pumpable feedstreams as the average of the test run averages. Dual feedrate limits for both pumpable and total feedstreams are not required, however, if you base the total feedrate limit solely on the feedrate of pumpable feedstreams.

(ii) Feedrate extrapolation. (A) You may request as part of the performance test plan under 63.7(b) and (c) and 63.1207(e) and (f) to use the semivolatile metal and low volatile metal feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates.

(B) The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(1) Performance test metal feedrates are appropriate (i.e., whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and

(2) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

**17.c** 63.1209: continued

(n)(2)(ii)(C) The Administrator will review the performance test results in making a finding of compliance required by Sec. 63.6(f)(3) and Sec. 63.1206(b)(3) to ensure that you have interpreted emission test results properly and that the extrapolation procedure is appropriate for your source.

(3) Control device operating parameter limits (OPLs). You must establish operating parameter limits on the particulate matter control device as specified by paragraph (m)(1) of this section;

(4) Maximum total chlorine and chloride feedrate. You must establish a 12-hour rolling average limit for the feedrate of total chlorine and chloride in all feedstreams as the average of the test run averages.

(5) Maximum flue gas flowrate or production rate.

(i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis.

**18.** 63.1209: continued

(o) Hydrochloric acid and chlorine gas. You must comply with the hydrogen chloride and chlorine gas emission standard by establishing and complying with the following operating parameter limits. You must base the limits on operations during the comprehensive performance test, unless the limits are based on manufacturer specifications.

## III. Monitoring and/or Record Keeping Requirements (continued)

**18.a** 63.1209: continued

(o)(1) Feedrate of total chlorine and chloride. You must establish a 12-hour rolling average limit for the total feedrate of chlorine (organic and inorganic) in all feedstreams as the average of the test run averages.

(2) Maximum flue gas flowrate or production rate.

(i) As an indicator of gas residence time in the control device, you must establish a limit on the maximum flue gas flowrate, the maximum production rate, or another parameter that you document in the site-specific test plan as an appropriate surrogate for gas residence time, as the average of the maximum hourly rolling averages for each run.

(ii) You must comply with this limit on a hourly rolling average basis;

**18.b** 63.1209: continued

(o)(3) Wet scrubber. If your combustor is equipped with a wet scrubber:

(i) This paragraph of the regulation is not applicable to this permittee.

(ii) If your source is equipped with a low energy wet scrubber such as a spray tower, packed bed, or tray tower, you must establish a minimum pressure drop across the wet scrubber based on manufacturer's specifications. You must comply with the limit on an hourly rolling average;

(iii) If your source is equipped with a low energy wet scrubber, you must establish a limit on minimum liquid feed pressure to the wet scrubber based on manufacturer's specifications. You must comply with the limit on an hourly rolling average;

(iv) You must establish a limit on minimum pH on an hourly rolling average as the average of the test run averages;

(v) You must establish limits on either the minimum liquid to gas ratio or the minimum scrubber water flowrate and maximum flue gas flowrate on an hourly rolling average as the average of the test run averages. If you establish limits on maximum flue gas flowrate under this paragraph, you need not establish a limit on maximum flue gas flowrate under paragraph (o)(2) of this section; and

(vi) This paragraph of the regulation is not applicable to this permittee.

(4) This paragraph of the regulation is not applicable to this permittee.

**19.** 63.1209: continued

(p) Maximum combustion chamber pressure. If you comply with the requirements for combustion system leaks under Sec. 63.1206(c)(5) by maintaining the maximum combustion chamber zone pressure lower than ambient pressure, you must monitor the pressure instantaneously and the automatic waste feed cutoff system must be engaged when negative pressure is not maintained at any time.

**20.** 63.1209: continued

(q) Operating under different modes of operation. If you operate under different modes of operation, you must establish operating parameter limits for each mode. You must document in the operating record when you change a mode of operation and begin complying with the operating parameter limits for an alternative mode of operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**20.a** 63.1209: continued

(q)(1) Operating under otherwise applicable standards after the hazardous waste residence time has transpired. As provided by Sec. 63.1206(b)(1)((ii), you may operate under otherwise applicable requirements promulgated under sections 112 and 129 of the Clean Air Act in lieu of the substantive requirements of this subpart.

(i) The otherwise applicable rquirements promulgated under sections 112 and 129 of the Clean Air Act are applicable requirements under this subpart.

(ii) You must specify (e.g., by reference) the otherwise applicable requiremens as a mode of operation in your Documentation of Compliance under Sec. 63.1211(c), your Notification of Compliance under Sec. 63.1207(j), and your title V permit application. These requirements include the otherwise applicable requirements governing emission standards, monitoring and compliance, and notification, reporting, and recordkeeping.

(2) Calculating rolling averages under different modes of operation. When you transition to a different mode of operation, you must calculate rolling averages as follows:

(i) Retrieval approach. Calculate rolling averages anew using the continuous monitoring system values previously recorded for that mode of operation (i.e., you ignore continuous monitoring system values subsequently recorded under other modes of operation when you transition back to a mode of operation); or

(ii) Start anew. Calculate rolling averages anew without considering previous recordings.

**20.b** 63.1209: continued

(q)(2)(ii)(A) Rolling averages must be calculated as the average of the available one-minute values for the parameter until enough one-minute values are available to calculate hourly or 12-hour rolling averages, whichever is applicable to the parameter.

(B) You may not transition to a new mode of operation using this approach if the most recent operation in that mode resulted in an exceedance of an applicable emission standard measured with a CEMS or operating parameter limit prior to the hazardous waste residence time expiring; or

(iii) Seamless transition. Continue calculating rolling averages using data from the previous operating mode provided that both the operating limit and the averaging period for the parameter are the same for both modes of operation.

**21.** 63.1211(a) See Reporting Requirements, Section A.IV.6.

## III. Monitoring and/or Record Keeping Requirements (continued)

**22.** 63.1211(b) Summary of record keeping requirements. You must retain the following in the operating record:

Reference Document, data, or information

63.1201(a), 63.10(b), and (c).....General. Information required to document and maintaincompliance with the regulations of Subpart EEE, including data recorded by continuous monitoring systems (CMS), and copies of all notifications, reports, plans, and other documents submitted to the Administrator.

63.1206(b)(1)(ii).....If you elect to comply with all applicable requirements and standards promulgated under authority of the Clean Air Act, including Sections 112 and 129, in lieu of the requirements of Subpart EEE when not burning hazardous waste, you must document in the operating record that you are in compliance with those requirements.

63.1206(b)(5)(ii).....Documentation that a change will not adversely affect compliance with the emission standards or operating requirements.

63.1206(b)(11).....Calculation of hazardous waste residence time.

63.1206(c)(2).....Startup, shutdown, and malfunction plan.

63.1206(c)(2)(v)(A).....Documentation and results of the investigation and evaluation of excessive exceedance during malfunctions.

63.1206(c)(3)(v).....Corrective measures for any automatic waste feed cutoff that results in an exceedance of an emission standard or operating parameter limit.

63.1206(c)(3)(vii).....Documentation and results of the automatic waste fedd cutoff operability testing.

63.1206(c)(4)(ii).....Emergency safety vent operating plan.

63.1206(c)(4)(iii).....Corrective measures for any emergency safety vent opening.

63.1206(c)(5)(ii).....Method used for control of combustion system leaks.

63.1206(c)(6).....Operator training and certification program.

63.1206(c)(7)(i)(D).....Operation and maintenance plan.

63.1209(c)(2).....Feedstrem analysis plan.

63.1209(k)(6)(iii), 63.1209(k)(7)(ii), 63.1209(k)(9)(ii), 63.1209(o)(4)(iii).....Documentation that a substitute activated carbon, dioxin/furan formation reaction inhibitor, or dry scrubber will provide the same level of control as the original material.

63.1209(k)(7)(i)(C).....Results of carbon bed performance monitoring.

63.1209(q).....Documentation of changes inmodes of operation.

63.1211(c).....Documentation of compliance.

## IV. Reporting Requirements

**1.** The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

## IV. Reporting Requirements (continued)

**2.** The permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels for the wet scrubber:

a. the pH of the scrubber liquor;

b. the liquid-to-gas ratio; and

c. the pressure drop across the scrubber.

**3.** Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of SO2 values in excess of the applicable limits specified in OAC Chapter 3745-18, the 30-day rolling, weighted average SO2 emission rates, and average daily SO2 emission rates in units of the applicable standard(s). These reports shall also contain the total SO2 emissions for the calendar quarter (in tons).

The permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency documenting any continuous SO2 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 also 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.

**4.** 40 CFR 63, Subpart EEE: Notification and Reporting

63.1210: What are the notification requirements?

(a) Summary of requirements.

## IV. Reporting Requirements (continued)

**4.a** 63.1210: continued

(a)(1) You must submit the following notifications to the Administrator:

Reference Notification

63.9(b).....Initial notifications that you are subject to Subpart EEE of this Part.

63.9(d).....Notification that you are subject to special compliance requirements.

63.9(j).....Notification and documentation of any change in information already provided under Sec. 63.9.

63.1205(b)(5)(i).....Notification of changes in design, operation, or maintenance.

63.1207(e), 63.9(e),63.9(g)(1) and (3).....Notification of performance test and continuous monitoring system evaluation, including the performance test plan and CMS performance evaluation plan.

63.1210(b), 63.1207(j), 63.1207(k), 63.1207(l), 63.9(h), 63.10(d)(2), 63.10(e)(2).....Notification of compliance, including results of performance tests and continuous monitoring system performance evaluations. /1/

\1\You may also be required on a case-by-case basis to submit a feedstream analysis plan under Sec. 63.1209(c)(3).

**4.b** 63.1210: continued

(a)(2) You must submit the following notifications to the Administrator if you request or elect to comply with alternative requirements:

Reference Notification, request, petition, or application

63.9(i).....You may request an adjustment to time periods or postmark deadlines for submittal and review of required information.

63.10(f).....You may request to waive record keeping or reporting requirements.

63.1206(b)(4), 63.1213, 63.6(i), 63.9(c).....You may request an extension of the compliance date for up to one year. You may request an adjustment to time periods or postmark deadlines for submittal and review of required information.

63.1206(b)(5)(i)(C).....You may request to burn hazardous waste for more than 720 hours and for purposes other than testing or pretesting after making a change inthe design or operation that could affect compliance with emission standards and prior to submitting a revised Notification of Compliance.

63.1206(b)(8)(iii)(B).....If you elect to conduct particulate matter CEMS correlation testing and wish to have federal particulate matte and opacity standardsand associated operating limits waived during the testing, you must notify the Administrator by submitting the correlation test plan for review and approval.

63.1206(b)(8)(v).....You may request approval to have the particulate matter and opacity standards and associated operating limitsand conditions waived for more than96 hours for a correlation test.

63.1206(b)(14).....Owners and operators of incinerators may elect to comply with an alternative to the particulate matter standard.

## IV. Reporting Requirements (continued)

**4.c** 63.1210(a)(2): continued

63.1206(c)(2)(ii)(C).....You may request to make changes to the startup, shutdown, and malfunction plan.

63.1206(c)(5)(i)(C).....You may request an alternative means of control to provide control of combustion system leaks.

63.1206(c)(5)(i)(D).....You may request other techniques to prevent fugitive emissions without use of instantaneous pressure limits.

63.1207(c)(2).....You may request to base initial compliance on data in lieu of a comprehensive performance test.

63.1207(d)(3).....You may request more than 60 days to complete a performance test if additional time is needed for reasons beyond your control.

63.1207(e)(3), 63.7(h).....You may request a time extension if the Administrator fails to approve or deny your test plan.

63.1207(h)(2).....You may request to waive current operating parameter limits during pretesting for more than 720 hours.

63.1207(f)(1)(ii)(D).....You may request a hazardous waste feedstream analysis for organic hazardous air pollutants if the reduced analysis continues to be representative of organic hazardous air pollutants in your hazardous waste feedstreams.

63.1207(g)(2)(v).....You may request to operate under a wider operating range for a parameter during confirmatory performance testing.

63.1207(i).....You may request up to a one-year time extension for conducting a performance test (other than the initial comprehensive performance test) to consolidate testing with other state or federally-required testing.

63.1207(j)(4).....You may request more than 90 days to submit a Notification of Compliance after completing a peformance test if additional time is needed for reasons beyond your control.

63.1207(l)(3).....After a failure of a performance test, you may request to burn hazardous waste for more than 720 hours and for purposes other than testing or pretesting.

**4.d** 63.1210(a)(2): continued

63.1209(a)(5), 63.8(f).....You may request: (A) Approval of alternative monitoring methods for compliance with standards that are monitored with a CEMS; and (B) approval to use a CEMS in lieu of operating parameter limits.

63.1209(g)(1).....You may request approval of: (A) Alternative monitoring methods, except for standards that you must monitor with a continuous emission monitoring system (CEMS) and exceptfor request to use a CEMS in lieu of operating parameter limits; or (B) A waiver of an operating parameter limit.

63.1209(l)(1).....You may request to extrapolate mercury feedrate limits.

63.1209(n)(2)(ii).....You may request to extrapolate semivolatile and low volatile metal feedrate limits.

63.1211(d).....You may request to use data compression techniques to record data on a less frequent basis than required by Sec. 63.1209.

## IV. Reporting Requirements (continued)

**5.** 63.1210: continued

(b) Notification of compliance.

(1) The Notification of Compliance status requirements of Sec. 63.9(h) apply, except that:

(i) The notification is a Notification of Compliance, rather than compliance status;

(ii) The notification is required for the initial comprehensive performance test and each subsequent comprehensive and confirmatory performance test; and

(iii) You must postmark the notification before the close of business on the 90th day following completion of relevant compliance demonstration activity specified in this subpart rather than the 60th day as required by Sec. 63.9(h)(2)(ii).

(2) Upon postmark of the Notification of Compliance, the operating parameter limits identified in the Notification of Compliance, as applicable, shall be complied with, the limits identified in the Documentation of Compliance or a previous Notification of Compliance are no longer applicable.

(3) The Notification of Compliance requirements of Sec. 63.1207(j) also apply.

**6.** 40 CFR 63, Subpart EEE: Notification and Reporting

63.1211: What are the recordkeeping and reporting requirements?

(a) Summary of reporting requirements. You must submit the following reports to the Administrator:

Reference Report

63.10(d)(4).....Compliance progress reports, if required as a condition of an extension of the compliance date granted under Sec. 63.6(i).

63.10(d)(5)(i).....Periodic startup, shutdown, and malfunction reports.

63.10(d)(5)(ii).....Immediate startup, shutdown, and malfunction reports.

63.10(e)(3).....Excessive emissions and continuous monitoring system performance report and summary report.

63.1206(c)(2)(ii)(B).....Startup, shutdown, and malfunction plan.

63.1206(c)(3)(vi).....Excessive exceedances reports.

63.1206(c)(4)(iv).....Emergency saftey vent opening reports.

**7.** 63.1211: continued

(b) See Monitoring and/or Record Keeping Requirements, Section A.III.22.

## IV. Reporting Requirements (continued)

**8.** 63.1211: continued

(c) Documentation of compliance.

(1) By the compliance date, you must develop and include in the operating record Documentation of Compliance. You are not subject to this requirement, however, if you submit a Notification of Compliance under Sec. 63.1207(j) prior to the compliance date.

(2) The Documentation of Compliance must identify the applicable emission standards under this subpart and the limits on the operating parameters under Sec. 63.1209 that will ensure compliance with those emission standards.

(3) You must include a signed and dated certification in the Documentation of Compliance that:

(i) Required CEMS and CMS are installed, calibrated, and continuously operating in compliance with the requirements of this subpart; and,

(ii) Based on an engineering evaluation prepared under your direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation, and considering at a minimum the design, operation and maintenance characteristics of the combustor and emissions control equipment control equipment, the types, quantities, and characteristics of feedstreams, and available emissions data:

(A) You are in compliance with the emission standards of this subpart; and

(B) The limits on the operating parameters under Sec. 63.1209 ensure compliance with the emission standards of this subpart.

(4) You must comply with the emission standards and operating parameter limits specified in the Documentation of Compliance.

## IV. Reporting Requirements (continued)

**9.** 63.1211: continued

(d) Data compression. You may submit a written request to the Administrator for approval to use data compression techniques to record data from CMS, including CEMS, on a frequency less than that required by Sec. 63.1209. You may submit the request for review and approval as part of the comprehensive performance test plan.

(1) You must record a data value at least once each ten minutes.

(2) For each CEMS or operating parameter for which you request to use data compression techniques, you must recommend:

(i) A fluctuation limit tht defines the maximum permissible deviation of a new data value from a previously generated value without requiring you to revert to recording each one-minute value.

(A) If you exceed a fluctuation limit, you must record each one-minute value for a period of time not less than ten minutes.

(B) If neither the fluctuation limit nor the data compression limit are exceeded during that period of time, you may reinitiate recording data on a frequency of at least once each ten minutess; and

(ii) A data compression limit defined as the closest level to an operating parameter limit or emission standard at which reduced data recording is allowed.

(A) Within this level and the operating parameter limit or emission standard, you must record each one-minute average.

(B) The data compression limit should reflect a level at which you are unlikely to exceed the specific operating parameter limit or emission standard, considering its averaging period, with the addition of a new one-minute average.

**10.** 40 CFR 63, Subpart EEE: Notification and Reporting

63.1213: How can the compliance date be extended to install pollution prevention or waste minimization controls?

(a) Applicability. You may request from the Administrator or State with an approved title V program an extension of the compliance date of up to one year. An extension may be granted if you can reasonably document that the installation of pollution prevention or waste minimization measures will significantly reduce the amount and/or toxicity of hazardous wastes entering the feedstream(s) of the hazardous waste combustor(s), and that you could not install the necessary control measures and comply with the emission standards and operating requirements of this subpart within three years after their effective date.

**11.** 63.1213: continued

(b) Requirements for requesting an extension.

## IV. Reporting Requirements (continued)

**11.a** 63.1213: continued

(b)(1) You must make your requests for a (up to) one-year extension in writing, and it must be received not later than 12 months before the compliance date. The request must contain the following information:

(i) A description of pollution prevention or waste minimization controls that, when installed, will significantly reduce the amount and/or toxicity of hazardous wastes entering the feedstream(s) of the hazardous waste combustor(s). Pollution prevention or waste minimization measures may include: equipment or technology modifications, reformulation or redesign of products, substitution of raw materials, improvements in work practices, maintenance, training, inventory control, or recycling practices conducted as defined in 261.1(c) of this chapter;

(ii) A description of other pollution controls to be installed that are necessary to comply with the emission standards and operating requirements;

**11.b** 63.1213: continued

(b)(iii) A reduction goal or estimate of the annual reductions in quantity and/or toxicity of hazardous waste(s) entering combustion feedstream(s) that you will achieve by installing the proposed pollution prevention or waste minimization measures;

(iv) A comparison of reductions in the amounts and/or toxicity of hazardous wastes combusted after installation of pollution prevention or waste minimization measures to the amounts and/or toxicity of hazardous wastes combusted prior to the installation of these measures. If the difference is less than a fifteen percent reduction, include a comparison to pollution prevention and waste minimization reductions recorded during the previous five years;

(v) Reasonable documentation that installation of the pollution prevention or waste minimization changes will not result in a net increase (except for documented increases in production) of hazardous constituents released to the environment through other emissions, wastes or effluents;

(vi) Reasonable documentation that the design and installation of waste minimization and other measures that are necessary for compliance with the emission standards and operating requirements of this subpart cannot otherwise be installed within the three year compliance period, and

(vii) The information required in 63.6(i)(6)(i)(B) through (D).

(2) You may enclose documentation prepared under an existing State-required pollution prevention program that contains the information prescribed in paragraph (b) of this section with a request for extension in lieu of complying with the time extension requirements of that paragraph.

**12.** 63.1213: continued

(c) Approval of request for extension of compliance date. Based on the information provided in any request made under paragraph (a) of this section, the Administrator or State with an approved title V program may grant an extension of the compliance date of this subpart. The extension will be in writing in accordance with 63.6(i)(10)(i) through 63.6(i)(10)(v)(A).

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emission Limitation: Visible particulate emissions shall not exceed 20 percent opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method: If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

**1.b** Emission Limitation: Particulate emissions shall not exceed 0.10 pound per one hundred pounds of liquid, semi-solid or solid refuse and salvageable material charged.

Applicable Compliance Method: If required, the permittee shall demonstrate compliance with this emission limitation by stack testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

**1.c** Emission Limitation: 39.4 lbs of SO2 per hour.

Applicable Compliance Method: Compliance shall be demonstrated by records of data obtained by the continuous SO2 monitoring system, and, if required, by emissions testing of the fume incinerator system using the procedures specified in OAC rule 3745-18-04(A) and test Method 6 or 6C of 40 CFR, Part 60, Appendix A.

Emissions testing and the relative accuracy test on the continuous SO2 monitor may be conducted at the same time while the emissions unit is operating at worst case emission conditions.

**2.** 40 CFR 63, Subpart EEE: Monitoring and Compliance Provisions

63.1207: What are the performance testing requirements?

(a) General. The provisions of 63.7 apply, except as noted below.

**3.** 63.1207: continued

(b) Types of performance tests

(1) Comprehensive performance test. You must conduct comprehensive performance tests to demonstrate compliance with the emission standards provided by 63.1203, 63.1204, and 63.1205, establish limits for the operating parameters provided by 63.1209, and demonstrate compliance with the performance specifications for continuous monitoring systems.

(2) Confirmatory performance test. You must conduct confirmatory performance tests to:

(i) Demonstrate compliance with the dioxin/furan emission standard when the source operates under normal operating conditions; and

(ii) Conduct a performance evaluation of continuous monitoring systems required for compliance assurance with the dioxin/furan emission standard under 63.1209(k).

**4.** 63.1207: continued

(c) Initial comprehensive performance test.

## V. Testing Requirements (continued)

**4.a** 63.1207: continued

(c)(1) Test date. Except as provided by paragraph (c)(2) of this section, you must commence the initial comprehensive performance test not later than six months after the compliance date.

(2) Data in lieu of the initial comprehensive performance test.

(i) You may request that previous emissions test data serve as documentation of conformance with the emission standards of this subpart provided that the previous testing was:

(A) Was initiated after 54 months prior to the compliance date, except as provided by paragraphs (c)(2)(iii) or (c)(2)iv) of this section;

(B) Results in data that meet quality assurance objectives (determined on a site-specific basis) such that the results demonstrate compliance with the applicable standards;

(C) Was in conformance with the requirements of paragraph (g)(1) of this section; and

(D) Was sufficient to establish the applicable operating parameter limits under 63.1209.

**4.b** 63.1207: continued

(c)(2)(ii) You must submit data in lieu of the initial comprehensive performance test in lieu of (i.e., if the data are in lieu of all performance testing) or with the notification of performance test required under paragraph (e) of this section.

(iii) The data in lieu of test age restriction provided in paragraph (c)(2)(i)(A) of this section does not apply for the duration of the interim standards (i.e., the standard published in the Federal Register on February 13, 2002. Paragraph (c)(2)(i)(A) of this section does not apply until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the Federal Register on November 16, 2001.

(iv) The data in lieu test age restriction provided in paragraph (c)(2)(i)(A) of this section does not apply to DRE data provided you do not feed hazardous waste at a location in the combustion system other than the normal flame zone.

**5.** 63.1207: continued

(d) Frequency of testing. You must conduct testing periodically as prescribed in paragraphs (d)(1) through (3) of this section. The date of commencement of the initial comprehensive performance test is the basis for establishing the deadline to commence the initial confirmatory performance test and the next comprehensive performance test. You may conduct performance testing at any time prior to the required date. The deadline for commencing subsequent confirmatory and comprehensive performance testing is based on the date of ommencement of the previous comprehensive performance test. Unless the Administrator grants a time extension under paragraph (i) of this section, you must conduct testing as follows:

## V. Testing Requirements (continued)

**5.a** 63.1207: continued

(d)(1) Comprehensive performance testing. Except as otherwise specified in paragraph (d)(4) of this section, you must commence testing no later than 61 months after the date of commencing the previous comprehensive performance test. If you submit data in lieu of the initial performance test, you must commence the subsequent comprehensive performance test within 61 months of commencing the test used to provide the data in lieu of the initial performance test.

(2) Confirmatory performance testing. Except as otherwise specified in paragraph (d)(4) of this section, you must commence confirmatory performance testing no later than 31 months after the date of commencing the previous comprehensive performance test. If you submit data in lieu of the initial performance test, you must commence the initial confirmatory performance test within 31 months of the date six months after the compliance date. To ensure that the confirmatory test is conducted approximately midway between comprehensive performance tests, the Administrator will not approve a test plan that schedules testing within 18 months of commencing the previous comprehensive performance test.

**5.b** 63.1207: continued

(d)(3) Duration of testing. You must complete performance testing within 60 days after the date of commencement, unless the Administrator determines that a time extension is warranted based on your documentation in writing of factors beyond your control that prevent you from meeting the 60-day deadline.

(4) Applicable testing requirements under the interim standards.

(i) Waiver of periodic comprehensive performance tests. Except as provided by paragraph (c)(2) of this section, you must conduct only an initial comprehensive performance test under the interim standards (i.e., the standards published in the Federal Register on February 13, 2002; all subsequent comprehensive performance testing requirements are waived under the interim standards. The provisions in the introductory text to paragraph (d) and in paragraph (d)(1) of this section do not apply until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the Federal Register on November 16, 2001.

(ii) Waiver of confirmatory performance tests. You are not required to conduct a confirmatory test under the interim standards (i.e., the standards published in the Federal Register on February 13, 2002. The confirmatory testing requirements in the introductory text to paragraph (d) and in paragraph (d)(2) of this section are waived until EPA promulgates permanent replacement standards pursuant to the Settlement Agreement noticed in the Federal Register on November 16, 2001.

**6.** 63.1207: continued

(e) Notification of performance test and CMS performance evaluation, and approval of test plan and CMS performance evaluation plan.

**6.a** 63.1207: continued

(e)(1) The provisions of 63.7(b) and (c) and 63.8(e) apply, except:

(i) Comprehensive performance test. You must submit to the Administrator a notification of your intention to conduct a comprehensive performance test and CMS performance evaluation and a site-specific test plan and CMS performance evaluation test plan at least one year before the performance test and performance evaluation are scheduled to begin.

(A) The Administrator will notify you of approval or intent to deny approval of the site-specific test plan and CMS performance evaluation test plan within 9 months after receipt of the original plan.

## V. Testing Requirements (continued)

**6.b** 63.1207: continued

(e)(1)(i)(B) You must submit to the Administrator a notification of your intention to conduct the comprehensive performance test at least 60 calendar days before the test is scheduled to begin.

(ii) Confirmatory performance test. You must submit to the Administrator a notification of your intention to conduct a confirmatory performance test and CMS performance evaluation and a site-specific test plan and CMS performance evaluation test plan at least 60 calendar days before the performance test is scheduled to begin. The Administrator will notify you of approval or intent to deny approval of the site-specific test plan and CMS performance evaluation test plan within 30 calendar days after receipt of the original test plans.

(2) After the Administrator has approved the site-specific test plan and CMS performance evaluation test plan, you must make the test plans available to the public for review. You must issue a public notice announcing the approval of the test plans and the location where the test plans are available for review.

(3) Petitions for time extension if Administrator fails toapprove or deny test plans. You may petition the Administrator under Sec. 63.7(h) to obtain a "waiver" of any performance test - initial or periodic performance test; comprehensive or confirmatory test. The "waiver" would be implemented as an extension of time to conduct the performance test at a later date.

(i)Qualifications for the waiver.

(A) You may not petition the Administrator for a waiver under this section if the Administrator has issued a notification of intent to deny your test plan(s) under Sec. 63.7(c)(3)(i)(B);

## V. Testing Requirements (continued)

**6.c** 63.1207 continued:

(e)(3)(i)(B) You must submit a site-specific emissions testing plan and a continuous monitoring system performance evaluation test plan at least one year before a comprehensive performance test is scheduled to begin as required by paragraph (c)(1) of this section, or at least 60 days before a confirmatory performance test is scheduled to begin as required by paragraph (d) of this section. The test plans must include all required documentation, including the substantive content requirements of paragraph (f) of this section and Sec. 63.8(e); and

(C) You must make a good faith effort to accommodate the Administrator's comments on the test plans.

(ii) Procedures for obtaining a waiver and duration of the waiver:

(A) You must submit to the Administrator a waiver petition or request to renew the petition under Sec. 63.7(h) separately for each source at least 60 days prior to the scheduled date of the performance test;

(B) The Administrator will approve or deny the petition within 30 days of receipt and notify you promptly of the decision;

(C) The Administrator will not approve an individual waiver petition for a duration exceeding 6 months;

(D) The Administrator will include a sunset provision in the waiver ending the waiver within 6 months;

(E) You may submit a revised petition to renew the waiver under Sec. 63.7(h)(3)(iii) at least 60 days prior to the end date of the most recently approved waiver petition;

(F) The Administrator may approve a revised petition for a total waiver period up to 12 months.

