



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center
122 S. Front Street
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Mailing Address:

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

06/27/03

**RE: Proposed Title V Chapter 3745-77 Permit
06-84-01-0011 KRATON Polymers U.S. LLC**

Attn: Genevieve Damico AR-18J
United States Environmental Protection Agency
Region V
77 West Jackson Blvd.
Chicago, IL 60604-3590

Dear Ms. Damico:

The proposed issuance of the Title V permit for KRATON Polymers U.S. LLC, has been created in Ohio EPA's State Air Resources System (STARS) on 06/27/03, for review by USEPA. This proposed action is identified in STARS as  3-Title V Proposed Permit T+C covering the facility specific terms and conditions, and  Title V Proposed Permit covering the general terms and conditions. This proposed permit will be processed for issuance as a final action after forty-five (45) days from USEPA's receipt of this certified letter if USEPA does not object to the proposed permit. Please contact me at (614) 644-3631 by the end of the forty-five (45) day review period if you wish to object to the proposed permit.

Very truly yours,

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

cc: Southeast District Office
File, DAPC PMU



State of Ohio Environmental Protection Agency

PROPOSED TITLE V PERMIT

Issue Date: 06/27/03

Effective Date: To be entered upon final issuance

Expiration Date: To be entered upon final issuance

This document constitutes issuance of a Title V permit for Facility ID: 06-84-01-0011 to:
KRATON Polymers U.S. LLC
2982 Washington Blvd.
P.O. Box 235
Belpre, OH 45714-0235

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

Table with 3 columns: Emissions Unit ID (Company ID), Emissions Unit Activity Description, and Emissions Unit Activity Description. Rows include units like B005 (Boiler F-1001), B007 (Boiler F-1002), B008 (Gas/Oil Fired Reformer), B009 (Boiler F-1003), F003 (K-1 Railcar Loading Facility), F005 (Wastewater Treat), P004 (G-1 Process Unit), P005 (Compounding Unit), P006 (K-3 Process Unit), P007 (G-2 Process Unit), P009 (Riverwater Pump), P010 (K-1 Process Unit), P011 (Emergency Generator), P012 (Firewater Pump), P013 (Effluent Emergency Generator), P015 (Firewater Pump), P017 (Air Compressor), T035 (Belpre Naphtha Tank V-942), T036 (Butadiene Sphere V-945), T054 (Styrene Tank T-920), T055 (Styrene Tank T-921), and T057 (Butadiene Sphere V-936).

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:

Southeast District Office
2195 Front Street
Logan, OH 43138
(740) 385-8501

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:

1. 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
2. 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. (Note: The terms and conditions derived directly from 40 CFR Part 63, Subparts H and I are structured as in those applicable standards.)

Sections II.A.1 through II.A.26 apply to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and instrumentation systems that are intended to operate in organic hazardous air pollutant (OHAP) service 300 hours or more during the calendar year. In OHAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total HAP's, as determined by 40 CFR 63.180(d) (see section II.A.24.d). Equipment in vacuum service, or otherwise exempted in subpart H or I of 40 CFR part 63, is exempt from the requirements of sections II.A.1 through II.A.26.

The permittee may request a determination of an alternative means of emissions limitation to the requirements of sections II.A.1 through II.A.26 of this permit that are from 40 CFR 63.163 through 63.170, and 63.172 through 63.174, as provided in 63.177.

40 CFR Part 63, Subpart I

Section 63.190 Applicability and designation of source.

(a) This subpart provides applicability provisions, definitions, and other general provisions that are applicable to sources subject to this subpart.

(b) Except as provided in paragraph (b)(7) of this section, the provisions of subparts I and H of this part apply to emissions of the designated organic HAP from the processes specified in paragraphs (b)(1) through (b)(6) of this section that are located at a plant site that is a major source as defined in section 112(a) of the Act. The specified processes are further defined in section 63.191.

(1) Styrene-butadiene rubber production (butadiene and styrene emissions only).

(2) - (7) (These sections of the federal rule do not apply to the permittee.)

(c) The owner or operator of a process listed in paragraph (b) of this section that does not have the designated organic hazardous air pollutants present in the process shall comply only with the requirements of paragraph 63.192(k) of this subpart. To comply with this subpart, such processes shall not be required to comply with the provisions of subpart A of this part.

(d) For the purposes of subparts I and H of this part, the source includes pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and instrumentation systems that are associated with the processes identified in paragraph (b) of this section and are intended to operate in organic hazardous air pollutant service (as defined in section 63.191 of this subpart) for 300 hours or more during the calendar year. If specific items of equipment, comprising part of a process unit subject to this subpart, are managed by different administrative organizations (e.g., different companies, affiliates, departments, divisions, etc.) those items of equipment may be aggregated with any process unit within the source for all purposes under subpart H of this part, providing there is no delay in the applicable compliance date in paragraph (e) of this section.