(iii) Content of the waiver.

(A) You must provide documentation to enable the Administrator to determine that the source is meeting the relevant standard(s) on a continuous basis as required by Sec. 63.7(h)(2). For extension requests for the initial comprehensive performance test, you must submit your Documentation of Compliance toassist the Administrator in making this determination.

**6.d** 63.1207 continued:

(e)(3)(iii)(B) You must include in the petition information justifying your request for a waiver, such as the technical or economic infeasibility, or the impracticality, of the affected source performing the required test, as required by Sec. 63.7(h)(3)(iii).

(iv) Public Notice. You must notify the public (e.g., distribute public mailing list) of your petition to waive a performance test.

**7.** 63.1207: continued

(f) Content of performance test plan. The provisions of 63.7(c)(2)(i)-(iii) and (v) regarding the content of the test plan apply. In addition, you must include the following information in the test plan:

## V. Testing Requirements (continued)

**7.a** 63.1207: continued

(f)(1) Content of comprehensive performance test plan.

(i) An analysis of each feedstream, including hazardous waste, other fuels, and industrial furnace feedstocks, as fired, that includes:

(A) Heating value, levels of ash (for hazardous waste incinerators only), levels of semivolatile metals, low volatile metals, mercury, and total chlorine (organic and inorganic); and

(B) Viscosity or description of the physical form of the feedstream;

(ii) For organic hazardous air pollutants established by 42 U.S.C. 7412(b)(1), excluding caprolactam (CAS number 105602) as provided by 63.60:

(A) Except as provided by paragraph (f)(1)(ii)(D) of this section, an identification of such organic hazardous air pollutants that are present in each hazardous waste feedstream. You need not analyze for organic hazardous air pollutants that would reasonably not be expected to be found in the feedstream. You must identify any constituents you exclude from analysis and explain the basis for excluding them. You must conduct the feedstream analysis according to Sec. 63.1208(b)(8);

(B) An approximate quantification of such identified organic hazardous air pollutants in the hazardous waste feedstreams, within the precision produced by the analytical procedures of Sec. 63.1208(b)(8); and

## V. Testing Requirements (continued)

**7.b** 63.1207: continued

(f)(1)(ii)(C) A description of blending procedures, if applicable, prior to firing the feedstream, including a detailed analysis of the materials prior to blending, and blending ratios;

(D) The Administrator may approve on a case-by-case basis a hazardous waste feedstream analysisfor organic hazardous air pollutants in lieu of the analysis required under paragraph (f)(1)(ii)(A) of this section if the reduced analysis is sufficient to ensure that the POHCs used to demonstrate compliance with the aplicable DRE standard of Sec. 63.1203, Sec. 63.1204, or Sec. 63.1205, continue to be representative of the organic hazardous air pollutantsin your hazardous waste feedstreams;

(iii) A detailed engineering description of the hazardous waste combustor, including:

(A) Manufacturer's name and model number of the hazardous waste combustor;

(B) Type of hazardous waste combustor;

(C) Maximum design capacity in appropriate units;

(D) Description of the feed system for each feedstream;

(E) Capacity of each feed system;

(F) Description of automatic hazardous waste feed cutoff system(s);

(G) Description of the design, operation, and maintenance practices for any air pollution control system; and

(H) Description of the design, operation, and maintenance practices of any stack gas monitoring and pollution control monitoring systems;

(iv) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis;

(v) A detailed test schedule for each hazardous waste for which the performance test is planned, including date(s), duration, quantity of hazardous waste to be burned, and other relevant factors;

## V. Testing Requirements (continued)

**7.c** 63.1207: continued

(f)(1)(vi) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feedrate for each feed system, and, as appropriate, the feedrates of other fuels and feedstocks, and any other relevant parameters that may affect the ability of the hazardous waste combustor to meet the emission standards;

(vii) A description of, and planned operating conditions for, any emission control equipment that will be used;

(viii) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction;

(ix) A determination of the hazardous waste residence time as required by 63.1206(b)(11);

(x) If you are requesting to extrapolate metal feedrate limits from comprehensive performance test levels under 63.1209(l)(1)(i) or 63.1209(n)(2)(ii))(A):

(A) A description of the extrapolation methodology and rationale for how the approach ensures compliance with the emission standards;

(B) Documentation of the historical range of normal (i.e., other than during compliance testing) metals feedrates for each feedstream;

(C) Documentation that the level of spiking recommended during the performance test will mask sampling and analysis imprecision and inaccuracy to the extent that the extrapolated feedrate limits adequately assure compliance with the emission standards;

(xi) If you do not continuously monitor regulated constituents in natural gas, process air feedstreams, and feedstreams from vapor recovery systems under 63.1209(c)(5), you must include documentation of the expected levels of regulated constituents in those feedstreams;

(xii) Documentation justifying the duration of system conditioning required to ensure the combustor has achieved steady-state operations under performance test operating conditions, as provided by paragraph (g)(1)(iii) of this section;

## V. Testing Requirements (continued)

**7.d** 63.1207: continued

(f)(1)(xiii) This paragraph of the regulation is not applicable to this permittee.

(xiv) This paragraph of the regulation is not applicable to this permittee.

(xv) Reserved

(xvi) If you are not required to conduct performance testing to document compliance with the mercury, semivolatile metal, low volatile metal, or hydrochloric acid/chlorine gas emission standards under paragraph (m) of this section, you must include with the comprehensive performance test plan documentation of compliance with the provisions of that section.

(xvii) If you propose to use a surrogate for measuring or monitoring gas flowrate, you must document in the comprehensive performance test plan that the surrogate adequately correlates with gas flowrate, as required by paragraph (m)(7) of this section, and 63.1209(j)(2), (k)(3), (m)(2)(i), (m)(5)(i), and (o)(2)(i).

(xviii) You must submit an application to request alternative monitoring under 63.1209(g)(1) not later than with the comprehensive performance test plan, as required by 63.1209(g)(1)(iii)(A).

(xix) You must document the temperature location measurement in the comprehensive performance test plan, as required by 63.1209(j)(1)(i) and 63.1209(k)(2)(i).

(xx) If your source is equipped with activated carbon injection, you must document in the comprehensive performance test plan:

(A) The manufacturer specifications for minimum carrier fluid flowrate or pressure drop, as required by 63.1209(k)(6)(ii); and

(B) Key parameters that affect carbon adsorption, and the operating limits you establish for those parameters based on the carbon used during the performance test, if you elect not to specify and use the brand and type of carbon used during the comprehensive performance test, as required by 63.1209(k)(6)(iii).

## V. Testing Requirements (continued)

**7.e** 63.1207: continued

(f)(1)(xxi) If your source is equipped with a carbon bed system, you must include in the comprehensive performance test plan:

(A) A recommended schedule for conducting a subsequent performance test to document compliance with the dioxin/furan and mercury emission standards if you use manufacturer specifications rather than actual bed age at the time of the test to establish the initial limit on bed age, as required by 63.1209(k)(7)(i)(C); and

(B) Key parameters that affect carbon adsorption, and the operating limits you establish for those parameters based on the carbon used during the performance test, if you elect not to specify and use the brand and type of carbon used during the comprehensive performance test, as required by 63.1209(k)(7)(ii).

(xxii) If you feed a dioxin/furan inhibitor into the combustion system, you must document in the comprehensive performance test plan key parameters that affect the effectiveness of the inhibitor, and the operating limits you establish for those parameters based on the inhibitor fed during the performance test, if you elect not to specify and use the brand and type of inhibitor used during the comprehensive performance test, as required by 63.1209(k)(9)(ii).

(xxiii) If your source is equipped with a wet scrubber and you elect to monitor solids content of the scrubber liquid manually but believe that hourly monitoring of solids content is not warranted, you must support an alternative monitoring frequency in the comprehensive performance test plan, as required by 63.1209(m)(1)(i)(B)(1)(i).

(xxiv) If your source is equipped with a particulate matter control device other than a wet scrubber, baghouse, or electrostatic precipitator, you must include in the comprehensive performance test plan:

(A) Documentation to support the operating parameter limits you establish for the control device, as required by 63.1209(m)(1)(iv)(A)(4); and

## V. Testing Requirements (continued)

**7.f** 63.1207: continued

(f)(1)(xxiv)(B) Support for the use of manufacturer specifications if you recommend such specifications in lieu of basing operating limits on performance test operating levels, as required by 63.1209(m)(1)(iv)(D).

(xxv) If your source is equipped with a dry scrubber to control hydrochloric acid and chlorine gas, you must document in the comprehensive performance test plan key parameters that affect adsorption, and the limits you establish for those parameters based on the sorbent used during the performance test, if you elect not to specify and use the brand and type of sorbent used during the comprehensive performance test, as required by 63.1209(o)(4)(iii)(A); and

(xxvi) Such other information as the Administrator reasonably finds necessary to determine whether to approve the performance test plan.

(2) Content of confirmatory test plan.

(i) A description of your normal hydrocarbon or carbon monoxide operating levels, as specified in paragraph (g)(2)(i) of this section, and an explanation of how these normal levels were determined;

(ii) A description of your normal applicable operating parameter levels, as specified in paragraph (g)(2)(ii) of this section, and an explanation of how these normal levels were determined;

(iii) A description of your normal chlorine operating levels, as specified in paragraph (g)(2)(iii) of this section, and an explanation of how these normal levels were determined;

(iv) If you use carbon injection or a carbon bed, a description of your normal cleaning cycle of the particulate matter control device, as specified in paragraph (g)(2)(iv) of this section, and an explanation of how these normal levels were determined;

(v) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis;

**7.g** 63.1207: continued

(f)(2)(vi) A detailed test schedule for each hazardous waste for which the performance test is planned, including date(s), duration, quantity of hazardous waste to be burned, and other relevant factors;

(vii) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feedrate for each feed system, and, as appropriate, the feedrates of other fuels and feedstocks, and any other relevant parameters that may affect the ability of the hazardous waste combustor to meet the dioxin/furan emission standard;

(viii) A description of, and planned operating conditions for, any emission control equipment that will be used;

(ix) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction; and

(x) Such other information as the Administrator reasonably finds necessary to determine whether to approve the confirmatory test plan.

## V. Testing Requirements (continued)

**8.** 63.1207: continued

(g) Operating conditions during testing. You must comply with the provisions of 63.7(e). Conducting performance testing under operating conditions representative of the extreme range of normal conditions is consistent with the requirement of 63.7(e)(1) to conduct performance testing under representative operating conditions.

**8.a** 63.1207: continued

(g)(1) Comprehensive performance testing.

(i) Operations during testing. For the following parameters, you must operate the combustor during the performance test under normal conditions (or conditions that will result in higher than normal emissions):

(A) Chlorine feedrate. You must feed normal (or higher) levels of chlorine during the dioxin/furan performance test;

**8.b** 63.1207: continued

(g)(1)(i)(B) Ash feedrate. For hazardous waste incinerators, you must conduct the following tests when feeding normal (or higher) levels of ash: The semivolatile metal and low volatile metal performance tests; and the dioxin/furan and mercury performance tests if activated carbon injection or a carbon bed is used; and

(C) Cleaning cycle of the particulate matter control device. You must conduct the following tests when the particulate matter control device undergoes its normal (or more frequent) cleaning cycle: The particulate matter, semivolatile metal, and low volatile metal performance tests; and the dioxin/furan and mercury performance tests if activated carbon injection or a carbon bed is used.

(ii) Modes of operation. Given that you must establish limits for the applicable operating parameters specified in Sec. 63.1209 based on operations during the comprehensive performance test, you may conduct testing under two or more operating modes to provide operating flexibility.

(iii) Steady-state conditions.

(A) Prior to obtaining performance test data, you must operate under performance test conditions until you reach steady-state operations with respect to emissions of pollutants you must measure during the performance test and operating parameters under Sec. 63.1209 for which you must establish limits. During system conditioning, you must ensure that each operating parameter for which you must establish a limit is held at the level planned for the performance test. You must include documentation in the performance test plan under paragraph (f) of this section justifying the duration of system conditioning.

## V. Testing Requirements (continued)

**8.c** 63.1207: continued

(g)(1)(iii)(B) This paragraph of the regulation is not applicable to this permittee.

(2) Confirmatory performance testing. You must conduct confirmatory performance testing for dioxin/furan under normal operating conditions for the following parameters:

(i) Carbon monoxide (or hydrocarbon) CEMS emission levels must be within the range of the average value to the maximum value allowed, except as provided by paragraph (g)(2)(iv) of this section. The average value is defined as the sum of the hourly rolling average values recorded (each minute) over the previous 12 months divided by the number of rolling averages recorded during that time. The average value must not include calibration data, startup data, shutdown data, malfunction data, and data obtained when not burning hazardous waste;

(ii) Each operating limit (specified in Sec. 63.1209) established to maintain compliance with the dioxin/furan emission standard must be held within the range of the average value over the previous 12 months and the maximum or minimum, as appropriate, that is allowed, except as provided by paragraph (g)(2)(iv) of this section. The average value is defined as the sum of the rolling average values recorded over the previous 12 months divided by the number of rolling averages recorded during that time. The average value must not include calibration data, malfunction data, and data obtained when not burning hazardous waste;

**8.d** 63.1207: continued

(g)(2)(iii) You must feed chlorine at normal feedrates or greater; and

(iv) If the combustor is equipped with carbon injection or carbon bed, normal cleaning cycle of the particulate matter control device.

(v) The Administrator may approve an alternative range to that required by paragraph (g)(2)(i) and (ii) of this section if you document in the confirmatory performance test plan that it may be problematic to maintain the required range during the test. In addition, when making the findings of compliance, the Administrator may consider test conditions outside of the range specified in the test plan based on a finding that you could not reasonably maintain the range specified in the test plan and considering factors including whether the time duration and level of the parameter when operations were out of the specified range were such that operations during the confirmatory test are determined to be reasonably representative of normal operations. In addition, the Administrator will consider the proximity of the emission test results to the standard.

**9.** 63.1207: continued

(h) Operating conditions during subsequent testing.

(1) Current operating parameter limits established under Sec. 63.1209 are waived during subsequent comprehensive performance testing.

(2) Current operating parameter limits are also waived during pretesting prior to comprehensive performance testing for an aggregate time not to exceed 720 hours of operation (renewable at the discretion of the Administrator) under an approved test plan or if the source records the results of the pretesting. Pretesting means:

(i) Operations when stack emissions testing for dioxin/furan, mercury, semivolatile metals, low volatile metals, particulate matter, or hydrochloric acid/chlorine gas is being performed; and

(ii) Operations to reach steady-state operating conditions prior to stack emissions testing under paragraph (g)(1)(iii) of this section.

## V. Testing Requirements (continued)

**10.** 63.1207: continued

(i) Time extension for subsequent performance tests. After the initial comprehensive performance test, you may request up to a one-year time extension for conducting a comprehensive or confirmatory performance test to consolidate performance testing with other state or federally required emission testing, or for other reasons deemed acceptable by the Administrator. If the Administrator grants a time extension for a comprehensive performance test, the deadlines for commencing the next comprehensive and confirmatory tests are based on the date that the subject comprehensive performance test commences.

**10.a** 63.1207: continued

(i)(1) You must submit in writing to the Administrator any request under this paragraph for a time extension for conducting a performance test.

(2) You must include in the request for an extension for conducting a performance test the following:

(i) A description of the reasons for requesting the time extension;

(ii) The date by which you will commence performance testing.

(3) The Administrator will notify you in writing of approval or intention to deny approval of your request for an extension for conducting a performance test within 30 calendar days after receipt of sufficient information to evaluate your request. The 30-day approval or denial period will begin after you have been notified in writing that your application is complete. The Administrator will notify you in writing whether the application contains sufficient information to make a determination within 30 calendar days after receipt of the original application and within 30 calendar days after receipt of any supplementary information that you submit.

**10.b** 63.1207: continued

(i)(4) When notifying you that your application is not complete, the Administrator will specify the information needed to complete the application. The Administrator will also provide notice of opportunity for you to present, in writing, within 30 calendar days after notification of the incomplete application, additional information or arguments to the Administrator to enable further action on the application.

(5) Before denying any request for an extension for performance testing, the Administrator will notify you in writing of the Administrator's intention to issue the denial, together with:

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

(ii) Notice of opportunity for you to present in writing, within 15 calendar days after notification of the intended denial, additional information or arguments to the Administrator before further action on the request.

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

## V. Testing Requirements (continued)

**11.** 63.1207: continued

(j) Notification of compliance.

(1) Comprehensive performance test.

(i) Within 90 days of completion of a comprehensive performance test, you must postmark a Notification of Compliance documenting compliance or noncompliance with the emission standards and continuous monitoring system requirements, and identifying operating parameter limits under Sec. 63.1209.

(ii) Upon postmark of the Notification of Compliance, you must comply with all operating requirements specified in the Notification of Compliance in lieu of the limits specified in the Documentation of Compliance required under 63.1211(c).

(2) Confirmatory performance test. Except as provided by paragraph (j)(4) of this section, within 90 days of completion of a confirmatory performance test, you must postmark a Notification of Compliance documenting compliance or noncompliance with the applicable dioxin/furan emission standard.

(3) See 63.7(g), 63.9(h), and 63.1210(b) for additional requirements pertaining to the Notification of Compliance (e.g., you must include results of performance tests in the Notification of Compliance).

(4) Time extension. You may submit a written request to the Administrator for a time extension documenting that, for reasons beyond your control, you may not be able to meet the 90-day deadline for submitting the Notification of Compliance after completion of testing. The Administrator will determine whether a time extension is warranted.

**12.** 63.1207: continued

(k) Failure to submit a timely notification of compliance.

(1) If you fail to postmark a Notification of Compliance by the specified date, you must cease hazardous waste burning immediately.

(2) Prior to submitting a revised Notification of Compliance as provided by paragraph (k)(3) of this section, you may burn hazardous waste only for the purpose of pretesting or comprehensive performance testing and only for a maximum of 720 hours (renewable at the discretion of the Administrator).

(3) You must submit to the Administrator a Notification of Compliance subsequent to a new comprehensive performance test before resuming hazardous waste burning.

**13.** 63.1207: continued

(l) Failure of performance test

## V. Testing Requirements (continued)

**13.a** 63.1207: continued

(l)(1) Comprehensive performance test. The provisions of this paragraph do not apply to the initial comprehensive performance test if you conduct the test prior to September 30, 2003 (or a later compliance date approved under Sec. 63.6(i))

(i) If you determine (based on CEM recordings, results of analyses of stack samples, or results of CMS performance evaluations) that you have exceeded any emission standard during a comprehensive performance test for a mode of operation, you must cease hazardous waste burning immediately under that mode of operation. You must make this determination within 90 days following completion of the performance test.

(ii) If you have failed to demonstrate compliance with the emission standards for any mode of operation:

(A) Prior to submitting a revised Notification of Compliance as provided by paragraph (l)(1)(ii)(C) of this section, you may burn hazardous waste only for the purpose of pretesting or comprehensive performance testing under revised operating conditions, and only for a maximum of 720 hours (renewable at the discretion of the Administrator), except as provided by paragraph (l)(3) of this section;

(B) You must conduct a comprehensive performance test under revised operating conditions following the requirements for performance testing of this section; and

(C) You must submit to the Administrator a Notification of Compliance subsequent to the new comprehensive performance test.

(2) Confirmatory performance test. If you determine (based on CEM recordings, results of analyses of stack samples, or results of CMS performance evaluations) that you have failed the dioxin/furan emission standard during a confirmatory performance test, you must cease burning hazardous waste immediately. You must make this determination within 90 days following completion of the performance test. To burn hazardous waste in the future:

**13.b** 63.1207: continued

(l)(2)(i) You must submit to the Administrator for review and approval a test plan to conduct a comprehensive performance test to identify revised limits on the applicable dioxin/furan operating parameters specified in 63.1209(k);

(ii) You must submit to the Administrator a Notification of Compliance with the dioxin/furan emission standard under the provisions of paragraphs (j) and (k) of this section and this paragraph (l). You must include in the Notification of Compliance the revised limits on the applicable dioxin/furan operating parameters specified in 63.1209(k); and

(iii) Until the Notification of Compliance is submitted, you must not burn hazardous waste except for purposes of pretesting or confirmatory performance testing, and for a maximum of 720 hours (renewable at the discretion of the Administrator), except as provided by paragraph (l)(3) of this section.

(3) You may petition the Administrator to obtain written approval to burn hazardous waste in the interim prior to submitting a Notification of Compliance for purposes other than testing or pretesting. You must specify operating requirements, including limits on operating parameters, that you determine will ensure compliance with the emission standards of this subpart based on available information including data from the failed performance test. The Administrator will review, modify as necessary, and approve if warranted the interim operating requirements. An approval of interim operating requirements will include a schedule for submitting a Notification of Compliance.

**14.** 63.1207: continued

(m) Waiver of performance test.

## V. Testing Requirements (continued)

**14.a** 63.1207: continued

(m)(1) The waiver provision of this paragraph applies in addition to the provisions of 63.7(h).

(2) You are not required to conduct performance tests to document compliance with the mercury, semivolatile metal, low volatile metal or hydrochloric acid/chlorine gas emission standards under the conditions specified below. You are deemed to be in compliance with an emission standard if the 12-hour rolling average maximum theoretical emission concentration (MTEC) determined as specified below does not exceed the emission standard:

(i) Determine the feedrate of mercury, semivolatile metals, low volatile metals, or total chlorine and chloride from all feedstreams;

(ii) Determine the stack gas flowrate; and

(iii) Calculate a MTEC for each standard assuming all mercury, semivolatile metals, low volatile metals, or total chlorine (organic and inorganic) from all feedstreams is emitted;

(3) To document compliance with this provision, you must:

(i) Monitor and record the feedrate of mercury, semivolatile metals, low volatile metals, and total chlorine and chloride from all feedstreams according to section 63.1209(c);

(ii) Monitor with a CMS and record in the operating record the gas flowrate (either directly or by monitoring a surrogate parameter that you have correlated to gas flowrate);

(iii) Continuously calculate and record in the operating record the MTEC under the procedures of paragraph (m)(2) of this section; and

(iv) Interlock the MTEC calculated in paragraph (m)(2)(iii) of this section to the AWFCO system to stop hazardous waste burning when the MTEC exceeds the emission standard.

(4) In lieu of the requirement in paragraphs (m)(3)(iii) and (iv) of this section, you may:

**14.b** 63.1207: continued

(m)(4)(i) Identify in the notification of compliance a minimum gas flowrate limit and a maximum feedrate limit of mercury, semivolatile metals, low volatile metals, and/or total chlorine and chloride from all feedstreams that ensures the MTEC as calculated in paragraph (m)(2)(iii) of this section is below the applicable emission standard; and

(ii) Interlock the minimum gas flowrate limit and maximum feedrate limit in paragraph (m)(3)(iv) of this section to the AWFCO system to stop hazardous waste burning when the gas flowrate or mercury, semivolatile metals, low volatile metals, and/or total chlorine and chloride feedrate exceeds the limit in paragraph (m)(4)(i) of this section.

(5) When you determine the feedrate of mercury, semivolatile metals, low volatile metals, or total chlorine and chloride for purposes of this provision, except as provided by paragraph (m)(6) of this section, you must assume that the analyte is present at the full detection limit when the feedstream analysis determines that the analyte is not detected in the feedstream.

(6) This paragraph of the regulation is not applicable to this permittee.

(7) You must state in the site-specific test plan that you submit for review and approval under paragraph (e) of this section that you intend to comply with the provisions of this paragraph. You must include in the test plan documentation that any surrogate that is proposed for gas flowrate adequately correlates with the gas flowrate.

## V. Testing Requirements (continued)

**15.** 40 CFR 63, Subpart EEE: Monitoring and Compliance Provisions

63.1208: What are the test methods?

(a) References. When required in subpart EEE of this part, the following publication is incorporated by reference, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 Third Edition (November 1986), as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), and III (December 1996). The Third Edition of SW-846 and Updates I, II, IIA, IIB, and III (document number 955-001-00000-1) are available for the Superintendent of Document, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800. Copies of the Third Edition and its updates are also available from the National Technical Information Services (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4650. Copies may be inspected at the Library, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

**16.** 63.1208: continued

(b) Test methods. You must use the following test methods to determine compliance with the emissions standards of this subpart:

**16.a** 63.1208: continued

(b)(1) Dioxins and furans.

(i) You must use Method 0023A, Sampling Method for Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans emissions from Stationary Sources, EPA Publication SW-846, as incorporated by reference in paragraph (a) of this section, to determine compliance with the emission standard for dioxins and furans;

(ii) You must sample for a minimum of three hours, and you must collect a minimum sample volume of 2.5 dscm;

(iii) You may assume that nondetects are present at zero concentration.

(2) Mercury. You must use Method 29, provided in appendix A, part 60 of this chapter, to demonstrate compliance with emission standard for mercury.

## V. Testing Requirements (continued)

**16.b** 63.1208: continued

(b)(3) Cadmium and lead. You must use Method 29, provided in appendix A, part 60 of this chapter, to determine compliance with the emission standard for cadmium and lead (combined).

(4) Arsenic, beryllium, and chromium. You must use Method 29, provided in appendix A, part 60 of this chapter, to determine compliance with the emission standard for arsenic, beryllium, and chromium (combined).

(5) Hydrochloric acid and chlorine gas. You may use Methods 26A, 320, or 321 provided in appendix A, part 60 of this chapter, to determine compliance with the emission standard for hydrochloric acid and chlorine gas (combined). You may use Methods 320 or 321 to make major source determinations under Sec. 63.9(b)(2)(v).

(6) Particulate matter. You must use Methods 5 or 5I, provided in appendix A, part 60 of this chapter, to demonstrate compliance with the emission standard for particulate matter.

(7) Other Test Methods. You may use applicable test methods in EPA Publication SW-846, as incorporated by reference in paragraph (a) of this section, as necessary to demonstrate compliance with requirements of this subpart, except as otherwise specified in paragraphs (b)(2)-(b)(6) of this section.

(8) Feedstream analytical methods. You may use any reliable analytical method to determine feedstream concentrations of metals, chlorine, and other constituents. It is your responsibility to ensure that the sampling and analysis procedures are unbiased, precise, and that the results are representative of the feedstream. For each feedstream, you must demonstrate that:

(i) Each analyte is not present above the reported level at the 80% upper confidence limit around the mean; and

**16.c** 63.1208: continued

(b)(8)(ii) The analysis could have detected the presence of the constituent at or below the reported level at the 80% upper confidence limit around the mean. (See Guidance for Data Quality Assessment -- Practical Methods for Data Analysis, EPA QA/G-9, January 1998, EPA/600/R-96/084).

(9) Opacity. If you determine compliance with the opacity standard under the monitoring requirements of Sec. 63.1209(a)(1)(iv) and (a)(1)(v), you must use Method 9, provided in appendix A, part 60 of this chapter.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process C (P001)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process C (P001): production of lubricant additives through neutralization of thiophosphoryl compounds using three reactor systems. A reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the three reactor systems are controlled by either a wet scrubber using water as the scrubbing solution (C-1 WScrb), or one of two flares (A-28 or C-5 Flare).<br><br>SO2 emissions will result from the combustion of sulfur-containing organic compounds at the flares. | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |
| | OAC rule 3745-18-06(E) | SO2: 19.05 lbs/hr |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by a flare that meets the requirements of paragraph OAC rule 3745-21-09(DD)(10)(d), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by a flare shall be based on the emissions from all process vent streams.

**2. Additional Terms and Conditions (continued)**

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

**2.** The scrubber water flow rate shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the flare(s) or the wet scrubber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the wet scrubber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the flare(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the flare(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall develop emission factors for the amount of SO2 emitted from the flare, either for each final product generated or for each batch run in this emissions unit. The emission factors shall be in units of pounds of SO2 emitted per ton of final product generated, or pounds of SO2 emitted per batch.

The permittee shall submit SO2 emission factors for all products containing sulfur. The specific methodology used to calculate the SO2 emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all SO2 emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**5.** The permittee shall collect and record the following information for each day:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factor used to determine the amount of SO2 emitted from the flare(s) for each final product generated using sulfur-containing raw materials (in pounds of SO2/ton of final product generated or pounds of SO2/batch run);

e. the SO2 emission rate for each final product generated that was controlled by the flare(s), in pounds, using the following equation:

E = (quantity of final product, in tons, or number of batches run) x (emission factor, in lbs of SO2/ton of final product generated or lbs of SO2/batch run);

f. the total SO2 emission rate for all final products generated that were controlled by the flare(s), in pounds;

g. the actual number of hours the flare(s) were in operation; and

h. the average hourly SO2 emission rate, in pounds per hour.

**6.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

## III. Monitoring and/or Record Keeping Requirements (continued)

**7.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, at the start of each batch; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**8.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flares. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flares, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the pound per hour emission limitation for SO2.

**4.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly while the process vent stream was vented to the flare. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

**5.** Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

## IV. Reporting Requirements (continued)

**6.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flares, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flares. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**7.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the flare(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 19.05 lbs of SO2 per hour

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, compliance shall be demonstrated by testing the amount of sulfur produced by this emissions unit prior to the flare using a U.S. EPA approved test method subject to the review and approval of the Ohio EPA Northeast District Office.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit, or within 3 months of startup (if temporarily shutdown at the time of permit issuance), and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the wet scrubber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the wet scrubber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process F (P005)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process F (P005): production of lubricant additives through alkylation using one reactor system. A reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the reactor system are controlled by one of two flares (A-28 or F-4 Flare). | OAC rule 3745-21-09 (LL) | See A.I.2.a. through A.I.2.d. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by a flare that meets the requirements of paragraph OAC rule 3745-21-09(DD)(10)(d), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by a flare shall be based on the emissions from all process vent streams.

**2. Additional Terms and Conditions (continued)**

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the flare(s), in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run);

f. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the flare(s), in tons; and

g. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the flare(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flares. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flares, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.f. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly while the process vent stream was vented to the flare. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

**4.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flares, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flares. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**5.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the flare(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process G (P006)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process G (P006): production of lubricant additives through the use of corrosive inorganic and organic reactions using three reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the three reactor systems are controlled by either an incinerator (AC-6/7 Fm Inc), a wet scrubber using a scrubbing solution of variable pH (G-3 Scrb), or a caustic wet scrubber (G-4 CScrb).<br><br>SO2 emissions are controlled by the caustic wet scrubber. | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |
| | OAC rule 3745-18-06(E) | SO2: 26.99 lbs/hour, See A.I.2.e. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2. Additional Terms and Conditions (continued)**

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

**2.e** SO2 emissions generated from all of the reactor tanks when processing sulfur containing materials shall be controlled by the caustic wet scrubber.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** This permittee shall operate and maintain wet scrubber G-3 (G-3 Scrb) at all times the process vent stream is vented to the scrubber in accordance with the following parameters:

a. not less than 7.00 pH; and

b. not less than two gallons per minute scrubber liquor flow rate.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## II. Operational Restrictions (continued)

**3.** The minimum free sodium hydroxide (NaOH) concentration in the caustic scrubber liquor of wet scrubber G-4 (G-4 CScrb) shall be the minimum concentration established during the most recent emission test that demonstrated the emissions unit was in compliance with the allowable mass emission rate for SO2. If a deviation in the minimum free NaOH concentration occurs, the facility may choose to demonstrate compliance through stack testing and establish a lower minimum free NaOH concentration.

The scrubber liquor flow rate shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s) or wet scrubbers, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by either wet scrubber G-3 or G-4, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of either wet scrubber G-3 or G-4, whichever is associated with that particular vent stream, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall develop emission factors for the amount of SO2 emitted from the process, either for each final product generated or for each batch run in this emissions unit. The emission factors shall be in units of pounds of SO2 emitted per ton of final product generated, or pounds of SO2 emitted per batch.

The permittee shall submit SO2 emission factors for all products containing sulfur. The specific methodology used to calculate the SO2 emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all SO2 emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall collect and record the following information for each day:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factor used to determine the amount of SO2 emitted from the process for each final product generated (in pounds of SO2/ton of final product generated or pounds of SO2/batch run);

e. the SO2 emission rate for each final product generated that was controlled by the wet scrubber, in pounds, using the following equation:

E = (quantity of final product, in tons, or number of batches run) x (emission factor, in lbs of SO2/ton of final product generated or lbs of SO2/batch run) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber as demonstrated during the most recent emissions test;

f. the total SO2 emission rate for all final products generated that were controlled by the wet scrubber, in pounds;

g. the actual number of hours the wet scrubber was in operation; and

h. the average hourly SO2 emission rate, in pounds per hour.

**6.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**7.** The permittee shall monitor the pH of the scrubber liquor and properly operate and maintain equipment to continuously monitor the scrubber liquor flow rate of wet scrubber G-3 while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, before and after each batch and once during the batch (if the scrubber liquor is changed after each batch, the pH may be collected and recorded once at the end of each batch run);

b. the scrubber liquor flow rate, in gallons per minute, at the start of each batch; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**8.** The permittee shall monitor the free NaOH concentration of the scrubber liquor and properly operate and maintain equipment to continuously monitor the scrubber liquor flow rate of wet scrubber G-4 while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the free NaOH concentration (percent) of the scrubber liquor (the permittee shall record the percent free NaOH concentration before and after each batch reaction);

b. the scrubber liquor flow rates, in gallons per minute, at the start of each batch; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**9.** The permittee shall record daily any time period that emissions of SO2 were not vented to the caustic wet scrubber.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the pound per hour emission limitation for SO2.

**4.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**5.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

## IV. Reporting Requirements (continued)

**6.** Unless the control efficiency of wet scrubber G-3 is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels while the process vent stream was vented to the wet scrubber:

a. the pH of the scrubber liquor; and

b. the scrubber liquor flow rate.

**7.** Unless the control efficiency of wet scrubber G-4 is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels while the process vent stream was vented to the wet scrubber:

a. the free NaOH concentration (percent) of the scrubber liquor; and

b. the scrubber liquor flow rate.

**8.** The permittee shall submit deviation (excursion) reports that identify all periods of time during which emissions of SO2 were not vented to the caustic wet scrubber.

**9.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 26.99 lbs of SO2 per hour

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, compliance shall be demonstrated by emissions testing of wet scrubber G-4 using the procedures specified in OAC rule 3745-18-04(A) and test Method 6 or 6C of 40 CFR, Part 60, Appendix A.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. emission testing of wet scrubbers G-3 and G-4 shall be conducted to determine control efficiency (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of wet scrubbers G-3 and G-4 shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process H (P007)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process H (P007): production of lubricant additives through the use of corrosive inorganic and organic reactions using four reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the four reactor systems are controlled by either a caustic wet scrubber (H-1 CScrb) or an incinerator (AC-6/7 Fm Inc's). | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** This permittee shall operate and maintain wet scrubber H-1 (H-1 CScrb) at all times the process vent stream is vented to the scrubber in accordance with the following parameters:

a. not less than 7.0 pH; and

b. not less than two gallons per minute caustic scrubber liquor flow rate.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s) or wet scrubbers, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by either wet scrubber H-1 alone, or in conjunction with wet scrubber H-2, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of either wet scrubber H-1 alone or in conjunction with wet scrubber H-2 (when associated with that particular vent stream) as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall monitor the pH of the caustic scrubber liquor and properly operate and maintain equipment to continuously monitor the scrubber liquor flow rate of wet scrubber H-1 while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the pH of the caustic scrubber liquor, before and after each batch and once during the batch (if the scrubber liquor is changed after a batch, the pH shall be collected and recorded at the end of the batch run);

b. the scrubber liquor flow rate, in gallons per minute, at the start of each batch; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**4.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**5.** Unless the control efficiency of caustic scrubber H-1 is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels while the process vent stream was vented to the caustic scrubber:

a. the pH of the caustic scrubber liquor; and

b. the scrubber liquor flow rate.

**6.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of wet scrubber H-1 (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of wet scrubber H-1 shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process I (P008)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process I (P008): production of lubricant additives through the use of corrosive inorganic and organic reactions using two reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the two reactor systems are controlled by a wet scrubber using water as the scrubbing solution (C-1 WScrb) or a flare (F-4 Flare). | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by a flare that meets the requirements of paragraph OAC rule 3745-21-09(DD)(10)(d), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by a flare shall be based on the emissions from all process vent streams.

**2. Additional Terms and Conditions (continued)**

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

**2.** The scrubber water flow rate shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the flare or wet scrubber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the wet scrubber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the flare (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the flare (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

**5.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, at the start of each batch; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**6.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly while the process vent stream was vented to the flare. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

## IV. Reporting Requirements (continued)

**4.** Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

**5.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**6.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the wet scrubber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the wet scrubber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process L (P011)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process L (P011): production of lubricant additives through thiophosphorylation using two reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the two reactor systems are controlled by an incinerator (AC-6/7 Fm Inc's) or a carbon adsorber (O-1 CDrum).<br><br>SO2 emissions will result from the combustion of sulfur-containing organic compounds at the fume incinerator system. | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |
| | Director's Final Findings and Orders for alternative SO2 emission control strategy, November 9, 2000 | SO2: 2.4 lbs/hr, See A.I.2.e. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2. Additional Terms and Conditions (continued)**

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals which minimize the amount of VOC exposed to the ambient air.

**2.e** The total hourly and annual SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs per hour and 100 tons per year.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** The carbon adsorption system shall be continuously maintained to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

If the control efficiency of the carbon adsorber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the carbon adsorber, as required under A.II, A.III and A.IV

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s) or carbon adsorber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the carbon adsorber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the carbon adsorber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

**5.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall monitor and record the concentration level of the organic compounds in the carbon adsorption system's exhaust stream daily, or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

**6.** The permittee shall maintain hourly records of the following information:

a. the actual SO2 emission rate from the fume incinerator system, in pounds per hour;

b. the rolling, three-hour average, actual SO2 emission rate from the fume incinerator system, in pounds per hour;

c. the total allowable SO2 emission rate, in pounds per hour, for all the emissions units (P011, P012, P013, P014, P022 and P030) in operation during the hour; and

d. the rolling, three-hour average, allowable SO2 emission rate, in pounds per hour.

The permittee shall maintain records that document which emissions units (P011, P012, P013, P014, P022 and P030) were in operation during each hour. If an emissions unit is in operation during any portion of an hour, it is considered to be in operation for the entire hour for purposes of determining compliance with the total allowable SO2 emission rate for all the emissions units in operation during any hour. Compliance shall be determined by comparing the rolling, three-hour average, actual and allowable, SO2 emission rates for each hour.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

**7.** The permittee shall maintain daily records of the actual SO2 emission rate from the fume incinerator system, in pounds per day.

## III. Monitoring and/or Record Keeping Requirements (continued)

**8.** The permittee shall operate and maintain existing equipment to continuously monitor and record SO2 from this emissions 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(d)(1), (e)(2) and (h), respectively. The permittee may request alternative monitoring procedures or requirements and alternative relative accuracy test procedures, in accordance with the relevant provisions of 40 CFR Parts 60.13(i) and (j), by submitting a written request to the Director. Any alternative monitoring and/or testing acceptable to the Director shall be approved by the U.S. EPA as a revision to the State Implementation Plan (SIP) prior to the implementation of the alternative monitoring and/or testing.

A statement of certification of the existing continuous SO2 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 6. Proof of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

The permittee shall maintain records of all data obtained by the continuous SO2 monitoring system including, but not limited to, parts per million SO2 on an instantaneous (one-minute) basis, emissions of SO2 in units of lbs/hr and lbs/hr rolling, three-hour average, and in the appropriate averaging period (e.g., hourly and hourly rolling of consecutive three-hour periods), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

**9.** The permittee shall implement a quality assurance/quality control plan for the continuous SO2 monitoring system designed to ensure continuous valid and representative readings of SO2 emission concentrations and exhaust gas flow rates. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and include provisions for conducting a relative accuracy test following each monitor probe replacement. The relative accuracy test shall be performed, and the monitoring system operated, in accordance with the procedures specified in Performance Specification Tests 2 and 3, 40 CFR Part 60, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous SO2 monitoring system must be kept on site and available for inspection during regular office hours. Each record of any monitoring data, testing data, and support information required shall be retained for a period of five years from the date the record was created. Support information shall include, but not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit quarterly reports, for the preceding calendar quarter, that specifies the total SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030 (as determined by record keeping required under A.III. of these terms and conditions).

**4.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**5.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**6.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon is not replaced with fresh carbon immediately when breakthrough is indicated.

## IV. Reporting Requirements (continued)

**7.** Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit quarterly deviation reports that identify all rolling, three-hour periods during which the average SO2 emission rate exceeded the corresponding total allowable SO2 emission rate for the fume incinerator system.

The permittee shall submit quarterly reports documenting any downtime of the SO2 continuous emission rate monitoring system and/or control equipment while any of the emissions units were on line. The permittee shall provide the date, time, duration, reason (if known), an estimate of excess emissions, and any any corrective action(s) taken for each such incident. Normal downtimes for daily calibration and zero checks or periods where monitoring is maintained by a backup analyzer when the primary analyzer malfunctions shall not be reportable.

If no deviations occurred during a calendar year, the permittee shall submit a quarterly report that 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 address the data obtained during the previous calendar quarter. These reports shall also contain the total SO2 emissions for the calender quarter (in tons).

**8.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 2.4 lbs of SO2 per hour

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping of the total hourly emission rate, as required in Section A.III. of these terms and conditions.

**1.c** Emission Limitation: The total hourly emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs of SO2 per hour.

Applicable Compliance Method: Compliance shall be demonstrated by the records of data obtained by the continuous SO2 monitoring system, as required in Section A.III of these terms and conditions, and, if required, by emissions testing of the fume incinerator system using the procedures specified in OAC rule 3745-18-04(A) and test Method 6 or 6C of 40 CFR, Part 60, Appendix A.

Emissions testing and the relative accuracy test on the continuous SO2 monitor may be conducted at the same time while operating emissions units P011, P012, P013, P014, P022 and P030 at worst case emission conditions.

**1.d** Emission Limitation: The total annual emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 100 tons of SO2 per year.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions and by records of data obtained by the continuous SO2 monitoring system.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit, or within 3 months of startup (if temporarily shutdown at the time of permit issuance), and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the carbon adsorber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the carbon adsorber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process M (P012)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process M (P012): production of lubricant additives through condensation using four reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the four reactor systems are controlled by either a wet scrubber using water as the scrubbing solution (P-2 WScrb), a carbon adsorber (P-3 CDrum), or an incinerator (AC-6/7 Fm Inc's) followed by a flare (S-4 Flare) as backup.<br><br>SO2 emissions will result from the combustion of sulfur-containing organic compounds at the fume incinerator system. | OAC rule 3745-21-09 (LL)<br><br>Director's Final Findings and Orders for alternative SO2 emission control strategy, November 9, 2000 | See A.I.2.a. through A.I.2.e. below.<br><br>SO2: 160.0 lbs/hr, See A.I.2.f. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), or a flare that meets the requirements of paragraph OAC rule 3745-21-09(DD)(10)(d), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator or a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator or a flare shall be based on the emissions from all process vent streams.

## 2. Additional Terms and Conditions (continued)

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.e** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

**2.f** The total hourly and annual SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs per hour and 100 tons per year.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

**3.** The scrubber water flow rate of wet scrubber P-2 (P-2 WScrb) shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per year from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

**4.** The carbon adsorption system shall be continuously maintained to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

If the control efficiency of the carbon adsorber is always assumed to be zero, and compliance with the emission limitation of five tons per year from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the carbon adsorber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s), flare, wet scrubber or carbon adsorber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by either the wet scrubber or carbon adsorber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber or carbon adsorber, whichever is associated with that particular vent stream, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation. This log shall also indicate when the reactors were vented to the backup flare.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation and VOC emissions are vented to the backup flare. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame while VOC emissions were vented to the backup flare; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

**6.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate of wet scrubber P-2 while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**7.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall monitor and record the concentration level of the organic compounds in the carbon adsorption system's exhaust stream daily, or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## III. Monitoring and/or Record Keeping Requirements (continued)

**8.** The permittee shall maintain hourly records of the following information:

a. the actual SO2 emission rate from the fume incinerator system, in pounds per hour;

b. the rolling, three-hour average, actual SO2 emission rate from the fume incinerator system, in pounds per hour;

c. the total allowable SO2 emission rate, in pounds per hour, for all the emissions units (P011, P012, P013, P014, P022 and P030) in operation during the hour; and

d. the rolling, three-hour average, allowable SO2 emission rate, in pounds per hour.

The permittee shall maintain records that document which emissions units (P011, P012, P013, P014, P022 and P030) were in operation during each hour. If an emissions unit is in operation during any portion of an hour, it is considered to be in operation for the entire hour for purposes of determining compliance with the total allowable SO2 emission rate for all the emissions units in operation during any hour. Compliance shall be determined by comparing the rolling, three-hour average, actual and allowable, SO2 emission rates for each hour.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

**9.** The permittee shall maintain daily records of the actual SO2 emission rate from the fume incinerator system, in pounds per day.

**10.** The permittee shall operate and maintain existing equipment to continuously monitor and record SO2 from this emissions 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(d)(1), (e)(2) and (h), respectively. The permittee may request alternative monitoring procedures or requirements and alternative relative accuracy test procedures, in accordance with the relevant provisions of 40 CFR Parts 60.13(i) and (j), by submitting a written request to the Director. Any alternative monitoring and/or testing acceptable to the Director shall be approved by the U.S. EPA as a revision to the State Implementation Plan (SIP) prior to the implementation of the alternative monitoring and/or testing.

A statement of certification of the existing continuous SO2 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 6. Proof of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

The permittee shall maintain records of all data obtained by the continuous SO2 monitoring system including, but not limited to, parts per million SO2 on an instantaneous (one-minute) basis, emissions of SO2 in units of lbs/hr and lbs/hr rolling, three-hour average, and in the appropriate averaging period (e.g., hourly and hourly rolling of consecutive three-hour periods), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

## III. Monitoring and/or Record Keeping Requirements (continued)

**11.** The permittee shall implement a quality assurance/quality control plan for the continuous SO2 monitoring system designed to ensure continuous valid and representative readings of SO2 emission concentrations and exhaust gas flow rates. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and include provisions for conducting a relative accuracy test following each monitor probe replacement. The relative accuracy test shall be performed, and the monitoring system operated, in accordance with the procedures specified in Performance Specification Tests 2 and 3, 40 CFR Part 60, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous SO2 monitoring system must be kept on site and available for inspection during regular office hours. Each record of any monitoring data, testing data, and support information required shall be retained for a period of five years from the date the record was created. Support information shall include, but not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation.

**12.** The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit quarterly reports, for the preceding calendar quarter, that specifies the total SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030 (as determined by record keeping required under A.III. of these terms and conditions).

**4.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**5.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation, the date(s) and time(s) that VOC emissions were vented to the backup flare, and the date(s) and time(s) that there was no pilot flame while VOC emissions were vented to the backup flare.

**6.** Unless the control efficiency of wet scrubber P-2 is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

## IV. Reporting Requirements (continued)

**7.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon is not replaced with fresh carbon immediately when breakthrough is indicated.

**8.** Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit quarterly deviation reports that identify all rolling, three-hour periods during which the average SO2 emission rate exceeded the corresponding total allowable SO2 emission rate for the fume incinerator system.

The permittee shall submit quarterly reports documenting any downtime of the SO2 continuous emission rate monitoring system and/or control equipment while any of the emissions units were on line. The permittee shall provide the date, time, duration, reason (if known), an estimate of excess emissions, and any any corrective action(s) taken for each such incident. Normal downtimes for daily calibration and zero checks or periods where monitoring is maintained by a backup analyzer when the primary analyzer malfunctions shall not be reportable.

If no deviations occurred during a calendar year, the permittee shall submit a quarterly report that 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 address the data obtained during the previous calendar quarter. These reports shall also contain the total SO2 emissions for the calender quarter (in tons).

**9.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**10.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s) or flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 160.0 lbs of SO2 per hour

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping of the total hourly emission rate, as required in Section A.III. of these terms and conditions.

## V. Testing Requirements (continued)

**1.c** Emission Limitation: The total hourly emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs of SO2 per hour.

Applicable Compliance Method: Compliance shall be demonstrated by the records of data obtained by the continuous SO2 monitoring system, as required in Section A.III of these terms and conditions, and, if required, by emissions testing of the fume incinerator system using the procedures specified in OAC rule 3745-18-04(A) and test Method 6 or 6C of 40 CFR, Part 60, Appendix A.

Emissions testing and the relative accuracy test on the continuous SO2 monitor may be conducted at the same time while operating emissions units P011, P012, P013, P014, P022 and P030 at worst case emission conditions.

**1.d** Emission Limitation: The total annual emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 100 tons of SO2 per year.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions and by records of data obtained by the continuous SO2 monitoring system.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of wet scrubber P-2 and the carbon adsorber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of wet scrubber P-2 and the carbon adsorber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process N (P013)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process N (P013): production of lubricant additives through organic sulfurization using four reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the four reactor systems are controlled by either a carbon adsorber (P-3 CDrum), a wet scrubber using water as the scrubbing solution (P-2 Wscrb), or an incinerator (AC-6/7 Fm Inc's) followed by a flare (S-4 Flare) as backup.<br><br>SO2 emissions will result from the combustion of sulfur-containing organic compounds at the fume incinerator system. | OAC rule 3745-21-09 (LL)<br><br>Director's Final Findings and Orders for alternative SO2 emission control strategy, November 9, 2000 | See A.I.2.a. through A.I.2.e. below.<br><br>SO2: 25.0 lbs/hr, See A.I.2.f. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), or a flare that meets the requirements of paragraph OAC rule 3745-21-09(DD)(10)(d), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator or a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator or a flare shall be based on the emissions from all process vent streams.

## 2. Additional Terms and Conditions (continued)

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.e** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

**2.f** The total hourly and annual SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs per hour and 100 tons per year.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

**3.** The scrubber water flow rate of the wet scrubber shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

**4.** The carbon adsorption system shall be continuously maintained to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

If the control efficiency of the carbon adsorber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the carbon adsorber, as required under A.II, A.III and A.IV

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s), flare, wet scrubber or carbon adsorber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by either the wet scrubber or carbon adsorber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber or carbon adsorber, whichever is associated with that particular vent stream, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation. This log shall also indicate when the reactors were vented to the backup flare.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation and VOC emissions are vented to the backup flare. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame while VOC emissions were vented to the backup flare; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

**6.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate of the wet scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**7.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall monitor and record the concentration level of the organic compounds in the carbon adsorption system's exhaust stream daily, or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## III. Monitoring and/or Record Keeping Requirements (continued)

**8.** The permittee shall maintain hourly records of the following information:

a. the actual SO2 emission rate from the fume incinerator system, in pounds per hour;

b. the rolling, three-hour average, actual SO2 emission rate from the fume incinerator system, in pounds per hour;

c. the total allowable SO2 emission rate, in pounds per hour, for all the emissions units (P011, P012, P013, P014, P022 and P030) in operation during the hour; and

d. the rolling, three-hour average, allowable SO2 emission rate, in pounds per hour.

The permittee shall maintain records that document which emissions units (P011, P012, P013, P014, P022 and P030) were in operation during each hour. If an emissions unit is in operation during any portion of an hour, it is considered to be in operation for the entire hour for purposes of determining compliance with the total allowable SO2 emission rate for all the emissions units in operation during any hour. Compliance shall be determined by comparing the rolling, three-hour average, actual and allowable, SO2 emission rates for each hour.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

**9.** The permittee shall maintain daily records of the actual SO2 emission rate from the fume incinerator system, in pounds per day.

**10.** The permittee shall operate and maintain existing equipment to continuously monitor and record SO2 from this emissions 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(d)(1), (e)(2) and (h), respectively. The permittee may request alternative monitoring procedures or requirements and alternative relative accuracy test procedures, in accordance with the relevant provisions of 40 CFR Parts 60.13(i) and (j), by submitting a written request to the Director. Any alternative monitoring and/or testing acceptable to the Director shall be approved by the U.S. EPA as a revision to the State Implementation Plan (SIP) prior to the implementation of the alternative monitoring and/or testing.

A statement of certification of the existing continuous SO2 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 6. Proof of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

The permittee shall maintain records of all data obtained by the continuous SO2 monitoring system including, but not limited to, parts per million SO2 on an instantaneous (one-minute) basis, emissions of SO2 in units of lbs/hr and lbs/hr rolling, three-hour average, and in the appropriate averaging period (e.g., hourly and hourly rolling of consecutive three-hour periods), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

## III. Monitoring and/or Record Keeping Requirements (continued)

**11.** The permittee shall implement a quality assurance/quality control plan for the continuous SO2 monitoring system designed to ensure continuous valid and representative readings of SO2 emission concentrations and exhaust gas flow rates. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and include provisions for conducting a relative accuracy test following each monitor probe replacement. The relative accuracy test shall be performed, and the monitoring system operated, in accordance with the procedures specified in Performance Specification Tests 2 and 3, 40 CFR Part 60, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous SO2 monitoring system must be kept on site and available for inspection during regular office hours. Each record of any monitoring data, testing data, and support information required shall be retained for a period of five years from the date the record was created. Support information shall include, but not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation.

**12.** The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit quarterly reports, for the preceding calendar quarter, that specifies the total SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030 (as determined by record keeping required under A.III. of these terms and conditions).

**4.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**5.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation, the date(s) and time(s) that VOC emissions were vented to the backup flare, and the date(s) and time(s) that there was no pilot flame while VOC emissions were vented to the backup flare.

**6.** Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

## IV. Reporting Requirements (continued)

**7.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon is not replaced with fresh carbon immediately when breakthrough is indicated.

**8.** Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit quarterly deviation reports that identify all rolling, three-hour periods during which the average SO2 emission rate exceeded the corresponding total allowable SO2 emission rate for the fume incinerator system.

The permittee shall submit quarterly reports documenting any downtime of the SO2 continuous emission rate monitoring system and/or control equipment while any of the emissions units were on line. The permittee shall provide the date, time, duration, reason (if known), an estimate of excess emissions, and any any corrective action(s) taken for each such incident. Normal downtimes for daily calibration and zero checks or periods where monitoring is maintained by a backup analyzer when the primary analyzer malfunctions shall not be reportable.

If no deviations occurred during a calendar year, the permittee shall submit a quarterly report that 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 address the data obtained during the previous calendar quarter. These reports shall also contain the total SO2 emissions for the calender quarter (in tons).

**9.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**10.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s) or flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 25.0 lbs of SO2 per hour

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping of the total hourly emission rate, as required in Section A.III. of these terms and conditions.

## V. Testing Requirements (continued)

**1.c** Emission Limitation: The total hourly emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs of SO2 per hour.

Applicable Compliance Method: Compliance shall be demonstrated by the records of data obtained by the continuous SO2 monitoring system, as required in Section A.III of these terms and conditions, and, if required, by emissions testing of the fume incinerator system using the procedures specified in OAC rule 3745-18-04(A) and test Method 6 or 6C of 40 CFR, Part 60, Appendix A.

Emissions testing and the relative accuracy test on the continuous SO2 monitor may be conducted at the same time while operating emissions units P011, P012, P013, P014, P022 and P030 at worst case emission conditions.

**1.d** Emission Limitation: The total annual emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 100 tons of SO2 per year.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions and by records of data obtained by the continuous SO2 monitoring system.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of wet scrubber P-2 and the carbon adsorber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of wet scrubber P-2 and the carbon adsorber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process O (P014)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process O (P014): production of lubricant additives through thiophosphorylation using two reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the two reactor systems are controlled by a carbon adsorber (O-1 CDrum) or an incinerator (AC-6/7 Fm Inc's).<br><br>SO2 emissions will result from the combustion of sulfur-containing organic compounds at the fume incinerator system. | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |
| | Director's Final Findings and Orders for alternative SO2 emission control strategy, November 9, 2000 | SO2: 10.0 lbs/hr, See A.I.2.e. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2. Additional Terms and Conditions (continued)**

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

**2.e** The total hourly and annual SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs per hour and 100 tons per year.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** The carbon adsorption system shall be continuously maintained to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

If the control efficiency of the carbon adsorber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the carbon adsorber, as required under A.II, A.III and A.IV

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s) or carbon adsorber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the carbon adsorber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the carbon adsorber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

**5.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall monitor and record the concentration level of the organic compounds in the carbon adsorption system's exhaust stream daily, or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

**6.** The permittee shall maintain hourly records of the following information:

a. the actual SO2 emission rate from the fume incinerator system, in pounds per hour;

b. the rolling, three-hour average, actual SO2 emission rate from the fume incinerator system, in pounds per hour;

c. the total allowable SO2 emission rate, in pounds per hour, for all the emissions units (P011, P012, P013, P014, P022 and P030) in operation during the hour; and

d. the rolling, three-hour average, allowable SO2 emission rate, in pounds per hour.

The permittee shall maintain records that document which emissions units (P011, P012, P013, P014, P022 and P030) were in operation during each hour. If an emissions unit is in operation during any portion of an hour, it is considered to be in operation for the entire hour for purposes of determining compliance with the total allowable SO2 emission rate for all the emissions units in operation during any hour. Compliance shall be determined by comparing the rolling, three-hour average, actual and allowable, SO2 emission rates for each hour.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

**7.** The permittee shall maintain daily records of the actual SO2 emission rate from the fume incinerator system, in pounds per day.

## III. Monitoring and/or Record Keeping Requirements (continued)

**8.** The permittee shall operate and maintain existing equipment to continuously monitor and record SO2 from this emissions 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(d)(1), (e)(2) and (h), respectively. The permittee may request alternative monitoring procedures or requirements and alternative relative accuracy test procedures, in accordance with the relevant provisions of 40 CFR Parts 60.13(i) and (j), by submitting a written request to the Director. Any alternative monitoring and/or testing acceptable to the Director shall be approved by the U.S. EPA as a revision to the State Implementation Plan (SIP) prior to the implementation of the alternative monitoring and/or testing.

A statement of certification of the existing continuous SO2 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 6. Proof of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

The permittee shall maintain records of all data obtained by the continuous SO2 monitoring system including, but not limited to, parts per million SO2 on an instantaneous (one-minute) basis, emissions of SO2 in units of lbs/hr and lbs/hr rolling, three-hour average, and in the appropriate averaging period (e.g., hourly and hourly rolling of consecutive three-hour periods), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

**9.** The permittee shall implement a quality assurance/quality control plan for the continuous SO2 monitoring system designed to ensure continuous valid and representative readings of SO2 emission concentrations and exhaust gas flow rates. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and include provisions for conducting a relative accuracy test following each monitor probe replacement. The relative accuracy test shall be performed, and the monitoring system operated, in accordance with the procedures specified in Performance Specification Tests 2 and 3, 40 CFR Part 60, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous SO2 monitoring system must be kept on site and available for inspection during regular office hours. Each record of any monitoring data, testing data, and support information required shall be retained for a period of five years from the date the record was created. Support information shall include, but not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit quarterly reports, for the preceding calendar quarter, that specifies the total SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030 (as determined by record keeping required under A.III. of these terms and conditions).

**4.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**5.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**6.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon is not replaced with fresh carbon immediately when breakthrough is indicated.

## IV. Reporting Requirements (continued)

**7.** Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit quarterly deviation reports that identify all rolling, three-hour periods during which the average SO2 emission rate exceeded the corresponding total allowable SO2 emission rate for the fume incinerator system.

The permittee shall submit quarterly reports documenting any downtime of the SO2 continuous emission rate monitoring system and/or control equipment while any of the emissions units were on line. The permittee shall provide the date, time, duration, reason (if known), an estimate of excess emissions, and any any corrective action(s) taken for each such incident. Normal downtimes for daily calibration and zero checks or periods where monitoring is maintained by a backup analyzer when the primary analyzer malfunctions shall not be reportable.

If no deviations occurred during a calendar year, the permittee shall submit a quarterly report that 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 address the data obtained during the previous calendar quarter. These reports shall also contain the total SO2 emissions for the calender quarter (in tons).

**8.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 10.0 lbs of SO2 per hour

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping of the total hourly emission rate, as required in Section A.III. of these terms and conditions.

**1.c** Emission Limitation: The total hourly emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs of SO2 per hour.

Applicable Compliance Method: Compliance shall be demonstrated by the records of data obtained by the continuous SO2 monitoring system, as required in Section A.III of these terms and conditions, and, if required, by emissions testing of the fume incinerator system using the procedures specified in OAC rule 3745-18-04(A) and test Method 6 or 6C of 40 CFR, Part 60, Appendix A.

Emissions testing and the relative accuracy test on the continuous SO2 monitor may be conducted at the same time while operating emissions units P011, P012, P013, P014, P022 and P030 at worst case emission conditions.

**1.d** Emission Limitation: The total annual emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 100 tons of SO2 per year.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions and by records of data obtained by the continuous SO2 monitoring system.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the carbon adsorber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the carbon adsorber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process P (P015)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process P (P015): production of lubricant additives through neutralization with an organic base using five reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the five reactor systems are controlled by either a wet scrubber using water as the scrubbing solution (P-2 WScrb), a carbon adsorber (P-3 CDrum), or an incinerator (AC-6/7 Fm Inc's). | OAC rule 3745-21-09 (LL) | See A.I.2.a. through A.I.2.d. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2. Additional Terms and Conditions (continued)**

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** The scrubber water flow rate of the wet scrubber shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

**3.** The carbon adsorption system shall be continuously maintained to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

If the control efficiency of the carbon adsorber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the carbon adsorber, as required under A.II, A.III and A.IV

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s), wet scrubber or carbon adsorber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by either the wet scrubber or carbon adsorber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber or carbon adsorber, whichever is associated with that particular vent stream, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate of the wet scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**6.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall monitor and record the concentration level of the organic compounds in the carbon adsorption system's exhaust stream daily, or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**4.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**5.** Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

**6.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon is not replaced with fresh carbon immediately when breakthrough is indicated.

**7.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of wet scrubber P-2 and the carbon adsorber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of wet scrubber P-2 and the carbon adsorber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process S (P018)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process S (P018): production of lubricant additives through neutralization with an organic base in solvent using three reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the three reactor systems are controlled by either a wet scrubber using water as the scrubbing solution (P-2 WScrb), a carbon adsorber (P-3 CDrum), a caustic wet scrubber (N-2 CScrb) followed by a flare (S-4 Flare), or an incinerator (AC-6/7 Fm Inc's). | OAC rule 3745-21-09 (LL) | See A.I.2.a. through A.I.2.e. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), or a flare that meets the requirements of paragraph OAC rule 3745-21-09(DD)(10)(d), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator or a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator or a flare shall be based on the emissions from all process vent streams.

**2. Additional Terms and Conditions (continued)**

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.e** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

## II. Operational Restrictions (continued)

**3.** The scrubber water flow rate of the wet scrubber shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

**4.** The carbon adsorption system shall be continuously maintained to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

If the control efficiency of the carbon adsorber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the carbon adsorber, as required under A.II, A.III and A.IV

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s), flare, wet scrubber or carbon adsorber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by either the wet scrubber or carbon adsorber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber or carbon adsorber, whichever is associated with that particular vent stream, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

**6.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate of the wet scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**7.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall monitor and record the concentration level of the organic compounds in the carbon adsorption system's exhaust stream daily, or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

**8.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**4.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**5.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly while the process vent stream was vented to the flare. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

**6.** Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

**7.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon is not replaced with fresh carbon immediately when breakthrough is indicated.

**8.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**9.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s) or flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the wet scrubber and carbon adsorber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the wet scrubber and carbon adsorber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process T (P019)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process T (P019): production of lubricant additives through esterification using four reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the four reactor systems are controlled by one of two wet scrubbers that use water as the scrubbing solution (T-3 or T-4 WScrb). | OAC rule 3745-21-09(LL) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The total VOC emissions not controlled by an incinerator or flare shall not exceed five tons per rolling twelve-month period. The total VOC emissions not controlled by an incinerator or flare shall be based on the emissions from all process vent streams.

**2.b** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The scrubber water flow rate of wet scrubbers T-3 and T-4 (T-3/4 WScrb) shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubbers.

If the control efficiency of wet scrubber T-3 and/or T-4 is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for wet scrubbers T-3 and/or T-4, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the wet scrubber(s), in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by either wet scrubber T-3 or T-4, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of either wet scrubber T-3 or T-4, whichever is associated with that particular vent stream, as demonstrated during the most recent emissions test;

g. the total VOC emission rate for all final products generated (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions for all final products generated (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rates of wet scrubbers T-3 and T-4 while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiencies of the wet scrubbers are assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rates, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

## IV. Reporting Requirements (continued)

**3.** Unless the control efficiency of wet scrubber T-3 and/or T-4 are assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rates were not maintained at or above the required levels while the process vent streams were vented to the wet scrubbers.

**4.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of wet scrubbers T-3 and T-4 (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of wet scrubbers T-3 and T-4 shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process U (P020)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process U (P020): production of lubricant additives through terpolymerization using two reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the two reactor systems are controlled by either a carbon adsorber (U-7 CDrum), a flare (U-5 Flare), or an incinerator (AC-6/7 Fm Inc's). | OAC rule 3745-21-09 (LL)<br>PTI 02-784 | See A.I.2.a. through A.I.2.e. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), or a flare that meets the requirements of paragraph OAC rule 3745-21-09(DD)(10)(d), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator or a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator or a flare shall be based on the emissions from all process vent streams.

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2. Additional Terms and Conditions (continued)**

**2.d** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.e** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

**3.** The carbon adsorption system shall be continuously maintained to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s), flare or carbon adsorber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the carbon adsorber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the carbon adsorber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

**5.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

**6.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall monitor and record the concentration level of the organic compounds in the carbon adsorption system's exhaust stream daily, or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

**7.** If the control efficiency of the carbon adsorber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the carbon adsorber, as required under A.II, A.III and A.IV.

## III. Monitoring and/or Record Keeping Requirements (continued)

**8.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**4.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**5.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly while the process vent stream was vented to the flare. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

**6.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon is not replaced with fresh carbon immediately when breakthrough is indicated.

**7.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**8.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s) or flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the carbon adsorber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the carbon adsorber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process W (P022)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process W (P022): production of lubricant additives through blending using 50 blending tanks. Volatile organic compound (VOC) emissions from the blend tanks are controlled by a carbon adsorber (W-1 CDrum) or an incinerator (AC-6/7 Fm Inc's). | OAC rule 3745-21-09(LL)<br>PTI 02-872 | See A.I.2.a. through A.I.2.d. below. |
| | Director's Final Findings and Orders for alternative SO2 emission control strategy, November 9, 2000 | SO2: 20.0 lbs/hr, See A.I.2.e. below. |
| SO2 emissions will result from the combustion of sulfur-containing organic compounds at the fume incinerator system. | | |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

**2. Additional Terms and Conditions (continued)**

**2.e** The total hourly and annual SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs per hour and 100 tons per year.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** The carbon adsorption system shall be continuously maintained to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

If the control efficiency of the carbon adsorber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the carbon adsorber, as required under A.II, A.III and A.IV

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s) or carbon adsorber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the carbon adsorber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the carbon adsorber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall monitor and record the concentration level of the organic compounds in the carbon adsorption system's exhaust stream daily, or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

**6.** The permittee shall maintain hourly records of the following information:

a. the actual SO2 emission rate from the fume incinerator system, in pounds per hour;

b. the rolling, three-hour average, actual SO2 emission rate from the fume incinerator system, in pounds per hour;

c. the total allowable SO2 emission rate, in pounds per hour, for all the emissions units (P011, P012, P013, P014, P022 and P030) in operation during the hour; and

d. the rolling, three-hour average, allowable SO2 emission rate, in pounds per hour.

The permittee shall maintain records that document which emissions units (P011, P012, P013, P014, P022 and P030) were in operation during each hour. If an emissions unit is in operation during any portion of an hour, it is considered to be in operation for the entire hour for purposes of determining compliance with the total allowable SO2 emission rate for all the emissions units in operation during any hour. Compliance shall be determined by comparing the rolling, three-hour average, actual and allowable, SO2 emission rates for each hour.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

**7.** The permittee shall maintain daily records of the actual SO2 emission rate from the fume incinerator system, in pounds per day.

## III. Monitoring and/or Record Keeping Requirements (continued)

**8.** The permittee shall operate and maintain existing equipment to continuously monitor and record SO2 from this emissions 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(d)(1), (e)(2) and (h), respectively. The permittee may request alternative monitoring procedures or requirements and alternative relative accuracy test procedures, in accordance with the relevant provisions of 40 CFR Parts 60.13(i) and (j), by submitting a written request to the Director. Any alternative monitoring and/or testing acceptable to the Director shall be approved by the U.S. EPA as a revision to the State Implementation Plan (SIP) prior to the implementation of the alternative monitoring and/or testing.

A statement of certification of the existing continuous SO2 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 6. Proof of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

The permittee shall maintain records of all data obtained by the continuous SO2 monitoring system including, but not limited to, parts per million SO2 on an instantaneous (one-minute) basis, emissions of SO2 in units of lbs/hr and lbs/hr rolling, three-hour average, and in the appropriate averaging period (e.g., hourly and hourly rolling of consecutive three-hour periods), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

**9.** The permittee shall implement a quality assurance/quality control plan for the continuous SO2 monitoring system designed to ensure continuous valid and representative readings of SO2 emission concentrations and exhaust gas flow rates. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and include provisions for conducting a relative accuracy test following each monitor probe replacement. The relative accuracy test shall be performed, and the monitoring system operated, in accordance with the procedures specified in Performance Specification Tests 2 and 3, 40 CFR Part 60, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous SO2 monitoring system must be kept on site and available for inspection during regular office hours. Each record of any monitoring data, testing data, and support information required shall be retained for a period of five years from the date the record was created. Support information shall include, but not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit quarterly reports, for the preceding calendar quarter, that specifies the total SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030 (as determined by record keeping required under A.III. of these terms and conditions).

**4.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**5.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**6.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon is not replaced with fresh carbon immediately when breakthrough is indicated.

## IV. Reporting Requirements (continued)

**7.** Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit quarterly deviation reports that identify all rolling, three-hour periods during which the average SO2 emission rate exceeded the corresponding total allowable SO2 emission rate for the fume incinerator system.

The permittee shall submit quarterly reports documenting any downtime of the SO2 continuous emission rate monitoring system and/or control equipment while any of the emissions units were on line. The permittee shall provide the date, time, duration, reason (if known), an estimate of excess emissions, and any any corrective action(s) taken for each such incident. Normal downtimes for daily calibration and zero checks or periods where monitoring is maintained by a backup analyzer when the primary analyzer malfunctions shall not be reportable.

If no deviations occurred during a calendar year, the permittee shall submit a quarterly report that 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 address the data obtained during the previous calendar quarter. These reports shall also contain the total SO2 emissions for the calender quarter (in tons).

**8.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 20.0 lbs of SO2 per hour

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping of the total hourly emission rate, as required in Section A.III. of these terms and conditions.

**1.c** Emission Limitation: The total hourly emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs of SO2 per hour.

Applicable Compliance Method: Compliance shall be demonstrated by the records of data obtained by the continuous SO2 monitoring system, as required in Section A.III of these terms and conditions, and, if required, by emissions testing of the fume incinerator system using the procedures specified in OAC rule 3745-18-04(A) and test Method 6 or 6C of 40 CFR, Part 60, Appendix A.

Emissions testing and the relative accuracy test on the continuous SO2 monitor may be conducted at the same time while operating emissions units P011, P012, P013, P014, P022 and P030 at worst case emission conditions.

**1.d** Emission Limitation: The total annual emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 100 tons of SO2 per year.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions and by records of data obtained by the continuous SO2 monitoring system.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the carbon adsorber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the carbon adsorber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process Y (P024)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process Y (P024): the handling and storage of lime using a fabric filter baghouse (Y-1 Filter) to control particulate emissions. | OAC rule 3745-17-07 | See A.I.2.a. below. |
| | OAC rule 3745-17-11 | PE: 3.53 lbs/hr |

**2. Additional Terms and Conditions**

**2.a** Visible particulate emissions shall not exceed 20 percent opacity as a 6-minute average, except as provided by the rule.

**2.b** All particulate emissions from this emissions unit shall be vented to the baghouse.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall perform checks for any visible particulate emissions that may result from the unloading of lime. The presence or absence of any visible emissions shall be noted in an operations log each time lime is unloaded into the storage silo. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. whether the emissions are representative of normal operations;
b. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
c. the total duration of any visible emission incident; and
d. any corrective actions taken to eliminate the visible emissions.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly written reports that (a) identify all times during which any visible particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: Visible particulate emissions shall not exceed 20 percent opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method: If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

**1.b** Emission Limitation: Particulate emissions shall not exceed 3.53 lbs per hour.

Applicable Compliance Method: If required, the permittee shall demonstrate compliance with this emission limitation by stack testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process A (P025)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process A (P025): production of lubricant additives through neutralization with an inorganic base using four reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the four reactor systems are controlled by a wet scrubber using oil as the scrubbing solution (A-21 OScrb) followed by a condenser (A-22 RCond). | OAC rule 3745-21-09(LL) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The total VOC emissions not controlled by an incinerator or flare shall not exceed five tons per rolling twelve-month period. The total VOC emissions not controlled by an incinerator or flare shall be based on the emissions from all process vent streams.

**2.b** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The scrubber liquor flow rate of the oil scrubber shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the oil wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the oil wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

**2.** The average temperature of the exhaust gases from the condenser, for any 3-hour block of time, shall not be more than 11 degrees Fahrenheit above the average temperature, as specified by the manufacturer.

If the control efficiency of the condenser is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the condenser, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the wet scrubber and condenser, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the wet scrubber and condenser, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber and condenser, as demonstrated during the most recent emissions test;

g. the total VOC emission rate for all final products generated (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions for all final products generated (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber liquor flow rate of the oil scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the oil scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber liquor flow rate, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the temperature of the exhaust gases from the condenser when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within + 1 percent of the temperature being measured or + 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

Unless the control efficiency of the condenser is assumed to be zero, the permittee shall collect and record the following information each day:

(a) the average temperature of the exhaust gases from the condenser during each of the 8 3-hour blocks of time during the day; and

(b) a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** Unless the control efficiency of the oil scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber liquor flow rate was not maintained at or above the required levels while the process vent stream was vented to the oil scrubber.

**4.** Unless the control efficiency of the condenser is assumed to be zero, the permittee shall submit temperature deviation (excursion) reports that identify all 3-hour blocks of time during which the average temperature of the exhaust gases from the condenser exceeded the temperature limitation specified above.

**5.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit, or within 3 months of startup (if temporarily shutdown at the time of permit issuance), and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the oil wet scrubber and condenser (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the oil wet scrubber and condenser shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process B (P026)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process B (P026): production of lubricant additives through neutralization of aromatic acids using four reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the four reactor systems are controlled by a wet scrubber using oil as the scrubbing solution (B-10 OScrb) followed by a caustic wet scrubber (B-11 CScrb) and an ozone generator (B-12 O3 Gen). | OAC rule 3745-21-09(LL) | See A.I.2.a. and A.I.2.b. below. |
| | 3745-18-06(E) | SO2: 29.62 lbs/hour |

**2. Additional Terms and Conditions**

**2.a** The total VOC emissions not controlled by an incinerator or flare shall not exceed five tons per rolling twelve-month period. The total VOC emissions not controlled by an incinerator or flare shall be based on the emissions from all process vent streams.

**2.b** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The scrubber liquor flow rate of oil scrubber B-10 (B-10 OScrb) shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the oil scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

**2.** This permittee shall operate and maintain caustic scrubber B-11 (B-11 CScrb) at all times the process vent stream is vented to the scrubber in accordance with the following parameters:

a. not less than zero percent Na2S and NaOH; and

b. not less than two gallons per minute caustic scrubber liquor flow rate.

If the control efficiency of the caustic scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the wet scrubbers, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by wet scrubbers B-10 and B-11, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of wet scrubber B-10 and B-11, as demonstrated during the most recent emissions test;

g. the total VOC emission rate for all final products generated (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions for all final products generated (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall develop emission factors for the amount of SO2 emitted from the ozone generator, either for each final product generated or for each batch run in this emissions unit. The emission factors shall be in units of pounds of SO2 emitted per ton of final product generated, or pounds of SO2 emitted per batch.

The permittee shall submit SO2 emission factors for the amount of SO2 emitted from the ozone generator. The specific methodology used to calculate the SO2 emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all SO2 emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall collect and record the following information for each day:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factor used to determine the amount of SO2 emitted from the ozone generator for each final product generated that was controlled by the ozone generator (in pounds of SO2/ton of final product generated or pounds of SO2/batch run);

e. the SO2 emission rate for each final product generated that was controlled by the ozone generator, in pounds;

f. the total SO2 emission rate for all final products generated that were controlled by the ozone generator, in pounds;

g. the actual number of hours the ozone generator was in operation; and

h. the average hourly SO2 emission rate, in pounds per hour.

**6.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber liquor flow rate of oil scrubber B-10 while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the oil scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber liquor flow rate, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**7.** The permittee shall properly operate and maintain caustic scrubber B-11 (B-11 CScrb) at all times the emissions unit is in operation in accordance with the following parameters:

a. not more than zero percent Na2S and NaOH; and

b. not less than two gallons per minute caustic scrubber liquor flow rate.

Unless the control efficiency of the caustic scrubber is assumed to be zero, the permittee shall collect and record the above information each day.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

## IV. Reporting Requirements (continued)

**3.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the pound per hour emission limitation for SO2.

**4.** Unless the control efficiency of oil scrubber B-10 is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber liquor flow rate was not maintained at or above the required levels while the process vent stream was vented to the oil scrubber.

**5.** Unless the control efficiency of caustic scrubber B-11 is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels while the process vent stream was vented to the caustic scrubber:

a. the percent of Na2S and NaOH in the caustic scrubber liquor; and

b. the caustic scrubber liquor flow rate.

**6.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 29.62 lbs of SO2 per hour

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, compliance shall be demonstrated by emissions testing of the ozone generator using the procedures specified in OAC rule 3745-18-04(A) and test Method 6 or 6C of 40 CFR, Part 60, Appendix A.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit, or within 3 months of startup (if temporarily shutdown at the time of permit issuance), and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of oil scrubber B-10 and caustic scrubber B-11 (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of oil scrubber B-10 and caustic scrubber B-11 shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AB (P027)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AB (P027): production of lubricant additives through neutralization with an inorganic base using four reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the four reactor systems are controlled by a wet scrubber using water as the scrubbing solution (AB-11 WScrb) or an incinerator (AC-6/7 Fm Inc's). | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2. Additional Terms and Conditions (continued)**

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** The scrubber water flow rate of the wet scrubber shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s) or wet scrubber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the wet scrubber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate of the wet scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**4.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**5.** Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

**6.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit, or within 3 months of startup (if temporarily shutdown at the time of permit issuance), and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the wet scrubber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the wet scrubber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AA (P028)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AA (P028): production of lubricant additives through alkylation using two reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the two reactor systems are controlled by a carbon adsorber (AA-9) or an incinerator (AC-6 or AC-7). | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** The carbon adsorption system shall be continuously maintained to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

If the control efficiency of the carbon adsorber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the carbon adsorber, as required under A.II, A.III and A.IV

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s) or carbon adsorber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the carbon adsorber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the carbon adsorber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall monitor and record the concentration level of the organic compounds in the carbon adsorption system's exhaust stream daily, or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**4.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**5.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon is not replaced with fresh carbon immediately when breakthrough is indicated.

**6.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit, or within 3 months of startup (if temporarily shutdown at the time of permit issuance), and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the carbon adsorber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the carbon adsorber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process Z (P029)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process Z (P029): production of lubricant additives through thiophosphorylation using three reactor systems. A reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the three reactor systems are controlled by either a caustic wet scrubber (Z-1 CScrb) or a flare (Z-10 Flare).<br><br>SO2 emissions will result from the combustion of sulfur-containing organic compounds at the flare. | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |
| | OAC rule 3745-18-06(E) | SO2: 68.8 lbs/hr |

### 2. Additional Terms and Conditions

**2.a** The VOC emissions shall be controlled by a flare that meets the requirements of paragraph OAC rule 3745-21-09(DD)(10)(d), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by a flare shall be based on the emissions from all process vent streams.

**2. Additional Terms and Conditions (continued)**

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

## II. Operational Restrictions (continued)

**2.** This permittee shall operate and maintain the caustic wet scrubber at all times the process vent stream is vented to the scrubber in accordance with the following parameters:

a. not less than zero percent of Na2S and NaOH; and

b. not less than two gallons per minute scrubber liquor flow rate.

If the control efficiency of the caustic wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the caustic wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the flare or the wet scrubber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the wet scrubber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the flare (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the flare (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall develop emission factors for the amount of SO2 emitted from the flare, either for each final product generated or for each batch run in this emissions unit. The emission factors shall be in units of pounds of SO2 emitted per ton of final product generated, or pounds of SO2 emitted per batch.

The permittee shall submit SO2 emission factors for all products containing sulfur. The specific methodology used to calculate the SO2 emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all SO2 emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall collect and record the following information for each day:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factor used to determine the amount of SO2 emitted from the flare(s) for each final product generated using sulfur-containing raw materials (in pounds of SO2/ton of final product generated or pounds of SO2/batch run);

e. the SO2 emission rate for each final product generated that was controlled by the flare(s), in pounds, using the following equation:

E = (quantity of final product, in tons, or number of batches run) x (emission factor, in lbs of SO2/ton of final product generated or lbs of SO2/batch run);

f. the total SO2 emission rate for all final products generated that were controlled by the flare(s), in pounds;

g. the actual number of hours the flare(s) were in operation; and

h. the average hourly SO2 emission rate, in pounds per hour.

**6.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

**7.** The permittee shall monitor the percent Na2S/NaOH of the caustic scrubber liquor and properly operate and maintain equipment to continuously monitor the scrubber liquor flow rate of the caustic wet scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the caustic scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the percent Na2S/NaOH of the caustic scrubber liquor, every twelve hours when scrubbing H2S;

b. the scrubber liquor flow rate, in gallons per minute, at the start of each batch; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## III. Monitoring and/or Record Keeping Requirements (continued)

**8.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the pound per hour emission limitation for SO2.

**4.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly while the process vent stream was vented to the flare. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

**5.** Unless the control efficiency of the caustic scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels while the process vent stream was vented to the caustic scrubber:

a. the percent of Na2S/NaOH; and

b. the scrubber liquor flow rate.

**6.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**7.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 68.8 lbs of SO2 per hour

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, compliance shall be demonstrated by testing the amount of sulfur produced by this emissions unit prior to the flare using a U.S. EPA approved test method subject to the review and approval of the Ohio EPA Northeast District Office.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the caustic wet scrubber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the caustic wet scrubber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AC (P030)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AC (P030): production of lubricant additives through a sulfurized olefin process using one reactor system. A reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the reactor system are controlled by an incinerator (AC-6/7 Fm Inc's) followed by a flare (AC-2 Flare) as backup.<br><br>SO2 emissions will result from the combustion of sulfur-containing organic compounds at the fume incinerator system. | OAC rule 3745-21-09 (LL)<br>PTI 02-388 | See A.I.2.a. through A.I.2.e. below. |
| | Director's Final Findings and Orders for alternative SO2 emission control strategy, November 9, 2000 | SO2: 30.0 lbs/hr, See A.I.2.f. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), or a flare that meets the requirements of paragraph OAC rule 3745-21-09(DD)(10)(d), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator or a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator or a flare shall be based on the emissions from all process vent streams.

## 2. Additional Terms and Conditions (continued)

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.e** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals which minimize the amount of VOC exposed to the ambient air.

**2.f** The total hourly and annual SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs per hour and 100 tons per year.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run);

f. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the flare(s), in tons; and

g. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation. The log shall also indicate when the reactors were vented to the backup flare.

**5.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation and VOC emissions are vented to the backup flare. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame while VOC emissions were vented to the backup flare; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

**6.** The permittee shall maintain hourly records of the following information:

a. the actual SO2 emission rate from the fume incinerator system, in pounds per hour;

b. the rolling, three-hour average, actual SO2 emission rate from the fume incinerator system, in pounds per hour;

c. the total allowable SO2 emission rate, in pounds per hour, for all the emissions units (P011, P012, P013, P014, P022 and P030) in operation during the hour; and

d. the rolling, three-hour average, allowable SO2 emission rate, in pounds per hour.

The permittee shall maintain records that document which emissions units (P011, P012, P013, P014, P022 and P030) were in operation during each hour. If an emissions unit is in operation during any portion of an hour, it is considered to be in operation for the entire hour for purposes of determining compliance with the total allowable SO2 emission rate for all the emissions units in operation during any hour. Compliance shall be determined by comparing the rolling, three-hour average, actual and allowable, SO2 emission rates for each hour.

The total allowable SO2 emissions for the fume incinerator system for any hour shall be the sum of the individual allowable SO2 emissions limitations for those emissions units that are in operation during any part of that hour. The total allowable SO2 emission rate for the fume incinerator system for any rolling, three-hour period shall be the average of the three, one-hour allowables comprising the three-hour period.

**7.** The permittee shall maintain daily records of the actual SO2 emission rate from the fume incinerator system, in pounds per day.

## III. Monitoring and/or Record Keeping Requirements (continued)

**8.** The permittee shall operate and maintain existing equipment to continuously monitor and record SO2 from this emissions 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(d)(1), (e)(2) and (h), respectively. The permittee may request alternative monitoring procedures or requirements and alternative relative accuracy test procedures, in accordance with the relevant provisions of 40 CFR Parts 60.13(i) and (j), by submitting a written request to the Director. Any alternative monitoring and/or testing acceptable to the Director shall be approved by the U.S. EPA as a revision to the State Implementation Plan (SIP) prior to the implementation of the alternative monitoring and/or testing.

A statement of certification of the existing continuous SO2 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 6. Proof of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

The permittee shall maintain records of all data obtained by the continuous SO2 monitoring system including, but not limited to, parts per million SO2 on an instantaneous (one-minute) basis, emissions of SO2 in units of lbs/hr and lbs/hr rolling, three-hour average, and in the appropriate averaging period (e.g., hourly and hourly rolling of consecutive three-hour periods), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

**9.** The permittee shall implement a quality assurance/quality control plan for the continuous SO2 monitoring system designed to ensure continuous valid and representative readings of SO2 emission concentrations and exhaust gas flow rates. The plan shall follow the requirements of 40 CFR Part 60, Appendix F and include provisions for conducting a relative accuracy test following each monitor probe replacement. The relative accuracy test shall be performed, and the monitoring system operated, in accordance with the procedures specified in Performance Specification Tests 2 and 3, 40 CFR Part 60, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous SO2 monitoring system must be kept on site and available for inspection during regular office hours. Each record of any monitoring data, testing data, and support information required shall be retained for a period of five years from the date the record was created. Support information shall include, but not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation.

**10.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

## IV. Reporting Requirements (continued)

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.f. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit quarterly reports, for the preceding calendar quarter, that specifies the total SO2 emissions from emissions units P011, P012, P013, P014, P022 and P030 (as determined by record keeping required under A.III. of these terms and conditions).

**4.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**5.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation, the date(s) and time(s) that VOC emissions were vented to the backup flare, and the date(s) and time(s) that there was no pilot flame while VOC emissions were vented to the backup flare.

**6.** Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit quarterly deviation reports that identify all rolling, three-hour periods during which the average SO2 emission rate exceeded the corresponding total allowable SO2 emission rate for the fume incinerator system.

The permittee shall submit quarterly reports documenting any downtime of the SO2 continuous emission rate monitoring system and/or control equipment while any of the emissions units were on line. The permittee shall provide the date, time, duration, reason (if known), an estimate of excess emissions, and any any corrective action(s) taken for each such incident. Normal downtimes for daily calibration and zero checks or periods where monitoring is maintained by a backup analyzer when the primary analyzer malfunctions shall not be reportable.

If no deviations occurred during a calendar year, the permittee shall submit a quarterly report that 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 address the data obtained during the previous calendar quarter. These reports shall also contain the total SO2 emissions for the calender quarter (in tons).

**7.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**8.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s) or flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## V. Testing Requirements (continued)

**1.b** Emission Limitation: 30.0 lbs of SO2 per hour

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping of the total hourly emission rate, as required in Section A.III. of these terms and conditions.

**1.c** Emission Limitation: The total hourly emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 247.4 lbs of SO2 per hour.

Applicable Compliance Method: Compliance shall be demonstrated by the records of data obtained by the continuous SO2 monitoring system, as required in Section A.III of these terms and conditions, and, if required, by emissions testing of the fume incinerator system using the procedures specified in OAC rule 3745-18-04(A) and test Method 6 or 6C of 40 CFR, Part 60, Appendix A.

Emissions testing and the relative accuracy test on the continuous SO2 monitor may be conducted at the same time while operating emissions units P011, P012, P013, P014, P022 and P030 at worst case emission conditions.

**1.d** Emission Limitation: The total annual emissions from emissions units P011, P012, P013, P014, P022 and P030, combined, shall not exceed 100 tons of SO2 per year.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions and by records of data obtained by the continuous SO2 monitoring system.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AF (P033)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AF (P033): production of lubricant additives through alkylation using five reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the five reactor systems are controlled by a wet scrubber using water as the scrubbing solution (C-1 WScrb) or a flare (C-5 Flare). | OAC rule 3745-21-09(LL)<br>PTI 02-790 | See A.I.2.a. through A.I.2.d. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by a flare that meets the requirements of paragraph OAC rule 3745-21-09(DD)(10)(d), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by a flare shall be based on the emissions from all process vent streams.

**2. Additional Terms and Conditions (continued)**

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

**2.** The scrubber water flow rate shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the flare or the wet scrubber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the wet scrubber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the flare (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the flare (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

**5.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, at the start of each batch; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**6.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly while the process vent stream was vented to the flare. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

## IV. Reporting Requirements (continued)

**4.** Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

**5.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**6.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit, or within 3 months of startup (if temporarily shutdown at the time of permit issuance), and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the wet scrubber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the wet scrubber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AG (P034)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AG (P034): production of specialty additives through gelation using two reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the two reactor systems are controlled by a condenser (AG-5 RCond) followed by an incinerator (AC-6/7 Fm Inc's). | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** The average temperature of the exhaust gases from the condenser, for any 3-hour block of time, shall not be more than 11 degrees Fahrenheit above the average temperature as specified by the manufacturer.

If the control efficiency of the condenser is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the condenser, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the condenser, carbon adsorber or incinerator(s), in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the condenser and carbon adsorber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the condenser and carbon adsorber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the temperature of the exhaust gases from the condenser when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within + 1 percent of the temperature being measured or + 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the condenser is assumed to be zero, the permittee shall collect and record the following information each day:

(a) the average temperature of the exhaust gases from the condenser during each of the 8 3-hour blocks of time during the day; and

(b) a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**4.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**5.** Unless the control efficiency of the condenser system is assumed to be zero, the permittee shall submit temperature deviation (excursion) reports that identify all 3-hour blocks of time during which the average temperature of the exhaust gases from the condenser exceeded the temperature limitation specified above.

**6.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the condenser (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the condenser shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AH (P035)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AH (P035): production of lubricant additives through water-based blending using six reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the six reactor systems are controlled by a wet scrubber using water as the scrubbing solution (P-2 WScrb). | OAC rule 3745-21-09(LL) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The total VOC emissions not controlled by an incinerator or flare shall not exceed five tons per rolling twelve-month period. The total VOC emissions not controlled by an incinerator or flare shall be based on the emissions from all process vent streams.

**2.b** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The scrubber water flow rate of the wet scrubber shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the wet scrubber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the wet scrubber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate for all final products generated (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions for all final products generated (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate of the wet scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber system is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

## IV. Reporting Requirements (continued)

**3.** Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

**4.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of the wet scrubber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the wet scrubber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AI (P036)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AI (P036): production of lubricant additives through corrosive inorganic and organic reactions using three reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the three reactor systems are controlled by either a carbon adsorber (O-1 or P-3 CDrum) or an incinerator (AC-6/7 Fm Inc's). | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

**2.** The carbon adsorption system shall be continuously maintained to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

If the control efficiency of carbon adsorber O-1 and/or P-3 is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for carbon adsorber O-1 and/or P-3, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the incinerator(s) or carbon adsorber(s), in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the carbon adsorber(s), in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of either carbon adsorber O-1 or P-3, whichever is associated with that particular vent stream, as demonstrated during the most recent emissions test;

g. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall monitor and record the concentration level of the organic compounds in the carbon adsorption system's exhaust stream daily, or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**4.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**5.** Unless the control efficiency of the carbon adsorption system is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon is not replaced with fresh carbon immediately when breakthrough is indicated.

**6.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to determine the control efficiency of carbon adsorber O-1 and P-3 (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of carbon adsorber O-1 and P-3 shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack A/B 8 (P038)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack A/B 8 (P038): loading of lubricant additives to tank cars. | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.d. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 23.0 pounds per hour. This short-term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 5.3 tons per year from emissions unit P038. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.d** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

### II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) at this loading rack during any one day.

## II. Operational Restrictions (continued)

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive materials that are loaded at this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded in emissions unit P038, P039, P040, P041, P041, P042, P043, P044, P045, P046, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL/1000)(1-C)(LL)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from emission units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid; and

d. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

**2.** The permittee shall also submit annual reports that summarize the following information for emission units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emission Limitation: 23.0 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limit (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

where:

HRTL= maximum throughput of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation from AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

**1.b** Emissions Limitation: 5.3 tons of VOC emissions per year from P038

Applicable Compliance Method: Compliance with the emissions limit (YR VOC) shall be determined by the following equation:

YR VOC = (46,000 gal/d)*(365 d/yr)*(0.626 lb/1000 gal loaded)*(ton/2000 lbs)

where:

46,000 is the maximum gallons of liquid loaded per day at this loading rack; and 0.626 lb/1000 gal loaded is the loading loss of the worst case liquid loaded and is calculated according to the following equation from AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= 1.45, saturation factor for splash filling from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.16, true vapor pressure of the liquid, in psia;
M= 130, molecular weight of vapors, in lb/lb-mol; and
T= 600, bulk temperature of liquid loaded, in degrees Rankin.

**1.c** Emissions Limitation: 39.95 tons of VOC emissions per rolling, 12-month period from emission units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the monthly emission rates calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack A 11 (P039)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack A 11 (P039): loading of lubricant additive to tank cars. | OAC Rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.d. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC Rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 12.0 pounds per hour. This short-term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 2.7 tons per year from emissions unit P039. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.d** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

### II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) at this loading rack during any one day.

## II. Operational Restrictions (continued)

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive materials that are loaded at this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded at emissions units P038, P039, P040, P041, P041, P042, P043, P044, P045, P046, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL/1000)(1-C)(LL)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid; and

d. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

**2.** The permittee shall also submit annual reports that summarize the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emissions Limitation: 12.0 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limit (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

where:

HRTL= maximum throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation from AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

**1.b** Emissions Limitation: 2.7 tons of VOC emissions per year from P039

Applicable Compliance Method: Compliance with the emissions limit (YR VOC) shall be determined by the following equation:

YR VOC = (23,000 gal/d)*(365 d/yr)*(0.626 lb/1000 gal loaded)*(ton/2000 lbs)

where:

23,000 is the maximum gallons of liquid loaded per day at this loading rack; and 0.626 lb/1000 gal loaded is the loading loss of the worst case liquid loaded and is calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= 1.45, saturation factor for splash filling from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.16, true vapor pressure of the liquid, in psia;
M= 130, molecular weight of vapors, in lb/lb-mol; and
T= 600, bulk temperature of liquid loaded, in degrees Rankin.

**1.c** Emissions limitation: 39.95 tons of VOC emissions per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the monthly emission rates calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack C/D 8-9-10 (P040)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack C/D 8-9-10 (P040): loading of lubricant additive, anglamol and gasoline additive to tank cars, controlled by a carbon adsorber (R CDrum 1). | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.e. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 170.0 pounds per hour. This short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions unit P040 and 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

**2.d** All loading of anglamols shall be accomplished in such a manner that displaced vapors and gases shall be vented to a carbon adsorption system. The carbon adsorption system shall be operated with sufficient volumetric flow at the point(s) of capture to minimize or eliminate odor emissions. Upon detection of any break through of odors from the carbon adsorption system, the permittee shall immediately recharge/replace the system with fresh carbon.

**2.e** All loading of gasoline additives shall be accomplished either through a submerged fill loading line or shall be bottom loaded.

### II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) in this loading rack during any one day.

## II. Operational Restrictions (continued)

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive material that are loaded in this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded at emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (LL)(MTL / 1000)(1-C)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

**5.** The permittee shall record daily any time period that displaced vapors and gases were not vented to the carbon adsorption system while loading anglamols.

**6.** The permittee shall record daily any time period that loading of gasoline additives was accomplished in a manner other than through a submerged fill loading line or a bottom loading point.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid;

d. an identification of each time period that loading of gasoline additives was accomplished in a manner other than through a submerged fill loading line or a bottom loading point;

e. an identification of any time period that anglamols were loaded and the carbon adsorption system was not used to control the emissions; and

f. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

## IV. Reporting Requirements (continued)

**2.** The permittee shall also submit annual reports that summarize the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 170.0 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limit (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

where:

HRTL= maximum throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation from AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= saturation factor for splash fill from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

**1.b** Emissions Limitation: 39.95 tons of VOC emissions per rolling, 12-month period from emissions unit P040, and 39.95 tons of VOC emissions per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the monthly emission rates calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack C/D 11 (P041)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack C/D 11, bays C11, D11 (P041): loading of lubricant additives, anglamol and gasoline additives to tank cars, tank trucks and iso containers, controlled by a carbon absorber (R CDrum 1). | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.f. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 90.0 pounds per hour. This short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 21.0 tons per year from emissions unit P041. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit without the use of air pollution control equipment; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.d** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

**2.e** All loading of anglamols shall be accomplished in such a manner that displaced vapors and gases shall be vented to a carbon adsorption system. The carbon adsorption system shall be operated with sufficient volumetric flow at the point(s) of capture to minimize or eliminate odor emissions. Upon detection of any break through of odors from the carbon adsorption system, the permittee shall expediently recharge/replace the system with fresh carbon.

**2.f** All loading of gasoline additives shall be accomplished either through a submerged fill loading line or shall be bottom loaded.

## II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) in this loading rack during any one day.

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive material that are loaded in this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded in emissions units P038, P039, P040, P041, P041, P042, P043, P044, P045, P046, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL/1000)(1-C)(LL)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

**5.** The permittee shall record daily any time period that displaced vapors and gases were not vented to the carbon adsorption system while loading anglamols.

**6.** The permittee shall record daily any time period that loading of gasoline additives was accomplished either through a submerged fill loading line or a bottom loading point.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid.

d. an identification of each time that displaced vapors and gases were not vented to the carbon adsorption system while loading anglamols;

e. an identification of each time period that loading of gasoline additives was accomplished in a manner other than through a submerged fill loading line or a bottom loading point; and

f. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

## IV. Reporting Requirements (continued)

**2.** The permittee shall also submit annual reports that summarize the following information for P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emissions limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emissions Limitation: 90.0 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limit (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

where:

HRTL= maximum throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation from AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

## V. Testing Requirements (continued)

**1.b** Emissions Limitation 21.0 tons of VOC emissions per year from P041

Applicable Compliance Method: Compliance with the emissions limit (YR VOC) shall be determined by the following equation:

YR VOC = [ (23,000 gal/d)*(365 d/yr)*(2.63 lb/1000 gal loaded)*(ton/2000 lbs)] + [ (23,000 gal/d)*(365 d/yr)*(2.36 lb/1000 gal loaded)*(ton/2000 lbs)]

where:

23,000 is the maximum gallons of liquid loaded per day at each bay in this loading rack; and 2.63 lbs/1000 gal loaded is the loading loss of the worst case liquid loaded and is calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= 0.5, saturation factor for submerged fill from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 3.62, true vapor pressure of the liquid, in psia;
M= 74, molecular weight of vapors, in lb/lb-mol;
T= 635, bulk temperature of liquid loaded, in degrees Rankin;

and:

2.36 lbs/1000 gal loaded is the loading loss of the second worst case liquid loaded and is calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= 0.5, saturation factor for submerged fill from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 2.24, true vapor pressure of the liquid, in psia;
M= 120, molecular weight of vapors, in lb/lb-mol; and
T= 710, bulk temperature of liquid loaded, in degrees Rankin.

**1.c** Emissions limitation: 39.95 tons of VOC emissions per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the monthly emission rates calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack C/D 12 (P042)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack C/D 12, bays C12 and D12 (P042): loading of recovered materials, waste materials and lubricant additives to tank cars. Bay C12 is controlled by a fume incinerator (AC-6 or AC-7 Fm Inc's). | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.e. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 47.0 pounds per hour. This short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 8.3 tons per year from emissions unit P042. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit without the use of air pollution control equipment; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.d** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

**2.e** Loading of sodium hydro sulfide (a recovered material) at bay C12 of loading rack C/D 12 shall be accomplished in such a manner that all displaced vapors and gases shall be vented to a caustic scrubber which discharges to fume incinerator AC-6 or AC-7.

### II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) in this loading rack during any one day.

## II. Operational Restrictions (continued)

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive material that are loaded in this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded at emissions units P038, P039, P040, P041, P041, P042, P043, P044, P045, P046, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL / 1000)(1-C)(LL)( ton/ 2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

**5.** Fume incinerator AC-6 and AC-7 shall be operated and maintained in accordance with the design specifications, including:

a. monitoring and recording the temperature and percent oxygen in AC-6 incinerator continuously; and

b. continuously monitoring the temperature in AC-7 incinerator.

**6.** The permittee shall record daily any time period that all displaced vapors and gases were not vented to the caustic scrubber and then to fume incinerator AC-6 or AC-7 while loading of sodium hydro sulfide.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid;

d. an identification of each time period that all displaced vapors and gases were not vented to the caustic scrubber and then to fume incinerator AC-6 or AC-7 while loading of sodium hydro sulfide; and

e. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

## IV. Reporting Requirements (continued)

**2.** The permittee shall also submit annual reports that summarize the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emissions limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emissions Limitation: 47.0 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limit (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

where:

HRTL= maximum throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation from AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

## V. Testing Requirements (continued)

**1.b** Emissions Limitation: 8.3 tons of VOC emissions per year from emissions unit P042

Applicable Compliance Method: Compliance with the rolling, 12-month emissions limit (YR VOC) shall be determined by the following equation:

YR VOC = (23,000 gal/d)*(365 d/yr)*(0.626 lb/1000 gal loaded)*(ton/2000 lbs) + (20,000 gal/d)*(365 d/yr)*(1.29 lbs/1000 gal loaded)*(ton/2000 lbs)

where:

23,000 is the maximum gallons of liquid loaded per day at each bay of this loading rack; and 0.626 lb/1000 gal loaded is the loading loss of the worst case lubricant additive loaded and 1.29 lbs/1000 gal loaded is the loading loss of the worst case waste material loaded and are calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

for lubricant additive:
S= 1.45, splash fill saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.16, true vapor pressure of the liquid, in psia;
M= 130, molecular weight of vapors, in lb/lb-mol; and
T= 600, bulk temperature of liquid loaded, in degrees Rankin.

for waste material:
S= 1.45, splash fill saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.358, true vapor pressure of the liquid, in psia;
M= 106, molecular weight of vapors, in lb/lb-mol; and
T= 530, bulk temperature of liquid loaded, in degrees Rankin.

**1.c** Emissions limitation: 39.95 tons of VOC emissions per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the monthly emission rates calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack C/D 15 (P043)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack C/D 15, bays C15 and D15 (P043): loading of lubricant additives to tank cars, controlled by a flare (AE-7 Flare). | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.g. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 23.0 pounds per hour. This short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 5.3 tons per year from emissions unit P043. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit without the use of air pollution control equipment; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.d** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

**2.e** Hydrogen chloride (HCl) emissions shall not exceed 8.30 pounds per hour.

**2.f** HCl emission shall not exceed 5.0 tons per year from emissions unit P043.

**2.g** All loading of the lubricant additive currently stored in storage tank 801 (emissions unit T048) in loading rack D 15 (emissions unit P043) shall be accomplished in such a manner that all displaced vapors and gases shall be vented to a water scrubber which discharges to elevated flare AE-7. This flare is used as a control device for existing emissions unit P032. If, at any time, the material currently stored in storage tank 801 is moved to a different storage tank, the emission control system described above must continue to be used while loading from the new storage tank.

## II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) in this loading rack during any one day.

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

**4.** The flare shall be operated and maintained in accordance with design specifications, including:

a. operate the flare in a smokeless condition;

b. monitoring the pilot light continuously for flame out; and

c. maintaining a manual re-ignition system for the pilot light.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive materials that are loaded at this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded in emissions units P038, P039, P040, P041, P041, P042, P043, P044, P045, P046, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL/1000)(1-C)(LL)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

**5.** The permittee shall collect and record each month the following information for emissions units P043:

a. the throughput of each type of liquid containing HCl, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of fume destruction used for each type of liquid loaded and the estimated overall control efficiency, in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol; and

f. the bulk temperature of liquid loaded, in degrees Rankin.

## III. Monitoring and/or Record Keeping Requirements (continued)

**6.** The permittee shall record every month the HCl emissions (MHCl) from each liquid loaded in emissions unit P043, according to the following equation:

MHCl = the sum, from i=1 to i=n, of (MTL/1000)(1-C)(LL);

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system; and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation from AP-42, Section 5.2:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**7.** The permittee shall record daily any time period that displaced vapors and gases were not vented to the water scrubber and then to the elevated flare AE-7 while loading lubricant additive from tank 801 (emission unit T048).

**8.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which the pilot flame was out;

b. the operating times for the flare, monitoring equipment, and the associated emissions unit when in operation and venting gases; and

c. the number of reactor processes vented to the flare.

## III. Monitoring and/or Record Keeping Requirements (continued)

**9.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 30 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid;

d. an identification of each time period that displaced vapors and gases were not vented to the water scrubber and then to the elevated flare AE-7 while loading lubricant additive from tank 801 (emission unit T048); and

e. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

**2.** The permittee shall submit annual reports that summarize the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The permittee shall also submit annual reports that summarize the following information for P043:

a. the annual throughput of each type of liquid containing HCl, in gallons per year; and

b. the HCl emissions, in tons per year.

**4.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

## IV. Reporting Requirements (continued)

**5.** The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stacks serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the appropriate Ohio EPA District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

**6.** The permittee shall submit quarterly reports which include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

**7.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emissions limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emissions Limitation: 23.0 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limit (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

HRTL= throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

## V. Testing Requirements (continued)

**1.b** Emissions Limitation: 5.3 tons of VOC emissions per year from P043

Applicable Compliance Method: Compliance with the rolling, 12-month emissions limitation (YR VOC) shall be determined by the following equation:

YR VOC = (46,000 gal/d)*(365 d/yr)*(0.626 lb/1000 gal loaded)*(ton/2000 lbs)

where:

46,000 is the maximum gallons of liquid loaded per day at this loading rack; and 0.626 lb/1000 gal loaded is the loading loss of the worst case lubricant additive loaded and is calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

for lubricant additive:
S= 1.45, splash fill saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.16, true vapor pressure of the liquid, in psia;
M= 130, molecular weight of vapors, in lb/lb-mol; and
T= 600, bulk temperature of liquid loaded, in degrees Rankin.

**1.c** Emissions Limitation: 39.95 tons of VOC emissions per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the monthly value calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

**1.d** Emissions Limitation: 8.30 pounds of HCl emissions per hour

Applicable Compliance Method: Compliance with the hourly HCl emissions limit (HRHCl) shall be determined by the following equation:

HR HCl= (HRTL/1000)(1-C)(LL)

where:

HRTL= throughput of each type of liquid, in gal/hr;
C= overall control efficiency of the emissions control system; and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

## V. Testing Requirements (continued)

**1.e** Emissions Limitation: 5.0 tons of HCl emissions per year from emissions unit P043

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the sum of the monthly emission rate as recorded according to A.III.5 and A.III.6 for the calendar year.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack 200 T/F West (P044)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack at the 200 Tank Farm West (P044): loading of lubricant additives to tank trucks and iso containers. | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.d. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 12.0 pounds per hour. This short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 6.9 tons per year from emissions unit P044. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.d** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

### II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) in this loading rack during any one day.

## II. Operational Restrictions (continued)

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive material that are loaded at this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded in emissions units P038, P039, P040, P041, P041, P042, P043, P044, P045, P046, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL / 1000)(1-C)(LL)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid; and

d. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

**2.** The permittee shall also submit annual reports that summarize the following information for P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emissions limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emissions Limitation: 12.0 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limit (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL / 1000)(1-C)(LL)

where:

HRTL= maximum throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation from AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

**1.b** Emissions Limitation: 6.9 tons of VOC emissions per year from P044

Applicable Compliance Method: Compliance with the emissions limitation (YR VOC) shall be determined by the following equation:

YR VOC = (60,000 gal/d)*(365 d/yr)*(0.626 lb/1000 gal loaded)*(ton/2000 lbs)

where:

60,000 is the maximum gallons of liquid loaded per day at this loading rack; and 0.626 lb/1000 gal loaded is the loading loss of the worst case lubricant additive loaded and are calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

for lubricant additive:
S= 1.45, splash fill saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.16, true vapor pressure of the liquid, in psia;
M= 130, molecular weight of vapors, in lb/lb-mol; and
T= 600, bulk temperature of liquid loaded, in degrees Rankin.

## V. Testing Requirements (continued)

**1.c** Emissions limitation: 39.95 tons of VOC emissions per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the monthly emission rate calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack 500 T/F East (P045)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack at the 500 Tank Farm East (P045): loading of lubricant additives to tank trucks and iso containers, controlled by a fume incinerator (AC-6 or AC-7 Fm Inc.'s). | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.e. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 22.0 pounds per hour. This short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 13.0 tons per year from emissions unit P045. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit without the use of air pollution control equipment; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.d** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

**2. Additional Terms and Conditions (continued)**

**2.e** There are two (2) loading arms at this loading rack. One loading arm is only used for loading of the lubricant additives currently stored in storage tanks 573, 594, 595, 596, 597, 598 and 599, (emissions units T201, T206, T207, T171, T208-210). Loading with this arm shall be accomplished in such manner that all displaced vapors and gases shall be vented to a caustic scrubber (Z-13) which discharges to the atmosphere. If at any time the material currently stored in storage tanks 573, 594, 595, 596, 597, 598, or 599 is moved to a different storage tank, the emission control system described above must continue to be used while loading from the new storage tank.

The other loading arm is for the loading of lubricant additives currently stored in storage tanks 555, 557, 558, 574, 577, 618, and 639 (emissions units T129, T199, T200, T202, T203, T058 and T071) which are loaded with a standard splash fill loading arm and vented to the atmosphere.

## II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) in this loading rack during any one day.

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive material that are loaded at this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded in emissions units P038, P039, P040, P041, P041, P042, P043, P044, P045, P046, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL / 1000)(1-C)(LL)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

**5.** The permittee shall record daily any time period that displaced vapors and gases were not vented to the caustic scrubber (Z-13) while loading material from storage tanks 573, 594, 595, 596, 597, 598, and 599 (emissions units T201, T206, T207, T171, T208-210).

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid;

d. an identification of each time period that displaced vapors and gases were not vented to the caustic scrubber (Z-13) while loading material from storage tanks 573, 594, 595, 596, 597, 598, and 599 (emissions units T201, T206, T207, T171, T208-210); and

e. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

## IV. Reporting Requirements (continued)

**2.** The permittee shall also submit annual reports that summarize the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emissions limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emissions Limitation: 22.0 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limit (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

where:

HRTL= maximum throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

## V. Testing Requirements (continued)

**1.b** Emissions Limitation: 13.0 tons of VOC emissions per year from P045

Applicable Compliance Method: Compliance with the emissions limitation (YR VOC) shall be determined by the following equation:

YR VOC = (60,000 gal/d)*(365 d/yr)*(1.18 lbs/1000 gal loaded)*(tons/2000 lbs)

where:

60,000 is the maximum gallons of liquid loaded per day at this loading rack; and 1.18 lbs/1000 gal loaded is the loading loss of the worst case lubricant additive loaded and is calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

for lubricant additive:
S= 1.45, splash fill saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.61, true vapor pressure of the liquid, in psia;
M= 60, molecular weight of vapors, in lb/lb-mol; and
T= 560, bulk temperature of liquid loaded, in degrees Rankin.

**1.c** Emissions Limitation: 39.95 tons of VOC emissions per rolling, 12-month period from P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the monthly emission rates calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack 700 T/F East (P046)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack at 700 Tank Farm East (P046): loading of lubricant additives to tank trucks and iso containers. | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.d. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 12.0 pounds per hour. This short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 6.9 tons year from emissions unit P046. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.d** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

### II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) in this loading rack during any one day.

## II. Operational Restrictions (continued)

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive material that are loaded at this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded in emissions units P038, P039, P040. P041, P041, P042, P043, P044, P045, P046, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL / 1000)(1-C)(LL)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

**5.** The permittee shall record daily any time period that loading of gasoline additives was accomplished in a manner other than through a submerged fill loading line or a bottom loading point.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid; and

d. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

**2.** The permittee shall also submit annual reports that summarize the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emissions limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emissions Limitation: 11.3 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limitation (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

where:

HRTL= maximum throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

**1.b** Emissions Limitation: 6.9 tons of VOC emissions per year from emissions unit P046

Applicable Compliance Method: Compliance with the emissions limitation (YR VOC) shall be determined by the following equation:

YR VOC = (60,000 gal/d)*(365 d/yr)*(0.626 lb/1000 gal loaded)*(ton/2000 lbs)

where:

60,000 is the maximum gallons of liquid loaded per day at this loading rack; and 0.626 lb/1000 gal loaded is the loading loss of the worst case lubricant additive loaded and is calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= 1.45, splash fill saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.16, true vapor pressure of the liquid, in psia;
M= 130, molecular weight of vapors, in lb/lb-mol; and
T= 600, bulk temperature of liquid loaded, in degrees Rankin.

## V. Testing Requirements (continued)

**1.c** Emissions Limitation: 39.95 tons of VOC emissions per rolling, 12-month period from P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limitation shall be determined by the monthly emission rates calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack 700 T/F North (P047)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack at the 700 Tank Farm North (P047): loading of recovered material to tank trucks and iso containers, controlled by a wet scrubber (702/3 Scrb). | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.g. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Hydrochloric acid (HCl) emissions shall not exceed 1.40 pounds per hour.

**2.c** HCl emissions shall not exceed 0.9 ton per year.

**2.d** All loading of hydrochloric acid (a recovered material) at this emissions unit shall be accomplished in such a manner that all displaced vapors and gases shall be vented to a water scrubber as a means to control hydrogen chloride vapors.

**2.e** Volatile organic compound (VOC) emissions shall not exceed 12.0 pounds per hour. This short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.f** VOC emissions shall not exceed 6.9 tons per year from emissions unit P047. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.g** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

### II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) in this loading rack during any one day.

## II. Operational Restrictions (continued)

**2.** The pH of the scrubber liquor shall be maintained above 7.5.

**3.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**4.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive material that are loaded at this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded in emissions units P038, P039, P040. P041, P041, P042, P043, P044, P045, P046, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL / 1000)(1-C)(LL)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

**5.** The permittee shall collect and record each month the following information for emissions unit P047:

a. the throughput of each type of liquid containing HCl, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of fume destruction used for each type of liquid loaded and the estimated overall control efficiency, in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol; and

f. the bulk temperature of liquid loaded, in degrees Rankin.

## III. Monitoring and/or Record Keeping Requirements (continued)

**6.** The permittee shall record every month the HCl emissions (MHCl) from each liquid loaded at emissions unit P047, according to the following equation:

MHCl = the sum, from i=1 to i=n, of (MTL/1000)(1-C)(LL);

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system; and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation from AP-42, Section 5.2:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**7.** The permittee shall collect and record the following information each day:

a. a log or record of the pH of the scrubber liquor; and

b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**8.** The permittee shall record daily any time period that displaced vapors and gases were not vented to the water scrubber as a means to control hydrogen chloride vapors.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid;

d. all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above; and

e. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

## IV. Reporting Requirements (continued)

**2.** The permittee shall submit annual reports that summarize the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The permittee shall also submit annual reports that summarize the following information for emissions unit P047:

a. the annual throughput of each type of liquid containing HCl, in gallons per year; and

b. the HCl emissions, in tons per year.

**4.** The permittee shall submit deviation (excursion) reports that identify all periods of time during which emission vapors and gases were not vented to the water scrubber as a means to control hydrogen chloride vapors.

**5.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emissions limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emissions Limitation: 12.0 pounds of VOC emissions per hour

Applicable Compliance Method:Compliance with the hourly VOC emissions limitation (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

where:

HRTL= maximum throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

## V. Testing Requirements (continued)

**1.b** Emissions Limitation: 6.9 tons of VOC emissions per year from emissions unit P047

Applicable Compliance Method: Compliance with the emissions limitation (YR VOC) shall be determined by the following equation:

YR VOC = (60,000 gal/d)*(365 d/yr)*(0.626 lb/1000 gal loaded)*(ton/2000 lbs)

where:

60,000 is the maximum gallons of liquid loaded per day at this loading rack; and 0.626 lb/1000 gal loaded is the loading loss of the worst case lubricant additive loaded and is calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

for lubricant additive:
S= 1.45, splash fill saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.16, true vapor pressure of the liquid, in psia;
M= 130, molecular weight of vapors, in lb/lb-mol; and
T= 600, bulk temperature of liquid loaded, in degrees Rankin.

**1.c** Emissions Limitation: 39.95 tons of VOC emissions per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the monthly value calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

**1.d** Emissions Limitation: 1.40 pounds of HCl emissions per hour

Applicable Compliance Method: Compliance with the hourly HCl emissions limitation (HRHCl) shall be determined by the following equation:

HR HCl= (HRTL/1000)(1-C)(LL)

where:

HRTL= throughput of each type of liquid, in gal/hr;
C= overall control efficiency of the emissions control system; and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

## V. Testing Requirements (continued)

**1.e** Emissions Limitation: 0.9 ton of HCl emissions per year from emissions unit P047.

Applicable Compliance Method: Compliance with this emission limit shall be determined by summing the monthly emission rates as recorded according to A.III.5 and A.III.6 for the calendar year.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**1.** Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack 800 T/F South (P048)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack at 800 Tank Farm South (P048): loading of lubricant additives to tank trucks and iso containers. | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.d. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 12.0 pounds per hour. This short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 6.9 tons per year from emissions unit P048. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.d** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

### II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) at this loading rack during any one day.

## II. Operational Restrictions (continued)

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive material that are loaded at this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded in emissions units P038, P039, P040, P041, P041, P042, P043, P044, P045, P046, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL / 1000)(1-C)(LL)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emissions limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid; and

d. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

**2.** The permittee shall also submit annual reports that summarize the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emissions limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emissions Limitation: 12.0 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limitation (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

where:

HRTL= maximum throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation from AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

**1.b** Emissions Limitation: 6.9 tons of VOC emissions per year from emissions unit P048

Applicable Compliance Method Compliance with the emissions limitation (YR VOC) shall be determined by the following equation:

YR VOC = (60,000 gal/d)*(365 d/yr)*(0.626 lb/1000 gal loaded)*(ton/2000 lbs)

where:

60,000 is the maximum gallons of liquid loaded per day at this loading rack; and 0.626 lb/1000 gal loaded is the loading loss of the worst case lubricant additive loaded and is calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

for lubricant additive:
S= 1.45, splash fill saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.16, true vapor pressure of the liquid, in psia;
M= 130, molecular weight of vapors, in lb/lb-mol; and
T= 600, bulk temperature of liquid loaded, in degrees Rankin.

## V. Testing Requirements (continued)

**1.c** Emissions Limitation: 39.95 tons of VOC emissions per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limitation shall be determined by the monthly emission rates calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack GEN III (P049)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack at Gen III (P049): loading of lubricant additives and gasoline additives to tank trucks and iso containers. | OAC rule 3745-31-05(A)(3)<br>PTI 02-09105 | See A.I.2.a. through A.I.2.e. below.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile organic compound (VOC) emissions shall not exceed 12.0 pounds per hour. This short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.c** VOC emissions shall not exceed 6.9 tons per year from emissions unit P049. This long-term emission limitation for VOC is based on the maximum operating rate of this emissions unit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**2.d** VOC emissions shall not exceed 39.95 tons per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

**2.e** All loading of gasoline additives shall be accomplished either through a submerged fill loading line or shall be bottom loaded.

### II. Operational Restrictions

**1.** The permittee shall not load more than 40,000 gallons of any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) at this loading rack during any one day.

## II. Operational Restrictions (continued)

**2.** The maximum annual throughput in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, shall not exceed the following, based on a rolling, 12-month summation of the monthly throughputs:

a. anglamols - 15 million gallons;
b. gasoline additives - 15 million gallons;
c. lubricant additives - 30 million gallons; and
d. waste and recovered materials - 5 million gallons.

**3.** The maximum loading losses for materials loaded in P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049 shall not exceed:

a. anglamols - 1.01 lbs VOC/ 1000 gallons loaded;
b. gasoline additives - 2.63 lbs VOC/ 1000 gallons loaded;
c. lubricant additives - 0.626 lbs VOC/ 1000 gallons loaded; and
d. waste and recovered material - 1.29 lbs VOC/1000 gallons loaded.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive material that are loaded at this rack.

**2.** The permittee shall collect and record each month the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the loading method for each type of liquid loaded;

c. the method of VOC destruction used for each type of liquid loaded and the estimated overall VOC control efficiency (if applicable), in percent;

d. the true vapor pressure of the liquid, in psia;

e. the molecular weight of vapors, in lb/lb-mol;

f. the bulk temperature of liquid loaded, in degrees Rankin; and

g. the throughput of each type of liquid for the previous 12-month period, in gallons.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall record every month the sum of VOC emissions (MVOC) from each liquid loaded at emissions units P038, P039, P040, P041, P041, P042, P043, P044, P045, P046, P047, P048 and P049, according to the following equation:

MVOC = the sum, from i=1 to i=n, of (MTL / 1000)(1-C)(LL)(ton/2000 lbs)

where:

i= each individual type of liquid loaded;
n= the total number of types of liquid loaded;
MTL= throughput of each type of liquid, in gal/month;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

**4.** The permittee shall record every month the rolling, 12-month summation of the VOC emissions from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined, for the previous, 12-month period, in tons.

**5.** The permittee shall record daily any time period that loading of gasoline additives was accomplished in a manner other than either through a submerged fill loading line or a bottom loading point.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which the daily volatile photochemically reactive material loaded exceeded 40,000 gallons and the actual gallons loaded during each such day;

b. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P037, P048 and P049, combined;

c. all exceedances of the rolling, 12-month throughput limits for each type of liquid;

d. any time period that loading of gasoline additives was accomplished in a manner other than through a submerged fill loading line or a bottom loading point;

e. all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above; and

f. any monthly record showing that the loading loss for any liquid exceeded the maximum loading losses specified in A.II.3.

## IV. Reporting Requirements (continued)

**2.** The permittee shall also submit annual reports that summarize the following information for emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined:

a. the annual throughput of each type of liquid, in gallons per year; and

b. the total VOC emissions, in tons per year.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emissions limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emissions Limitation: 12.0 pounds of VOC emissions per hour

Applicable Compliance Method: Compliance with the hourly VOC emissions limit (HRVOC) shall be determined by the following equation:

HR VOC= (HRTL/1000)(1-C)(LL)

where:

HRTL= maximum throughput of each type of the worst case liquid, in gal/hr;
C= overall control efficiency of the emissions control system (if applicable); and
LL = the loading loss, in lb/103 gal of liquid loaded, and is calculated according to the following equation:

LL= (12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

## V. Testing Requirements (continued)

**1.b** Emissions Limitation: 6.9 tons of VOC emissions per year from P049

Applicable Compliance Method: Compliance with the emissions limitation (YR VOC) shall be determined by the following equation:

YR VOC = (60,000 gal/d)*(365 d/yr)*(0.626 lb/1000 gal loaded)*(tons/2000 lbs)

where:

60,000 is the maximum gallons of liquid loaded per day at this loading rack; and 0.626 lb/1000 gal loaded is the loading loss of the worst case lubricant additive loaded and is calculated according to the following equation From AP-42, Section 5.2 (1/95):

LL= (12.46 SPM / T)

where:

S= 1.45, splash fill saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= 0.16, true vapor pressure of the liquid, in psia;
M= 130, molecular weight of vapors, in lb/lb-mol; and
T= 600, bulk temperature of liquid loaded, in degrees Rankin.

**1.c** Emissions Limitation: 39.95 tons of VOC emissions per rolling, 12-month period from emissions units P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048 and P049, combined.

Applicable Compliance Method: Compliance with this emissions limit shall be determined by the monthly emission rates calculated in A.III.4. based on the record keeping specified in A.III.2 and A.III.3.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**1.** Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AK (P050)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AK (P050): production of chemical additives for lubricating oils using a reactor, filter and finish and receiver tanks. Volatile organic compound (VOC) emissions are controlled by one of two wet scrubbers using water as the scrubbing solution (AK-1 and AB-11 WScrb). | OAC rule 3745-31-05(A)(3)<br>PTI 02-11590 | VOC: 1.1 lbs/hr<br><br>HCl: 0.86 lb/hr and 3.8 tons/yr<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(LL)(3)(a). |
| HCl emissions are controlled by wet scrubber AK-1. | OAC rule 3745-21-09(LL)(3)(a) | VOC: 5 tons/rolling 12-month period |

**2. Additional Terms and Conditions**

**2.a** Emissions of HCl shall be controlled by a packed column scrubber (AK-1).

**2.b** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

### II. Operational Restrictions

**1.** The maximum hourly production rate shall not exceed 500 pounds per hour.

## II. Operational Restrictions (continued)

**2.** The scrubber liquor of wet scrubber AK-1 (AK-1 WScrb) shall be maintained such that the solution will not exceed 13.0 percent weight hydrochloric acid. This is equivalent to a specific gravity of 1.064 at 15.6 degrees Celsius. Therefore, the operational range of the solution will be from a specific gravity of 1.000 to 1.064. Alternatively, the operating range shall be established during an emissions test that demonstrated that the emissions unit was in compliance with the HCl limit.

The scrubber liquor flow rate shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the wet scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

**3.** The scrubber water flow rate of wet scrubber AB-11 (AB-11 WScrb) shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #02-11590, issued on April 8, 1998: A.III.2. through A.III.7. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

**2.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of pounds (lbs) of VOC emitted per ton of final product generated, or pounds (lbs) of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**4.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in lbs of VOC/ton of final product generated or lbs of VOC/batch run);

e. the actual number of hours the emissions unit was in operation during the generation of each final product or during each batch run;

f. the VOC emission rate for each final product generated that was not controlled by the wet scrubber(s), in lbs per hour, using the following equation:

E (Uncontrolled) = [(quantity of final product, in tons, or number of batches run) x (emission factor, in lbs of VOC/ton of final product generated or lbs of VOC/batch run)] / (hours of operation)

g. the VOC emission rate for each final product generated that was controlled by either wet scrubber AK-1 or AB-11, in lbs per hour, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in lbs/hour) x (1 - (CE/100))

Where: CE = control efficiency of either wet scrubber AK-1 and AB-11, whichever is associated with that particular vent stream, as demonstrated during the most recent emissions test;

h. the total VOC emission rate for all final products generated (in lbs/hour, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

i. the rolling, twelve-month summation of the monthly VOC emissions for all final products generated (in tons, calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**5.** The permittee shall properly operate and maintain equipment to continuously monitor and record the specific gravity of the scrubber liquor and the scrubber water flow rate of wet scrubber AK-1 while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the specific gravity of the scrubber liquor, on a daily basis;

b. the scrubber water flow rate, in gallons per minute, on a daily basis; and

c. a log or record of operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## III. Monitoring and/or Record Keeping Requirements (continued)

**6.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate of wet scrubber AB-11 while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**7.** The permittee shall record daily any time period that emissions of HCl were not vented to wet scrubber AK-1.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #02-11590, issued on April 8, 1998: A.IV.4. through A.IV.6. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify any exceedances of the hourly production rate limitation.

**3.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**4.** Unless the control efficiency of wet scrubber AK-1 is assumed to be zero, the permittee shall submit specific gravity deviation (excursion) reports that identify all periods of time during which the specific gravity of the scrubber liquor and the scrubber liquor flow rate did not comply with the required levels specified above while the process vent stream was vented to the wet scrubber.

**5.** Unless the control efficiency of wet scrubber AB-11 is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

**6.** The permittee shall submit deviation (excursion) reports that identify all periods of time during which emissions of HCl were not vented to wet scrubber AK-1.

**7.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 1.1 lbs of VOC per hour from all process vent streams.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## V. Testing Requirements (continued)

**1.b** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions.

**1.c** Emission Limitation: 0.86 lb of HCl per hour

Applicable Compliance Method: Compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 26 or 26A, or with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

**1.d** Emission Limitation: 3.8 tons of HCl per year

Applicable Compliance Method: Compliance with the annual emission limitation above shall be determined by multiplying the maximum hourly HCl rate by 8,760 hours and dividing by 2,000 lbs/ton.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for HCl and to determine the control efficiency of wet scrubber AK-1 and AB-11 (unless assumed to be zero);

c. the following test methods shall be employed to demonstrate compliance with the allowable mass emission rate for HCl: Methods 26 or 26A of 40 CFR, Part 60, Appendix A;

d. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of wet scrubbers AK-1 and AB-11 shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

e. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

f. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AL (P051)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AL (P051): production of speciality chemicals using three oxidation reactors and receiver tanks and a condenser. Volatile organic compound (VOC) emissions from each reactor and receiver tank are controlled by an incinerator (AC-6 or AC-7 Fm Inc's). The condenser is an integral part of the process and is identified as recovery equipment and not as control equipment. | OAC rule 3745-31-05(A)(3)<br>PTI 02-14125 | VOC: 31.08 lbs/batch and 11.34 tons/year; See A.I.2.a. below.<br><br>The requirements of this rule also include the requirements of OAC rule 3745-21-09(LL). |
| | OAC rule 3745-21-09(LL) | See A.I.2.b. and A.I.2.c. below. |

**2. Additional Terms and Conditions**

**2.a** VOC emissions from the three oxidation reactors and receiver tanks shall be controlled at all times by an incinerator. VOC emissions from the receiver tanks shall be controlled at all times by an incinerator.

**2.b** The incinerator shall reduce VOC emissions by at least 98% by weight at all times, as determined by paragraph OAC rule 3745-21-10(C).

**2.c** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

### II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator shall not be less than 1600 degrees Fahrenheit at all times the emissions unit is in operation.

**2.** The exhaust gas temperature on each of the condensers shall be connected to a high temperature shutdown switch which will stop air flow to the oxidation reactor(s) when activated.

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #02-14125, issued on August 15, 2000: A.III.2. through A.III.4., and A.III.7. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

**2.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted from the three oxidation reactors and receiver tanks, for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of pounds (lbs) of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**3.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**4.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the emission factors used to determine the amount of VOC emitted from the three oxidation reactors and receiver tanks for each batch run (in lbs of VOC/batch run);

c. the VOC emission rate from the three oxidation reactors, for each batch controlled by the condenser and incinerator(s), in lbs of VOC per batch run, using the following equation:

E (Controlled) = (emission factor, in lbs of VOC/each batch) x (1 - (CE/100))

Where: CE = control efficiency of the condenser and incinerator(s) as demonstrated during the most recent emissions test; and

d. the total VOC emission rate from the reactors and receiving tanks, for all batches run (in lbs of VOC/each batch).

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall collect and record the following information for each month:

a. the name of each Hazardous Air Pollutant (HAP) used in the emissions unit;

b. the amount of each HAP used in the emissions unit, in tons;

c. the HAP emissions for each HAP, from all materials employed, controlled by the incinerator(s), in tons per month, using the following equation:

E (Controlled) = (uncontrolled HAP emission rate, in tons/month) x (1 - (CE/100))

Where: CE = control efficiency of the incinerator(s) as demonstrated during the most recent emissions test;

d. the rolling, twelve-month summation of the monthly HAP emissions for all materials employed (in tons, calculated by summing the monthly HAP emissions for the preceding 11 months plus the VOC emissions for the current month); and

e. the total combined HAP emissions from all materials employed, in tons per month and tons per rolling 12-month period (the sum of each HAP emitted as determined in paragraphs A.III.4.c. and A.III.4.d).

A listing of the Hazardous Air Pollutants (HAPs) can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local air agency contact.

**6.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. All periods of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit; and

b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

**7.** The permittee shall record daily any time period that emissions of VOC from the three oxidation reactors and receiver tanks were not controlled by an incinerator.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #02-14125, issued on August 15, 2000: A.IV.2., A.IV.3. and A.IV.5. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify any exceedances of the lbs/batch VOC emission rate limitation.

**3.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.e. of these terms and conditions and the number of batches run per year). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

## IV. Reporting Requirements (continued)

**4.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator did not comply with the temperature limitation specified above.

**5.** The permittee shall submit deviation (excursion) reports that identify all periods of time during which emissions of VOC from the three oxidation reactors and receiver tanks were not controlled by an incinerator.

**6.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 31.08 pounds VOC per batch.

Applicable Compliance Method: Compliance shall be demonstrated by emissions testing using the procedures specified in OAC rule 3745-21-10(C) and by the record keeping required in Section A.III of these terms and conditions.

**1.b** Emission Limitation: 11.34 tons VOC per year.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions (multiply lbs VOC/batch by the number of batches per year and divide by 2000 lbs/ton).

**1.c** Emission Limitation: 98% destruction of VOC by the incinerator.

Applicable Compliance Method: Compliance shall be demonstrated by emissions testing using the procedures specified in OAC rule 3745-21-10(C) for fume incinerator AC-7. Compliance with the 98% destruction efficiency for fume incinerator AC-6 shall be demonstrated by emissions testing conducted in accordance with the terms and conditions for emissions unit P052. No additional testing shall be required for emissions unit P051 to comply with this emissions limitation for fume incinerator AC-6.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to demonstrate compliance with the destruction efficiency limitation for VOC by the incinerator and the allowable mass emission rate for VOC;

c. the following test methods shall be employed to demonstrate compliance with the allowable mass emission rate for VOC: Methods 1-4, 25 or 25A of 40 CFR Part 60, Appendix A or an alternative U.S. EPA approved test method, with prior approval from the Ohio EPA;

d. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the incinerator(s) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

e. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

f. the emission testing shall be conducted over an entire batch cycle.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**1.** Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AM (P052)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AM (P052): production of specialty chemicals using eight reactors, eight raw material feed tanks, holding tanks and filters. Volatile organic compound (VOC) emissions from the reactors and holding tanks are controlled by either an incinerator (AC-6 or AC-7 Fm Inc's) or a flare (F-4 Flare). VOC emissions from the feed tanks and filters are not controlled.<br><br>SO2 emissions are controlled by a wet scrubber using a caustic solution (C-4 CScrb). | OAC rule 3745-31-05(A)(3)<br>PTI 02-14200 | VOC: 130.8 lbs/day from reactors, holding tanks, feed tanks and filters; 16.14 tons per rolling, 12-month period from reactors and holding tanks; 4.29 tons per rolling, 12-month period from feed tanks; 4.43 tons per rolling, 12-month period from filters. The requirements of this rule also include the requirements of OAC rule 3745-31-05(D) and are less stringent than 3745-21-09(LL).<br><br>The short term emission limitation for VOC was established to reflect the potential to emit; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.<br><br>SO2: 21.05 lbs/hr and 15.6 tons per year. |
| | OAC rule 3745-31-05(D) | VOC: 24.86 tons per rolling, 12-month period from reactors, holding tanks, feed tanks and filters.<br><br>See A.I.2.a. through A.I.2.e. below. |
| | OAC rule 3745-21-09(LL)<br><br>OAC rule 3745-18-06 (E) | The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |

## 2. Additional Terms and Conditions

**2.a** The VOC emissions from the reactors and holding tanks shall be controlled at all times by an incinerator or a flare. VOC emissions from the feed tanks and filters are not controlled.

**2.b** Total VOC emissions not controlled by an incinerator or a flare shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator or a flare shall be based on the emissions from all process vent streams.

**2.c** The incinerator shall reduce VOC emissions by at least 98% by weight at all times, as determined by paragraph OAC rule 3745-21-10(C).

**2.d** The flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.e** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

**2.f** SO2 emissions from all of the reactor tanks generated when processing sulfur-containing raw materials shall be controlled by the scrubber prior to exhausting to the flare.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator shall not be less than 1600 degrees Fahrenheit at all times the emissions unit is in operation.

**2.** A pilot flame shall be maintained in the flare's pilot light burner at all times the process vent stream is vented to the flare.

## II. Operational Restrictions (continued)

**3.** This permittee shall operate and maintain the wet scrubber at all times the process vent stream is vented to the scrubber in accordance with the following parameters:

a. not less than 7.5 pH; and

b. not less than two gallons per minute caustic scrubber liquor flow rate.

**4.** No more than two (2) reactor processes shall be controlled by the flare at any time.

**5.** Methanol batches shall be limited to 730 per year.

**6.** The maximum annual number of "solvent-containing" batches, excluding the methanol batches, shall not exceed 2,867, based upon a rolling 12-month summation of the production rates ("solvent-containing" batches, except methanol-containing products, contain raw materials whose flash points are less than 170 degrees Fahrenheit).

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #02-14200, issued on January 18, 2001: A.III.2. through A.III.6., and A.III.11. through A.III.13. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

**2.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted from the filters, feed tanks, reactors and holding tanks, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**3.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted from the filters, feed tanks, reactors and holding tanks for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate from the filters, feed tanks, reactors and holding tanks, for each of the final products generated, in which the VOC emissions were not controlled by the incinerator(s) or flare, in tons, using the following equation:

E = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run);

f. the total VOC emission rate from the filters, for all final products generated (in tons);

g. the total VOC emission rate from the feed tanks, for all final products generated (in tons);

h. the rolling, twelve-month summation of the total VOC emissions from the filters, for all final products generated (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month);

i. the rolling, twelve-month summation of the total VOC emissions from the feed tanks, for all final products generated (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month);

j. the VOC emission rate from the reactors and holding tanks, for each final product generated, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of either the incinerator(s) or flare, whichever is associated with that particular vent stream;

k. the total VOC emission rate from the reactors and holding tanks, for all final products generated (in tons);

l. the rolling, twelve-month summation of the total VOC emissions from the reactors and holding tanks for all final products generated (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month); and

m. the rolling, twelve-month summation of the total VOC emissions from the filters, feed tanks, reactors and holding tanks, combined, for all final products generated (determined by adding the values from A.III.3.h., A.III.3.i. and A.III.3.l. for all final products generated).

## III. Monitoring and/or Record Keeping Requirements (continued)

**5.** The permittee shall develop emission factors for the amount of SO2 emitted from the process, either for each final product generated or for each batch run in this emissions unit. The emission factors shall be in units of pounds of SO2 emitted per ton of final product generated, or pounds of SO2 emitted per batch.

The permittee shall submit SO2 emission factors for all products containing sulfur. The specific methodology used to calculate the SO2 emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all SO2 emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**6.** The permittee shall collect and record the following information for each day:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factor used to determine the amount of SO2 emitted from the process for each final product generated (in pounds of SO2/ton of final product generated or pounds of SO2/batch run);

e. the SO2 emission rate for each final product generated that was controlled by the wet scrubber, in pounds, using the following equation:

E = (quantity of final product, in tons, or number of batches run) x (emission factor, in lbs of SO2/ton of final product generated or lbs of SO2/batch run) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber as demonstrated during the most recent emissions test;

f. the total SO2 emission rate for all final products generated that were controlled by the wet scrubber, in pounds;

g. the actual number of hours the wet scrubber was in operation; and

h. the average hourly SO2 emission rate, in pounds per hour.

**7.** The permittee shall maintain monthly records of the following information:

a. the number of "solvent-containing" batches;

b. the number of methanol batches;

c. the total number of batches;

d. beginning after the first 12 calendar months of operation following the issuance of the permit to install, the rolling, 12-month summation of the number of "solvent-containing" batches;

e. the controlled VOC emission rate for "solvent-containing" and "non-solvent-containing" batches (lbs/batch) from the reactors and holding tanks.

## III. Monitoring and/or Record Keeping Requirements (continued)

**8.** The permittee shall collect and record the following information for each month:

a. the name of each Hazardous Air Pollutant (HAP) used in the emissions unit;

b. the amount of each HAP used in the emissions unit, in tons;

c. the HAP emission rate for each HAP, from all materials employed, that was not controlled by the condenser or incinerator(s), in tons per month, using the following equation:

E (Uncontrolled) = (amount of each HAP, in tons)/(month)

d. the HAP emissions for each HAP, from all materials employed, controlled by the condenser and incinerator(s), in tons per month, using the following equation:

E (Controlled) = (uncontrolled HAP emission rate, in tons/month) x (1 - (CE/100))

Where: CE = control efficiency of the condenser and incinerator(s) as demonstrated during the most recent emissions test;

e. the total HAP emission rate (in tons of HAP/month, determined by adding the values from A.III.4.c. and A.III.4.d. from all materials employed);

f. the rolling, twelve-month summation of the monthly HAP emissions for all materials employed (in tons, calculated by summing the monthly HAP emissions for the preceding 11 months plus the VOC emissions for the current month); and

g. the total combined HAP emissions from all materials employed, in tons per month and tons per rolling 12-month period (the sum of each HAP emitted as determined in paragraphs A.III.4.e. and A.III.4.f).

A listing of the Hazardous Air Pollutants (HAPs) can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local air agency contact.

**9.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all periods of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1,600 degrees Fahrenheit; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation and venting gases.

## III. Monitoring and/or Record Keeping Requirements (continued)

**10.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which the pilot flame was out;

b. the operating times for the flare, monitoring equipment, and the associated emissions unit when in operation and venting gases; and

c. the number of reactor processes vented to the flare.

**11.** The permittee shall monitor the pH of the scrubber liquor and properly operate and maintain equipment to continuously monitor the scrubber liquor flow rate of the wet scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information each day:

a. the pH of the scrubber liquor, before and after each batch and once during the batch (if the scrubber liquor is changed after each batch, the pH may be collected and recorded once at the end of each batch run);

b. the scrubber liquor flow rate, in gallons per minute, at the start of each batch; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**12.** A statement of certification of the existing continuous SO2 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 6. Proof of certification shall be made available to the Director and Ohio EPA Northeast District Office upon request.

**13.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #02-14200, issued on January 18, 2001: A.IV.2. through A.IV. 6., A.IV.9., A.IV.11. through A.IV.13. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify all exceedances of each of the rolling, 12-month emission limitations for VOC emissions from the filters, feed tanks, and reactors and holding tanks.

**3.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for total VOC emissions from the filters, feed tanks, reactors and holding tanks, combined.

**4.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the five tons per rolling, 12-month emission limitation for VOC emissions not controlled by an incinerator or flare.

**5.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the pound per hour emission limitation for SO2.

**6.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC and SO2 emissions, in tons, for this emissions unit (as determined by record keeping required under A.III.3.f., A.III.3.g. and A.III.3.k for VOC; A.III.5.f. multiplied by the maximum possible operating days (365 days/yr), and divided by 2000 (lbs/ton) for SO2). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**7.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator did not comply with the temperature limitation specified above.

**8.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly while the process vent stream was vented to the flare. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

**9.** The permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels while the process vent stream was vented to the caustic scrubber:

a. the pH of the caustic scrubber liquor; and

b. the scrubber liquor flow rate.

**10.** The permittee shall submit deviation (excursion) reports that identify all periods during which the scrubber was not operated during the processing of sulfur-containing raw materials.

**11.** The permittee shall submit deviation (excursion) reports that identify all periods during which more than two reactor processes were vented to the flare as a method of VOC emission control.

**12.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**13.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 130.8 lbs VOC per day from the filters, feed tanks, reactors and holding tanks.

Applicable Compliance Method: The short term emission limitation for VOC established in A.I.1 above was established to reflect worst case conditions when operating at or near maximum capacity; therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

**1.b** Emission Limitation: 16.14 tons VOC per year from the reactors and holding tanks.

Applicable Compliance Method: Compliance with the stated VOC emission limitation shall be determined by using the results of the emissions testing specified in Section A.V.2. and by the record keeping required in Section A.III of these terms and conditions.

**1.c** Emission Limitation: 4.29 tons VOC per year from the feed tanks.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions.

**1.d** Emission Limitation: 4.43 tons VOC per year from the filters.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions.

**1.e** Emission Limitation: 98% destruction of VOC by the incinerator.

Applicable Compliance Method: Compliance shall be demonstrated by emissions testing using the procedures specified in OAC rule 3745-21-10(C) for fume incinerator AC-6. Compliance with the 98% destruction efficiency for fume incinerator AC-7 shall be demonstrated by emissions testing conducted in accordance with the terms and conditions for emissions unit P051. No additional testing shall be required for emissions unit P052 to comply with this emissions limitation for fume incinerator AC-7.

**1.f** Emission Limitation: 24.86 tons VOC per rolling, 12-month period.

Applicable Compliance Method: Compliance with the stated VOC emission limitation shall be determined by using the results of the emissions testing specified in Section A.V.2. and by the record keeping required in Section A.III of these terms and conditions.

**1.g** Emission Limitation: 21.5 lbs SO2 per hour.

Applicable Compliance Method: Compliance shall be demonstrated by emissions testing of the flare using the procedures specified in OAC rule 3745-18-04(A) and test Method 6 or 6C of 40 CFR, Part 60, Appendix A and by the record keeping required in Section A.III of these terms and conditions.

**1.h** Emission Limitation: 15.6 tons SO2 per year.

Applicable Compliance Method: This limit is based on the allowable hourly emission limit (3.58 lbs/hr) multiplied by the maximum possible operating hours (8760 hr/yr), and divided by 2000 (lbs/ton). Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

**1.i** Emission limitation: 5 minutes of visible emissions from the flare in any 2 consecutive hours.

Applicable Compliance Method: If required, Method 22 of 40 CFR, Part 60, Appendix A.

## V. Testing Requirements (continued)

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to demonstrate compliance with the destruction efficiency limitation for VOC by the incinerator and the allowable mass emission rates for VOC and SO2; and to determine the control efficiency of the wet scrubber;

c. the following test methods shall be employed to demonstrate compliance with the allowable mass emission rate(s): for VOC: Methods 1-4, 25 or 25A of 40 CFR Part 60, Appendix A or an alternative U.S. EPA approved test method, with prior approval from the Ohio EPA; for SO2, Method 6 or 6C of 40 CFR, Part 60, Appendix A;

d. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the wet scrubber and incinerator(s) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

e. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

f. the emission testing shall be conducted over an entire batch cycle.

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permit to install for this emissions unit (P052) 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: Stoddard solvent (mineral spirits)
TLV (mg/m3): 525
Maximum Hourly Emission Rate (lbs/hr): 137.3
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 10,723
MAGLC (ug/m3): 12,500

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.).

## III. Monitoring and/or Record Keeping Requirements (continued)

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**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process Z1 (P053)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process Z1 (P053): production of lubricant additives through the neutralization of thiophosphoryl compounds using four reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) emissions from the four reactor systems are controlled by an incinerator (AC-6 or AC-7 Fm Inc's). | OAC rule 3745-21-09(LL) | See A.I.2.a. through A.I.2.d. below. |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions from the three reactor systems shall be controlled by an incinerator that meets the requirements of paragraph OAC rule 3745-21-09(LL)(1)(a), unless otherwise exempted by OAC rule 3745-21-09(LL)(3).

**2.b** Total VOC emissions not controlled by an incinerator shall not exceed five tons per rolling twelve-month period, pursuant to OAC rule 3745-21-09(LL)(3)(a). The total VOC emissions not controlled by an incinerator shall be based on the emissions from all process vent streams.

**2.c** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the incinerator shall be designed and operated as follows:

i. The incinerator shall reduce the VOC emissions vented to it with an efficiency of at least ninety-eight percent by weight or shall emit VOC at a concentration not exceeding twenty parts per million by volume (dry basis), either of which is determined under OAC rule 3745-21-10(C); or

ii. The incinerator shall provide a minimum residence time of 0.75 second at a minimum temperature of sixteen hundred degrees Fahrenheit.

**2.d** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1600 degrees Fahrenheit, or shall meet manufacturer's design specifications for temperature.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s), in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run);

f. the total VOC emission rate, for all final products generated, in which the VOC emissions were not controlled by the flare(s), in tons; and

g. the rolling, twelve-month summation of the monthly VOC emissions, for all final products generated, in which the VOC emissions were not controlled by the incinerator(s) (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1600 degrees Fahrenheit or less than the average combustion temperature specified by the manufacturer; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.f. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

**3.** The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.

**4.** The permittee shall submit quarterly summaries that include a log of the downtime for the thermal incinerator when the associated emissions unit was in operation.

**5.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the incinerator(s).

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AB1 (P054)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AB1 (P054): production of lubricant additives through neutralization with inorganic bases using two reactor systems. Each reactor system may contain all or some of the following: reactors, filters, filter tanks, holding tanks, charging tanks, drying tanks and neutralization tanks.<br><br>Volatile organic compound (VOC) and particulate emissions from the two reactor systems are controlled by a wet scrubber using water as the scrubbing solution (AB-11 WScrb). | OAC rule 3745-21-09(LL)<br><br>OAC rule 3745-17-07<br><br>OAC rule 3745-17-11 | See A.I.2.a. and A.I.2.b. below.<br><br>See A.I.2.c. below.<br><br>PE: 3.07 lbs/hr |

**2. Additional Terms and Conditions**

**2.a** The total VOC emissions not controlled by an incinerator or flare shall not exceed five tons per rolling twelve-month period. The total VOC emissions not controlled by an incinerator or flare shall be based on the emissions from all process vent streams.

**2.b** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

**2.c** Visible particulate emissions shall not exceed 20 percent opacity as a 6-minute average, except as provided by the rule.

## II. Operational Restrictions

**1.** The scrubber water flow rate of the wet scrubber shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

If the control efficiency of the wet scrubber is always assumed to be zero, and compliance with the emission limitation of five tons per rolling twelve-month period from all process vent streams is demonstrated by the record keeping required in Section A.III of these terms and conditions, then the permittee may choose not to conduct parametric monitoring, record keeping and reporting for the wet scrubber, as required under A.II, A.III and A.IV.

The provisions of this term shall not be applicable if the emission limitation of five tons per rolling twelve-month period has been exceeded. In such case, the permittee shall comply with the requirements of OAC rule 3745-21-09(LL)(1), as well as all monitoring, record keeping, and reporting requirments specified in the terms and conditions for this emissions unit.

## III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted, either for each final product generated or for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of tons of VOC emitted per ton of final product generated, or tons of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**2.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factors used to determine the amount of VOC emitted for each final product generated (in tons of VOC/ton of final product generated or tons of VOC/batch run);

e. the VOC emission rate for each final product generated that was not controlled by the wet scrubber, in tons, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in tons of VOC/ton of final product generated or tons of VOC/batch run)

f. the VOC emission rate for each final product generated that was controlled by the wet scrubber, in tons, using the following equation:

E (Controlled) = (uncontrolled VOC emission rate, in tons) x (1 - (CE/100))

Where: CE = control efficiency of the wet scrubber, as demonstrated during the most recent emissions test;

g. the total VOC emission rate for all final products generated (in tons, determined by adding the values from A.III.3.e. and A.III.3.f. for all final products generated); and

h. the rolling, twelve-month summation of the monthly VOC emissions for all final products generated (calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**4.** The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate of the wet scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, on a daily basis; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month emission limitation for VOC.

**2.** The permittee shall submit an annual report, by April 15 of each year for the preceding calendar year, that specifies the annual VOC emissions for this emissions unit (as determined by record keeping required under A.III.3.g. of these terms and conditions). This reporting obligation may be satisfied by the fee emissions report submitted by the permittee.

## IV. Reporting Requirements (continued)

**3.** Unless the control efficiency of the wet scrubber is assumed to be zero, the permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels while the process vent stream was vented to the wet scrubber.

**4.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factor for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: Visible particulate emissions shall not exceed 20 percent opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method: If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

**1.c** Emission Limitation: Particulate emissions shall not exceed 3.07 lbs per hour

Applicable Compliance Method: If required, the permittee shall demonstrate compliance with this emission limitation by stack testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. the emission testing shall be conducted within 2 years of issuance of the permit, or within 3 months of startup (if temporarily shutdown at the time of permit issuance), and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to detemine the control efficiency of the wet scrubber (unless assumed to be zero);

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) of the wet scrubber shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. the permittee shall demonstrate that the testing will be performed during the worst case emission conditions; and

e. the emission testing shall be conducted over an entire batch cycle.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack A/B 1-2-3 (P055)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack A/B 1-2-3 (P055): loading of lubricant additives and anglamols to tank cars, controlled by a carbon adsorber (R CDrum 2). | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC rule 3745-21-01) in this loading rack during any one day unless all displaced vapors and gases are vented to a carbon adsorption system that processes and recovers at least ninety per cent by weight of the vapors and gases.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**1.** The carbon shall be continuously maintained at all times the vapor and gas stream is vented to the carbon adsorption system to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that were loaded in this rack.

**2.** The permittee shall record daily any time period that displaced vapors and gases were not vented to the carbon adsorption system while loading more than 40,000 gallons of volatile photochemically reactive materials in this loading rack.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall monitor and record the presence of any odors in the exhaust stream from the carbon adsorption system daily or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons and the time period that the carbon adsorption system was not used to control the emissions; and the actual gallons loaded during each such day.

**2.** The permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon of the carbon adsorption system was not replaced with fresh carbon immediately upon detection of any breakthrough of odors.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 90% by weight recovery of all vapor and gases by the carbon adsorber.

Applicable Compliance Method: Compliance shall be demonstrated by emissions testing using the procedures specified in OAC rule 3745-21-10(C).

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. in the event that more than 40,000 gallons per day of volatile photochemically reactive materials are loaded in this loading rack, emissions testing shall be conducted within 90 days of the loading and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to demonstrate compliance with the percent by weight recovery of all vapor and gases by the carbon adsorber;

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Northeast District Office of the Ohio EPA; and

e. the permittee shall demonstrate that the testing will be performed for the worst case emission conditions.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack A/B 6-7 (P056)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack A/B 6-7 (P056): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack C/D 4-5 (P057)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack C/D 4-5 (P057): loading of lubricant additives to tank cars, controlled by a carbon adsorber (R CDrum 1). | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC rule 3745-21-01) in this loading rack during any one day unless all displaced vapors and gases are vented to a carbon adsorption system that processes and recovers at least ninety per cent by weight of the vapors and gases.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**1.** The carbon shall be continuously maintained at all times the vapor and gas stream is vented to the carbon adsorption system to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that were loaded in this rack.

**2.** The permittee shall record daily any time period that displaced vapors and gases were not vented to the carbon adsorption system while loading more than 40,000 gallons of volatile photochemically reactive materials in this loading rack.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall monitor and record the presence of any odors in the exhaust stream from the carbon adsorption system daily or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons and the time period that the carbon adsorption system was not used to control the emissions; and the actual gallons loaded during each such day.

**2.** The permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon of the carbon adsorption system was not replaced with fresh carbon immediately when breakthrough is indicated.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 90% by weight recovery of all vapor and gases by the carbon adsorber.

Applicable Compliance Method: Compliance shall be demonstrated by emissions testing using the procedures specified in OAC rule 3745-21-10(C).

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. in the event that more than 40,000 gallons per day of volatile photochemically reactive materials are loaded in this loading rack, emissions testing shall be conducted within 90 days of the loading and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to demonstrate compliance with the percent by weight recovery of all vapor and gases by the carbon adsorber;

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Northeast District Office of the Ohio EPA; and

e. the permittee shall demonstrate that the testing will be performed for the worst case emission conditions.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack Main (P058)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading main rack (P058): loading of lubricant additives, anglamols and gas additives to tank cars, controlled by a carbon adsorber (R CDrum 2). | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC rule 3745-21-01) in this loading rack during any one day unless all displaced vapors and gases are vented to a carbon adsorption system that processes and recovers at least ninety per cent by weight of the vapors and gases.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**1.** The carbon shall be continuously maintained at all times the vapor and gas stream is vented to the carbon adsorption system to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

**2.** All loading of gasoline additives shall be accomplished either through a submerged fill loading line or shall be bottom loaded.

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that were loaded in this rack.

**2.** The permittee shall record daily any time period that displaced vapors and gases were not vented to the carbon adsorption system while loading more than 40,000 gallons of volatile photochemically reactive materials in this loading rack.

**3.** The permittee shall record daily any time period that loading of gasoline additives was accomplished in a manner other than through a submerged fill loading line or a bottom loading point.

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall monitor and record the presence of any odors in the exhaust stream from the carbon adsorption system daily or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that include:

a. an identification of each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons and the time period that the carbon adsorption system was not used to control the emissions; and the actual gallons loaded during each such day; and

b. an identification of each time period that loading of gasoline additives was accomplished in a manner other than through a submerged fill loading line or a bottom loading point.

**2.** The permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon of the carbon adsorption system was not replaced with fresh carbon immediately when breakthrough is indicated.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 90% by weight recovery of all vapor and gases by the carbon adsorber.

Applicable Compliance Method: Compliance shall be demonstrated by emissions testing using the procedures specified in OAC rule 3745-21-10(C).

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. in the event that more than 40,000 gallons per day of volatile photochemically reactive materials are loaded in this loading rack, emissions testing shall be conducted within 90 days of the loading and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to demonstrate compliance with the percent by weight recovery of all vapor and gases by the carbon adsorber;

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Northeast District Office of the Ohio EPA; and

e. the permittee shall demonstrate that the testing will be performed for the worst case emission conditions.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack G60 (P059)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack G60 (P059): loading of lubricant additives and anglamols to tank cars. Odors from the loading of anglamols shall be controlled by a carbon adsorber (P-3 CDrum). | OAC rule 3745-31-05(A)(3)<br>PTI 02-16177 | See A.I.2.a. through A.I.2.c. below. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(E). |
| | OAC rule 3745-21-07(E) | See A.II.1. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

**2.b** Volatile Organic Compound (VOC) emissions shall not exceed 27.36 pounds per day, based on a monthly average.

**2.c** VOC emissions shall not exceed 5.0 tons per year from this emissions unit.

### II. Operational Restrictions

**1.** The permittee shall not load any volatile photochemically reactive material (as defined in OAC rule 3745-21-01) at this loading rack.

**2.** The maximum, average daily throughput of lubricant additives and anglamols in this emissions unit, combined, shall not exceed 12,000 gallons.

**3.** The maximum loading loss for materials loaded in this emissions unit shall not exceed 2.28 lbs VOC/1000 gallons loaded.

**4.** The control efficiency of the carbon adsorber is assumed to be zero; therefore, it is not necessary to develop parametric monitoring, record keeping and reporting requirements to ensure compliance with the emission limitations.

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of any volatile photochemically reactive materials that are loaded at this rack.

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permittee shall collect and record monthly the following information:

a. the throughput of each type of liquid containing VOC, in gallons;

b. the true vapor pressure of the liquid, in psia;

c. the molecular weight of vapors, in lb/lb-mol;

d. the bulk temperature of liquid loaded, in degrees Rankin;

e. the VOC emissions from each liquid loaded in this emissions unit, calculated using the following equation:

VOC emission rate (monthly) = (throughput, in gal/month) x (loading loss, in lbs/1000gal).

The loading loss of each liquid loaded is calculated according to the following equation:

LL= ( 12.46 SPM / T)

where:

S= saturation factor from AP-42 (1/95) Table 5.2.1, Saturation(s) Factors for Calculating Petroleum Liquid Loading Losses;
P= true vapor pressure of the liquid, in psia;
M= molecular weight of vapors, in lb/lb-mol; and
T= bulk temperature of liquid loaded, in degrees Rankin.

f. the total VOC emissions for all liquids loaded in this emissions unit, in lbs/month;

g. the number of days per month this emissions unit was in operation; and

h. the average daily emission rate (determined by dividing A.III.3.f. by A.III.3.g.).

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify:

a. an identification of each day during which volatile photochemically reactive material was loaded at this loading rack and the actual gallons loaded during each such day;

b. all exceedances of the maximum, average daily throughput limit specified in A.II.2;

c. all exceedances of the maximum loading loss specified in A.II.3; and

d. all exceedances of the average daily VOC emission limitation.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 27.36 pounds of VOC per day

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, compliance shall be demonstrated by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA approved test method.

## V. Testing Requirements (continued)

**1.b** Emission Limitation: 5.0 tons of VOC per year

Applicable Compliance Method: Compliance shall be determined by dividing the sum of the monthly VOC emissions, in lbs, by 2000lbs/ton.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack A/B 5 (P060)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack A/B 5 (P060): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack C/D 2-3 (P061)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack C/D 2-3 (P061): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack C 6 (P062)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack C6 (P062): loading of lubricant additives, anglamols and gas additives to tank cars, controlled by a carbon adsorber (R CDrum 2). | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC rule 3745-21-01) in this loading rack during any one day unless all displaced vapors and gases are vented to a carbon adsorption system that processes and recovers at least ninety per cent by weight of the vapors and gases.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**1.** The carbon shall be continuously maintained at all times the vapor and gas stream is vented to the carbon adsorption system to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

**2.** All loading of gasoline additives shall be accomplished either through a submerged fill loading line or shall be bottom loaded.

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that were loaded in this rack.

**2.** The permittee shall record daily any time period that displaced vapors and gases were not vented to the carbon adsorption system while loading more than 40,000 gallons of volatile photochemically reactive materials in this loading rack.

**3.** The permittee shall record daily any time period that loading of gasoline additives was accomplished in a manner other than through a submerged fill loading line or a bottom loading point.

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall monitor and record the presence of any odors in the exhaust stream from the carbon adsorption system daily or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permitted shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that include:

a. an identification of each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons and the time period that the carbon adsorption system was not used to control the emissions; and the actual gallons loaded during each such day; and

b. an identification of each time period that loading of gasoline additives was accomplished in a manner other than through a submerged fill loading line or a bottom loading point.

**2.** The permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon of the carbon adsorption system was not replaced with fresh carbon immediately when breakthrough is indicated.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Emission Limitation: 90% by weight recovery of all vapor and gases by the carbon adsorber.

Applicable Compliance Method: Compliance shall be demonstrated by emissions testing using the procedures specified in OAC rule 3745-21-10(C).

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. in the event that more than 40,000 gallons per day of volatile photochemically reactive materials are loaded in this loading rack, emissions testing shall be conducted within 90 days of the loading and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to demonstrate compliance with the percent by weight recovery of all vapor and gases by the carbon adsorber;

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Northeast District Office of the Ohio EPA; and

e. the permittee shall demonstrate that the testing will be performed for the worst case emission conditions.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack C/D 7 (P063)

**Activity Description:** Tank Car Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Loading rack C/D 7 (P063): loading of lubricant additives to tank cars, controlled by a carbon adsorber (R CDrum 1). | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC rule 3745-21-01) in this loading rack during any one day unless all displaced vapors and gases are vented to a carbon adsorption system that processes and recovers at least ninety per cent by weight of the vapors and gases.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**1.** The carbon shall be continuously maintained at all times the vapor and gas stream is vented to the carbon adsorption system to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough is indicated.

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that were loaded in this rack.

**2.** The permittee shall record daily any time period that displaced vapors and gases were not vented to the carbon adsorption system while loading more than 40,000 gallons of volatile photochemically reactive materials in this loading rack.

## III. Monitoring and/or Record Keeping Requirements (continued)

**3.** The permittee shall monitor and record the presence of any odors in the exhaust stream from the carbon adsorption system daily or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permittee shall monitor and record all periods when carbon breakthrough is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons and the time period that the carbon adsorption system was not used to control the emissions; and the actual gallons loaded during each such day.

**2.** The permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon of the carbon adsorption system was not replaced with fresh carbon immediately when breakthrough is indicated.

**3.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Emission Limitation: 90% by weight recovery of all vapor and gases by the carbon adsorber.

Applicable Compliance Method: Compliance shall be demonstrated by emissions testing using the procedures specified in OAC rule 3745-21-10(C).

**2.** The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. in the event that more than 40,000 gallons per day of volatile photochemically reactive materials are loaded in this loading rack, emissions testing shall be conducted within 90 days of the loading and within 6 months prior to permit expiration;

b. the emission testing shall be conducted to demonstrate compliance with the percent by weight recovery of all vapor and gases by the carbon adsorber;

c. the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10;

d. testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Northeast District Office of the Ohio EPA; and

e. the permittee shall demonstrate that the testing will be performed for the worst case emission conditions.

## V. Testing Requirements (continued)

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).

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.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack Poly Plant (P064)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Poly Plant loading rack (P064): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack Bldg. 18 West (P065)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Building 18 West loading rack (P065): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack 200 Ball House (P066)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Ball House 200 loading rack (P066): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack 400 Ball House (P067)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Ball House loading rack 400 (P067): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack 403 Tank (P068)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank 403 loading rack (P068): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack 458 Tank (P069)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank 458 loading rack (P069): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Rack Bldg. 5/6 East (P070)

**Activity Description:** Tank Truck Loading Rack

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Building 5/6 East loading rack (P070): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Misc Bottom Loading (P071)

**Activity Description:** Miscellaneous bottom loading of tank cars and tank trucks.

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Miscellaneous bottom loading rack (P071): loading of lubricant additives to tank cars. | OAC rule 3745-21-07(E) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** The permittee shall not load more than 40,000 gallons of volatile photochemically reactive materials (as defined in OAC Rule 3745-21-01) in this loading rack during any one day.

**2.b** The permittee shall prevent liquid drainage from the loading arm when it is not in use or accomplish complete drainage before the loading arm is disconnected.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permittee shall record daily the amount, in gallons, of all volatile photochemically reactive materials that are loaded in this rack.

### IV. Reporting Requirements

**1.** The permittee shall submit quarterly deviation (excursion) reports that identify each day during which the daily amount of volatile photochemically reactive materials loaded exceeded 40,000 gallons, and the actual gallons loaded during each such day.

**2.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AN (P073)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AN (P073): production of specialty chemicals using one reactor system. A reactor system may contain all or some of the following: mix tanks, reactor, filter and finish tank. Volatile organic compound (VOC) emissions from the one reactor system are controlled by either an incinerator (AC-6 or AC-7 Fm Inc's), or a wet scrubber (C-4 CScrb) followed by a flare (F-4 Flare). | OAC rule 3745-31-05(A)(3)<br>PTI 02-16572 | VOC: 5.37 lbs/batch and 1.0 ton/year from all process vent streams controlled by the fume incinerator system and/or flare; 26.8 lbs/batch from all process vent streams not controlled by the fume incinerator system or flare. The requirements of this rule also include the requirements of OAC rule 3745-21-09(LL).<br><br>SO2: 10 lbs/day and 1.8 tons/year. |
| SO2 emissions will result from the combustion of sulfur-containing organic compounds at the fume incinerator system and flare. Sulfur-containing organic compounds may be controlled by a wet scrubber (C-4 CScrb) prior to the flare. | OAC rule 3745-21-09(LL) | VOC: 5 tons/rolling 12-month period from all process vent streams not controlled by the fume incinerator system or flare; see A.I.2.a. through A.I.2.c. below. |
| | OAC rule 3745-18-06(E) | The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**2.a** The incinerator(s) shall reduce VOC emissions by at least 98% by weight at all times, as determined by paragraph OAC rule 3745-21-10(C).

**2. Additional Terms and Conditions (continued)**

**2.b** The flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.c.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.c.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.c** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

**2.d** Any potential SO2 emissions above deminimis generated when processing sulfur-containing raw materials shall be controlled by the scrubber prior to exhausting to the flare.

## II. Operational Restrictions

**1.** The average combustion temperature within the thermal incinerator(s) shall not be less than 1600 degrees Fahrenheit at all times the emissions unit is in operation.

**2.** A pilot flame shall be maintained at all times in the flare's pilot light burner.

**3.** This permittee shall operate and maintain the wet scrubber at all times the process vent stream is vented to the scrubber in accordance with the following parameters:

a. not less than 7.5 pH when using a caustic scrubber liquor;

b. not more than 6.5 pH when using Anthium dioxide; and

c. not less than two gallons per minute scrubber liquor flow rate.

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #02-16572, issued on September 24, 2002: A.III.10. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

**2.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted from the mix tanks, reactor, filter and finish tank, for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of pounds (lbs) of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**3.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**4.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the number of batches run for each final product generated;

c. the emission factors used to determine the amount of VOC emitted from the mix tanks, reactor, filter and finish tank for each final product generated (in lbs of VOC/batch run);

d. the total VOC emission rate from all process vent streams controlled by the fume incinerator system and/or flare, for each of the final products generated, in lbs of VOC/batch run, using the following equation:

E (Controlled) = (emission factor, in lbs of VOC/each batch) x (1- (CE/100))

Where: CE = control efficiency of the incinerator(s) (as demonstrated during the most recent emissions test) or the caustic wet scrubber and flare, whichever is associated with that particular vent stream;

e. the monthly VOC emission rate from all process vent streams controlled by the fume incinerator system and/or flare, for all of the final products generated, in lbs, using the following equation:

E monthly = the sum, from i=1 to i=n, of (number of batches run)(lbs of VOC/batch run); where

i = each individual final product generated; and
n = the total number of final products generated per month;

**III. Monitoring and/or Record Keeping Requirements (continued)**

f. the ton per year VOC emission rate from all process vent streams controlled by the fume incinerator system and/or flare, for all of the final products generated;

g. the total VOC emission rate from all process vent streams not controlled by the fume incinerator system or flare, for each of the final products generated (in lbs of VOC/batch run);

h. the total monthly VOC emission rate from all process vent streams not controlled by the fume incinerator system or flare, for all of the final products generated, in lbs, using the following equation:

E monthly = the sum, from i=1 to i=n, of (number of batches run)(lbs of VOC/batch run); where

i = each individual final product generated; and
n = the total number of final products generated per month; and

i. the rolling, twelve-month summation of the monthly VOC emissions from all process vent streams not controlled by the fume incinerator system or flare, for all final products generated (in tons, calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**5.** The permittee shall develop emission factors for the amount of SO2 emitted from the incinerator(s) and/or flare, either for each final product generated or for each batch run in this emissions unit. The emission factors shall be in units of pounds of SO2 emitted per ton of final product generated, or pounds of SO2 emitted per batch.

The permittee shall submit SO2 emission factors for all products containing sulfur. The specific methodology used to calculate the SO2 emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all SO2 emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

## III. Monitoring and/or Record Keeping Requirements (continued)

**6.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the quantity of each final product generated, in tons;

c. the number of batches run for each final product generated;

d. the emission factor used to determine the amount of SO2 emitted from the incinerator(s) and/or flare, for each final product generated using sulfur-containing raw materials (in pounds of SO2/ton of final product generated or pounds of SO2/batch run);

e. the SO2 emission rate from all process vent streams controlled by the incinerator(s), for each final product generated, in pounds, using the following equation:

E (Uncontrolled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in lbs of SO2/ton of final product generated or lbs of SO2/batch run);

f. the SO2 emission rate from all process vent streams controlled by the scrubber and flare, for each final product generated, in pounds, using the following equation:

E (Controlled) = (quantity of final product, in tons, or number of batches run) x (emission factor, in lbs of SO2/ton of final product generated or lbs of SO2/batch run) x (1 - CE/100))

Where: CE = control efficiency of the scrubber;

g. the total SO2 emission rate from all process vent streams controlled by the incinerator(s) and/or flare, for all of the final products generated (in pounds);

h. the actual number of days the incinerator(s) and/or flare were in operation; and

i. the average daily SO2 emission rate from all process vent streams controlled by the incinerator(s) and/or flare, in pounds per day.

**7.** The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all periods of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1,600 degrees Fahrenheit; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation and venting gases.

## III. Monitoring and/or Record Keeping Requirements (continued)

**8.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall record the following information each day:

a. all periods during which the pilot flame was out; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit when in operation and venting gases.

**9.** The permittee shall monitor the pH of the scrubber liquor and properly operate and maintain equipment to continuously monitor the scrubber liquor flow rate of the wet scrubber while in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day the scrubber is used:

a. the pH of the scrubber liquor, before and after each batch and once during the batch (if the scrubber liquor is changed after each batch, the pH may be collected and recorded once at the end of each batch run);

b. the scrubber liquor flow rate, in gallons per minute, at the start of each batch; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

**10.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #02-16572, issued on September 24, 2002: A.IV.7 and A.IV.8. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify any exceedances of the pounds per batch, tons per year and tons per rolling, 12-month period emission limitations for VOC.

## IV. Reporting Requirements (continued)

**3.** The permittee shall submit deviation (excursion) reports that identify any exceedances of the pounds per day and tons per year emission limitations for SO2.

**4.** The permittee shall submit deviation (excursion) reports that identify all periods of time during which the average combustion temperature within the thermal incinerator did not comply with the temperature limitation specified above.

**5.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

**6.** The permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels for the wet scrubber:

a. the pH of the scrubber liquor; and

b. the scrubber liquor flow rate.

**7.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**8.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

**1.a** Emission Limitation: 5.37 lbs VOC per batch from all process vent streams controlled by the fume incinerator system and/or flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factors for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 1.0 ton VOC per year from all process vent streams controlled by the fume incinerator system and/or flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions.

**1.c** Emission Limitation: 98% destruction of VOC by the incinerator.

Applicable Compliance Method: Compliance shall be demonstrated by the testing conducted for emissions units P051 and P052 for fume incinerators AC-7 and AC-6, respectively. No additional testing shall be required for P073 to comply with this emission limitation.

## V. Testing Requirements (continued)

**1.d** Emission Limitation: 26.8 lbs VOC per batch from all process vent streams not controlled by the fume incinerator system or flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factors for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.e** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the fume incinerator system or flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions.

**1.f** Emission Limitation: 10.0 lbs SO2 per day.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, compliance shall be demonstrated by testing the amount of sulfur produced by this emissions unit prior to the fume incinerator system and flare using a U.S. EPA approved test method subject to the review and approval of the Ohio EPA Northeast District Office.

**1.g** Emission Limitation: 1.8 tons SO2 per year.

Applicable Compliance Method: This limit is based on the allowable daily emission limit (10.0 lbs/day) multiplied by the maximum possible operating days (365 days/yr), and divided by 2000 lbs/ton. Therefore, provided compliance is shown with the daily limitation, compliance will also be shown with the annual limitation.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**1.** Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Process AO (P074)

**Activity Description:** Reactor Process

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Process AO (P074): production of specialty chemicals using two reactor systems. A reactor system may contain all or some of the following: hold tanks, reactor, filter and feed tanks. Volatile organic compound (VOC) emissions from the two reactors, filters and holding tanks are controlled by a flare (F-4 Flare). VOC emissions from the material feed tanks are not controlled. | OAC rule 3745-31-05(A)(3)<br>PTI 02-17449 | VOC: 3.5 lbs/batch and 1.0 ton/year from all process vent streams controlled by the flare; 17.5 lbs/batch from all process vent streams not controlled by the flare. The requirements of this rule also include the requirements of OAC rule 3745-21-09(LL). |
| | OAC rule 3745-21-09(LL) | NO2: 25 lbs/batch and 7 tons/year. |
| NO2 emissions will result from the combustion of nitrogen-containing organic compounds at the flare. | OAC rule 3745-23-06(B) | VOC: 5 tons/rolling 12-month period from all process vent streams not controlled by the flare; see A.I.2.a. and A.I.2.b. below.<br><br>The requirements established pursuant to this rule are equivalent to the requirements of OAC Rule 3745-31-05(A)(3). |

**2. Additional Terms and Conditions**

**2.a** The VOC emissions from the reactors, filters and holding tanks shall be controlled at all times by a flare. VOC emissions from the material feed tanks are not controlled.

**2. Additional Terms and Conditions (continued)**

**2.b** Unless exempted by OAC rule 3745-21-09(LL)(3)(b), the flare shall be designed and operated as follows:

i. The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five minutes during any two consecutive hours.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame. If an electric arc ignition system is employed, the arcing shall pulse continually and shall be monitored to detect any failure.

iii. The flare shall be steam-assisted, air-assisted or non-assisted.

iv. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be three hundred Btu/scf or greater if the flare is steam-assisted or air-assisted, or shall be two hundred Btu/scf or greater if the flare is non-assisted.

v. Except as provided in paragraph A.I.2.b.vi. of this permit, the flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, of less than sixty feet per second if the flare is steam-assisted or non-assisted, or less than the maximum permitted velocity, as determined in paragraph (P)(4) of rule 3745-21-10 of the Administrative Code, if the flare is air-assisted.

vi. Excluded from the requirements of paragraph A.I.2.b.v. of this permit is any steam-assisted or non-assisted flare that meets both of the following requirements:

a. The net heating value of the gas being combusted in the flare, as determined by the method specified in paragraph (P)(2) of rule 3745-21-10 of the Administrative Code, shall be greater than one thousand Btu/scf.

b. The flare shall be designed and operated with an actual exit velocity, as determined by the method specified in paragraph (P)(3) of rule 3745-21-10 of the Administrative Code, less than four hundred feet per second.

**2.c** Any process wastewater shall be discharged to a wastewater separator that has all separator sections equipped with covers and seals that minimize the amount of VOC exposed to the ambient air.

## II. Operational Restrictions

**1.** The pilot flame shall be maintained at all times in the flare's pilot light burner.

## III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #02-17449, issued on April 3, 2003: A.III.2. and A.III.5. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permittee shall develop emission factors for the amount of uncontrolled VOC emitted from the material feed tanks, reactors, filters and hold tanks, for each batch run in this emissions unit, and shall include emissions from flushing. The emission factors shall be in units of pounds (lbs) of VOC emitted per batch run.

The permittee shall submit VOC emission factors for all products produced in this emissions unit. The emission factors for the reaction vessels, and all other pieces of equipment associated with this emissions unit, shall be computed based on calculation methods from the Pharmaceutical NESHAP or other Ohio EPA-approved calculation methods. The specific methodology used to calculate the VOC emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all VOC emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**3.** The permittee shall keep records of all materials used in this emissions unit for the purpose of determining the emission factors.

**4.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the number of batches run for each final product generated;

c. the emission factors used to determine the amount of VOC emitted from the material feed tanks, reactors, filters and hold tanks for each final product generated (in lbs of VOC/batch run);

d. the total VOC emission rate from all process vent streams controlled by the flare, for each of the final products generated, in lbs of VOC/batch run, using the following equation:

E (Controlled) = (sum of emission factors, in lbs of VOC/each batch) x (1- (CE/100))

Where: CE = control efficiency of the flare;

e. the monthly VOC emission rate from all process vent streams controlled by the flare, for all of the final products generated, in lbs, using the following equation:

E monthly = the sum, from i=1 to i=n, of (number of batches run)(lbs of VOC/batch run); where

i = each individual final product generated; and
n = the total number of final products generated per month;

**III. Monitoring and/or Record Keeping Requirements (continued)**

f. the ton per year VOC emission rate from all process vent streams controlled by the flare, for all of the final products generated (determined by multiplying A.III.3.e. by 12 months and dividing by 2000 lbs);

g. the total VOC emission rate from all process vent streams not controlled by the flare, for each of the final products generated (in lbs of VOC/batch run);

h. the monthly VOC emission rate from all process vent streams not controlled by the flare, for all of the final products generated, in lbs, using the following equation:

E monthly = the sum, from i=1 to i=n, of (number of batches run)(lbs of VOC/batch run); where

i = each individual final product generated; and
n = the total number of final products generated per month; and

i. the rolling, twelve-month summation of the monthly VOC emissions from all process vent streams not controlled by the flare, for all final products generated (in tons, calculated by summing the monthly VOC emissions for the preceding 11 months plus the VOC emissions for the current month).

**5.** The permittee shall develop emission factors for the amount of NO2 emitted from the flare for each batch run in this emissions unit. The emission factors shall be in units of pounds of NO2 emitted per batch run.

The permittee shall submit NO2 emission factors for all products containing nitrogen. The specific methodology used to calculate the NO2 emissions, example calculations using the approved methodology, and the emission factors shall be submitted upon final issuance of this permit and shall be subject to the review and approval of the Ohio EPA Northeast District Office. Detailed calculations of all NO2 emission factors shall be kept on site and available for Ohio EPA review.

If necessary, the permittee shall conduct emission testing, at the request of the Northeast District Office, during the production of a specific final product to confirm the accuracy of the emission factor.

**6.** The permittee shall collect and record the following information for each month:

a. the company identification of each final product generated;

b. the number of batches run for each final product generated;

c. the emission factor used to determine the amount of NO2 emitted from the flare, for each final product generated using nitrogen-containing raw materials (in pounds of NO2/batch run);

d. the monthly NO2 emission rate from all process vent streams controlled by the flare, for all of the final products generated, in lbs, using the following equation:

E monthly = the sum, from i=1 to i=n, of (number of batches run)(lbs of NO2/batch run); where

i = each individual final product generated; and
n = the total number of final products generated per month; and

e. the ton per year VOC emission rate from all process vent streams controlled by the flare, for all of the final products generated (determined by multiplying A.III.5.d. by 12 months and dividing by 2000 lbs).

## III. Monitoring and/or Record Keeping Requirements (continued)

**7.** The permittee shall properly operate and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall record the following information each day:

a. all periods during which the pilot flame was out; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit when in operation and venting gases.

**8.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall submit deviation (excursion) reports that identify any exceedances of the pounds per batch, tons per year and tons per rolling, 12-month period emission limitations for VOC.

**2.** The permittee shall submit deviation (excursion) reports that identify any exceedances of the pounds per batch and tons per year emission limitations for NO2.

**3.** The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly. The reports shall include the date, time, and duration of each such period, as well as the cause of each deviation.

**4.** The permittee shall submit quarterly reports that (a) identify all days during which any visible particulate emissions were observed from the flare, (b) describe any corrective actions taken to eliminate the visible particulate emissions, and (c) include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted to the appropriate Ohio EPA District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

**5.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Compliance with the allowable emission limitations in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**1.a** Emission Limitation: 3.5 lbs VOC per batch from all process vent streams controlled by the flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factors for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.b** Emission Limitation: 1.0 ton VOC per year from all process vent streams controlled by the flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions.

**1.c** Emission Limitation: 17.5 lbs VOC per batch from all process vent streams not controlled by the flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions. If required, the emission factors for a final product shall be determined by emissions testing using U.S. EPA reference Methods 25, 25A, or, with prior approval from the Ohio EPA, an alternative U.S. EPA-approved test method.

**1.d** Emission Limitation: 5 tons of VOC per rolling twelve-month period from all process vent streams not controlled by the flare.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions.

**1.e** Emission Limitation: 25 lbs NO2 per batch.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions.

**1.f** Emission Limitation: 7.0 tons NO2 per year.

Applicable Compliance Method: Compliance shall be demonstrated by the record keeping required in Section A.III of these terms and conditions.

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**1.** Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 232 (T013)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #232 (T013): 88,100-gallon capacity, outdoor, fixed-roof, vertical steel tank with submerged fill and no vapor controls for storing liquid organic materials or petroleum liquids | OAC rule 3745-21-07(D) or OAC rule 3745-21-09(L) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** When storing petroleum liquids, as defined in OAC rule 3745-21-01(E)(13), the vapor pressure of the petroleum liquid shall not be greater than 1.52 psia.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored; and

b. whether or not the material is a petroleum liquid, as defined in OAC rule 3745-21-01(E)(13), with a vapor pressure greater than 1.52 psia, or a volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7).

### IV. Reporting Requirements

**1.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

## IV. Reporting Requirements (continued)

**2.** If the permittee places, stores, or holds in the fixed roof tank any petroleum liquid with a true vapor pressure which is greater than 1.52 pounds per square inch absolute, and such tank does not comply with the requirements of paragraph (L)(1) of OAC rule 3745-21-09, the permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days of becoming aware of the occurrence.

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 404 (T022)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #404 (T022): 88,740-gallon capacity, outdoor, fixed-roof, vertical steel tank with splash fill and no vapor controls for storing liquid organic materials or petroleum liquids. | OAC rule 3745-21-07(D) or OAC rule 3745-21-09(L) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** When storing petroleum liquids, as defined in OAC rule 3745-21-01(E)(13), the vapor pressure of the petroleum liquid shall not be greater than 1.52 psia.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored; and

b. whether or not the material is a petroleum liquid, as defined in OAC rule 3745-21-01(E)(13), with a vapor pressure greater than 1.52 psia, or a volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7).

### IV. Reporting Requirements

**1.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

## IV. Reporting Requirements (continued)

**2.** If the permittee places, stores, or holds in the fixed roof tank any petroleum liquid with a true vapor pressure which is greater than 1.52 pounds per square inch absolute, and such tank does not comply with the requirements of paragraph (L)(1) of OAC rule 3745-21-09, the permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days of becoming aware of the occurrence.

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 405 (T023)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #405 (T023): 88,740-gallon capacity, outdoor, fixed-roof, vertical steel tank with splash fill and no vapor controls for storing liquid organic materials or petroleum liquids. | OAC rule 3745-21-07(D) or OAC rule 3745-21-09(L) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** When storing petroleum liquids, as defined in OAC rule 3745-21-01(E)(13), the vapor pressure of the petroleum liquid shall not be greater than 1.52 psia.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored; and

b. whether or not the material is a petroleum liquid, as defined in OAC rule 3745-21-01(E)(13), with a vapor pressure greater than 1.52 psia, or a volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7).

### IV. Reporting Requirements

**1.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

## IV. Reporting Requirements (continued)

**2.** If the permittee places, stores, or holds in the fixed roof tank any petroleum liquid with a true vapor pressure which is greater than 1.52 pounds per square inch absolute, and such tank does not comply with the requirements of paragraph (L)(1) of OAC rule 3745-21-09, the permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days of becoming aware of the occurrence.

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 458 (T034)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #458 (T034): 49,156-gallon capacity, outdoor, fixed-roof, vertical steel tank with splash fill and no vapor controls for storing liquid organic materials or petroleum liquids. | OAC rule 3745-21-07(D) or OAC rule 3745-21-09(L) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** When storing petroleum liquids, as defined in OAC rule 3745-21-01(E)(13), the vapor pressure of the petroleum liquid shall not be greater than 1.52 psia.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored; and

b. whether or not the material is a petroleum liquid, as defined in OAC rule 3745-21-01(E)(13), with a vapor pressure greater than 1.52 psia, or a volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7).

### IV. Reporting Requirements

**1.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

## IV. Reporting Requirements (continued)

**2.** If the permittee places, stores, or holds in the fixed roof tank any petroleum liquid with a true vapor pressure which is greater than 1.52 pounds per square inch absolute, and such tank does not comply with the requirements of paragraph (L)(1) of OAC rule 3745-21-09, the permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days of becoming aware of the occurrence.

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 801 (T048)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #801 (T048): 88,133-gallon capacity, outdoor, fixed-roof, vertical steel tank with splash fill for storing liquid organic materials or petroleum liquids. Vapors are controlled by a wet scrubber that uses water as the scrubbing solution (AE-6 WScrb), followed by a flare (AE-7 Flare.) | OAC Rule 3745-31-05(A)(3) PTI 02-568 | The requirements established pursuant to this rule are equivalent to the requirements of OAC Rule 3745-21-07(D) and OAC Rule 3745-21-09(L). |
| | OAC rule 3745-21-07(D) or OAC rule 3745-21-09(L) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** When storing petroleum liquids, as defined in OAC rule 3745-21-01(E)(13), the vapor pressure of the petroleum liquid shall not be greater than 1.52 psia.

### II. Operational Restrictions

**1.** A pilot flame shall be maintained at all times in the flare's pilot light burner.

**2.** The scrubber water flow rate of the wet scrubber shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

### III. Monitoring and/or Record Keeping Requirements

**1.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored; and

b. whether or not the material is a petroleum liquid, as defined in OAC rule 3745-21-01(E)(13), with a vapor pressure greater than 1.52 psia, or a volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7).

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permittee shall properly install, operate, and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame; and

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

**3.** The permittee shall properly install, operate and maintain equipment to continuously monitor the scrubber water flow rate of the wet scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, when filling the tank; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## III. Monitoring and/or Record Keeping Requirements (continued)

**4.** The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 30 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

## IV. Reporting Requirements

**1.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

**2.** If the permittee places, stores, or holds in the fixed roof tank any petroleum liquid with a true vapor pressure which is greater than 1.52 pounds per square inch absolute, and such tank does not comply with the requirements of paragraph (L)(1) of OAC rule 3745-21-09, the permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days of becoming aware of the occurrence.

**3.** The permittee shall submit deviation (excursion) reports that identify all periods during which the pilot flame was not functioning properly. The reports shall include the date, time, and duration of each such period.

**4.** The permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels for the wet scrubber.

## IV. Reporting Requirements (continued)

**5.** The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stacks serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the appropriate Ohio EPA District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

**6.** The permittee shall submit quarterly reports which include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

**7.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 12 (T073)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #12 (T073): 154,000-gallon capacity, outdoor, fixed-roof, vertical steel tank with splash fill for storing liquid organic materials or petroleum liquids. Vapors are controlled by a wet scrubber that uses water as the scrubbing solution (12tk WScrb). | OAC Rule 3745-31-05(A)(3) PTI 02-01747 | The requirements established pursuant to this rule are equivalent to the requirements of OAC Rule 3745-21-07(D) and Rule 3745-21-09(L). |
| | OAC rule 3745-21-07(D) or OAC rule 3745-21-09(L) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** When storing petroleum liquids, as defined in OAC rule 3745-21-01(E)(13), the vapor pressure of the petroleum liquid shall not be greater than 1.52 psia.

### II. Operational Restrictions

**1.** The scrubber water flow rate of the wet scrubber shall be continuously maintained at a value of not less than two gallons per minute at all times the process vent stream is vented to the scrubber.

### III. Monitoring and/or Record Keeping Requirements

**1.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored; and

b. whether or not the material is a petroleum liquid, as defined in OAC rule 3745-21-01(E)(13), with a vapor pressure greater than 1.52 psia, or a volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7).

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permittee shall properly install, operate and maintain equipment to continuously monitor the scrubber water flow rate of the wet scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information each day:

a. the scrubber water flow rate, in gallons per minute, when filling the tank; and

b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

## IV. Reporting Requirements

**1.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

**2.** If the permittee places, stores, or holds in the fixed roof tank any petroleum liquid with a true vapor pressure which is greater than 1.52 pounds per square inch absolute, and such tank does not comply with the requirements of paragraph (L)(1) of OAC rule 3745-21-09, the permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days of becoming aware of the occurrence.

**3.** The permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber water flow rate was not maintained at or above the required levels for the wet scrubber.

**4.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 242 (T077)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #242 (T077): 169,657-gallon capacity, outdoor, fixed-roof, vertical steel tank with submerged fill and no vapor controls for storing liquid organic materials or petroleum liquids. | OAC rule 3475-31-05(A)(3)<br>PTI 02-09822 | Volatile organic compound emissions shall not exceed 0.25 tons per year.<br><br>The requirements established pursuant to this rule also include the requirements of OAC Rule 3745-21-07(D) and Rule 3745-21-09(L).<br><br>See A.I.2.a. and A.I.2.b. below. |
| | OAC rule 3745-21-07(D) or<br>OAC rule 3745-21-09(L) | |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** When storing petroleum liquids, as defined in OAC rule 3745-21-01(E)(13), the vapor pressure of the petroleum liquid shall not be greater than 1.52 psia.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #02-09822, issued on January 18, 1996: A.III.2. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored; and

b. whether or not the material is a petroleum liquid, as defined in OAC rule 3745-21-01(E)(13), with a vapor pressure greater than 1.52 psia, or a volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7); and

c. the monthly throughput of liquid, in gallons.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #02-09822, issued on January 18, 1996: A.IV.2. through A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the tons per year emission limitation for VOC.

**3.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

**4.** If the permittee places, stores, or holds in the fixed roof tank any petroleum liquid with a true vapor pressure which is greater than 1.52 pounds per square inch absolute, and such tank does not comply with the requirements of paragraph (L)(1) of OAC rule 3745-21-09, the permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days of becoming aware of the occurrence.

**5.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #02-09822, issued on January 18, 1996: A.V.2.a. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

**2.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

**2.a** Emissions Limitation: 0.25 tons per year of VOC emissions

Applicable Compliance Method: Compliance shall be demonstrated using the throughput data required in Section A.III of these terms and conditions, the storage tank dimensions, and U.S. EPA emission factors and equations found in AP-42, Section 7.1.3, "Emissions Factors for Organic Liquid Storage Tanks" (September 1997).

## VI. Miscellaneous Requirements

**1.** Permit to Install 02-09822 shall be modified to include OAC rule 3745-21-09(L) as an applicable rule when this emissions unit stores petroleum liquids.

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 465 (T122)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #465 (T122): 24,864-gallon capacity, outdoor, fixed-roof, vertical steel tank with splash fill and no vapor controls for storing liquid organic materials or petroleum liquids. | OAC rule 3745-21-07(D) or OAC rule 3745-21-09(L) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** In accordance with OAC rule 3745-21-09(L)(2), this storage tank is exempt from the requirements of OAC rule 3745-21-09(L)(1) because the tank has a capacity of less than 40,000 gallons.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored; and

b. whether or not the material is volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7).

### IV. Reporting Requirements

**1.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

### V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 462 (T123)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #465 (T123): 24,864-gallon capacity, outdoor, fixed-roof, vertical steel tank with splash fill and no vapor controls for storing liquid organic materials or petroleum liquids. | OAC rule 3745-21-07(D) or OAC rule 3745-21-09(L) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** In accordance with OAC rule 3745-21-09(L)(2), this storage tank is exempt from the requirements of OAC rule 3745-21-09(L)(1) because the tank has a capacity of less than 40,000 gallons.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored; and

b. whether or not the liquid organic material is volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7).

### IV. Reporting Requirements

**1.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

### V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 109 (T136)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #109 (T136): 13,200-gallon capacity, outdoor, fixed-roof, vertical steel tank with submerged fill and no vapor controls for storing liquid organic materials or petroleum liquids. | OAC rule 3745-21-07(D) or OAC rule 3745-21-09(L) | See A.I.2.a. and A.I.2.b. below. |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** In accordance with OAC rule 3745-21-09(L)(2), this storage tank is exempt from the requirements of OAC rule 3745-21-09(L)(1) because the tank has a capacity of less than 40,000 gallons.

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**1.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored; and

b. whether or not the liquid organic material is volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7).

### IV. Reporting Requirements

**1.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

### V. Testing Requirements

**None**

## VI. Miscellaneous Requirements

**None**

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

# Part III - Terms and Conditions for Emissions Units

**Emissions Unit ID:** Storage Tank 159 (T186)

**Activity Description:** Storage Tank

## A. State and Federally Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| Tank #159 (T186): 8,090-gallon capacity, outdoor, fixed-roof, vertical steel tank with splash fill for storing liquid organic materials or petroleum liquids. Vapors are controlled by a carbon adsorber (159tk CDrum). | OAC rule 3745-31-05(A)(3)<br>PTI 02-7805 | Volatile organic compound emissions shall not exceed 0.25 tons per year.<br><br>The requirements established pursuant to this rule also include the requirements of OAC Rule 3745-21-07(D) and Rule 3745-21-09(L).<br><br>See A.I.2.a. and A.I.2.b. below. |
| | OAC rule 3745-21-07(D) or<br>OAC rule 3745-21-09(L) | |

**2. Additional Terms and Conditions**

**2.a** When storing liquid organic materials, as defined in OAC rule 3745-21-01(C)(3), this emissions unit shall not store volatile photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(7).

**2.b** In accordance with OAC rule 3745-21-09(L)(2), this storage tank is exempt from the requirements of OAC rule 3745-21-09(L)(1) because the tank has a capacity of less than 40,000 gallons.

### II. Operational Restrictions

**1.** All vapors from this emissions unit shall be vented to the carbon adsorber. The carbon shall be maintained at all times in the carbon adsorber to ensure that the existing carbon is replaced with fresh carbon immediately when breakthrough or an odor is indicated.

### III. Monitoring and/or Record Keeping Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #02-7805, issued on December 7, 1994: A.III.2. and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

## III. Monitoring and/or Record Keeping Requirements (continued)

**2.** The permitte shall maintain monthly records documenting the following information:

a. the type of liquid stored;

b. whether or not the liquid organic material is volatile photochemically reactive material, as defined in OAC rule 3745-21-01(C)(7); and

c. the monthly throughput of liquid, in gallons.

**3.** The permittee shall monitor and record the presence of any odors in the exhaust stream from the carbon adsorption system at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.

The permittee shall monitor and record all periods when carbon breakthrough or an odor is detected. Existing carbon shall be replaced with fresh carbon immediately upon carbon breakthrough. As an alternative, the permittee shall replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the normal carbon replacement interval, as determined by the maximum design flow rate and the organic concentration in the gas stream.

## IV. Reporting Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #02-7805, issued on December 7, 1994: A.IV.2 and A.IV.3. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

**2.** The permittee shall submit deviation (excursion) reports that identify all exceedances of the tons per year emission limitation for VOC.

**3.** The permittee shall notify the Ohio EPA Northeast District Office within 30 days of storing volatile photochemically reactive material in this emissions unit. The notification shall include the chemical name of the liquid being stored, the date of filling the tank with volatile photochemically reactive material, and the method of complying with the requirements of OAC rule 3745-21-07(D).

**4.** The permittee shall submit deviation (excursion) reports that identify all periods during which the existing carbon of the carbon adsorption system was not replaced with fresh carbon immediately when breakthrough or an odor is indicated.

**5.** The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

## V. Testing Requirements

**1.** Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install #02-7805, issued on December 7, 1994: A.V.2.a. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

**2.** Compliance with the allowable emission limitations in Section A.I.1 and A.I.2 of these terms and conditions shall be determined in accordance with the following methods:

## V. Testing Requirements (continued)

**2.a** Emissions Limitation: 0.25 tons per year of VOC emissions

Applicable Compliance Method: Compliance shall be demonstrated using the throughput data required in Section A.III of these terms and conditions, the storage tank dimensions, and U.S. EPA emission factors and equations found in AP-42, Section 7.1.3, "Emissions Factors for Organic Liquid Storage Tanks" (September 1997).

## VI. Miscellaneous Requirements

**1.** Permit to Install 02-7805 shall be modified to include OAC rule 3745-21-09(L) as an applicable rule when this emissions unit stores petroleum liquids.

## B. State Enforceable Section

### I. Applicable Emissions Limitations and/or Control Requirements

**1.** The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/ Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|

**2. Additional Terms and Conditions**

**None**

### II. Operational Restrictions

**None**

### III. Monitoring and/or Record Keeping Requirements

**None**

### IV. Reporting Requirements

**None**

### V. Testing Requirements

**None**

### VI. Miscellaneous Requirements

**None**

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