A. State and Federally Enforcable Section (continued)

(e) The owner or operator of a process subject to this subpart is required to comply with the provisions of subpart H of this part on or before the dates specified in paragraph (e)(1) or (e)(2) of this section, unless the owner or operator eliminates the use or production of all HAP's that cause the process to be subject to this rule no later than 18 months after April 22, 1994.

(1) New sources that commence construction or reconstruction after December 31, 1992 shall comply upon initial start-up or April 22, 1994.

(2) Existing sources shall comply no later than October 24, 1994, except as provided in paragraphs (e)(3) through (e)(6) of this section or unless an extension has been granted by the EPA Regional Office or operating permit authority, as provided in paragraph 63.6(i) of subpart A of this part.

(3) Existing process units shall be in compliance with the requirements of section 63.164 of subpart H no later than May 10, 1995, for any compressor meeting one or more of the criteria in paragraphs (e)(3)(i) through (e)(3)(iv) of this section, if the work can be accomplished without a process unit shutdown, as defined in section 63.161.

(i) The seal system will be replaced;

(ii) A barrier fluid system will be installed;

(iii) A new barrier fluid will be utilized which requires changes to the existing barrier fluid system; or

(iv) The compressor must be modified to permit connecting the compressor to a closed vent system.

(4) Existing process units shall be in compliance with the requirements of section 63.164 of subpart H no later than January 23, 1996, for any compressor meeting the criteria in paragraphs (e)(4)(i) through (e)(4)(iv) of this section.

(i) The compressor meets one or more of the criteria specified in paragraphs (e)(3)(i) through (iv) of this section;

(ii) The work can be accomplished without a process unit shutdown as defined in section 63.161;

(iii) The additional time is actually necessary due to the unavailability of parts beyond the control of the owner or operator; and

(iv) The owner or operator submits a request to the appropriate EPA Regional Office at the addresses listed in section 63.13 of subpart A of this part no later than May 10, 1995. The request shall include the information specified in paragraphs (e)(4)(iv)(A) through (e)(4)(iv)(E) of this section. Unless the EPA Regional Office objects to the request within 30 days after receipt, the request shall be deemed approved.

(A) The name and address of the owner or operator and the address of the existing source if it differs from the address of the owner or operator;

(B) The name, address, and telephone number of a contact person for further information;

(C) An identification of the process unit, and of the specific equipment for which additional compliance time is required;

(D) The reason compliance cannot reasonably be achieved by May 10, 1995; and

(E) The date by which the owner or operator expects to achieve compliance.

A. State and Federally Enforcable Section (continued)

(5)(i) If compliance with the compressor provisions of section 63.164 of subpart H of this part cannot reasonably be achieved without a process unit shutdown, as defined in section 63.161 of subpart H, the owner or operator shall achieve compliance no later than April 22, 1996, except as provided in paragraph (e)(5)(ii) of this section. The owner or operator who elects to use this provision shall also comply with the requirements of paragraph 63.192(m) of this subpart.

(ii) If compliance with the compressor provisions of section 63.164 of subpart H of this part cannot be achieved without replacing the compressor or recasting the distance piece, the owner or operator shall achieve compliance no later than April 22, 1997. The owner or operator who elects to use this provision shall also comply with the requirements of paragraph 63.192(m) of this subpart.

(6) Existing sources shall be in compliance with the provisions of section 63.170 of subpart H no later than April 22, 1997.

(f) The provisions of subparts I and H of this part do not apply to research and development facilities or to bench-scale batch processes, regardless of whether the facilities or processes are located at the same plant site as a process subject to the provisions of subpart I and H of this part.

(g)(1) If an additional process unit specified in paragraph (b) of this section is added to a plant site that is a major source as defined in section 112(a) of the CAA, the addition shall be subject to the requirements for a new source in subparts H and I of this part if:

(i) It is an addition that meets the definition of construction in section 63.2 of subpart A of this part;

(ii) Such construction commenced after December 31, 1992; and

(iii) The addition has the potential to emit 10 tons per year or more of any HAP or 25 tons per year or more of any combination of HAP's, unless the Administrator establishes a lesser quantity.

(2) If any change is made to a process subject to this subpart, the change shall be subject to the requirements for a new source in subparts H and I of this part if:

(i) It is a change that meets the definition of reconstruction in section 63.2 of subpart A of this part;

(ii) Such reconstruction commenced after December 31, 1992.

(3) If an additional process unit is added to a plant site or a change is made to a process unit and the addition or change is determined to be subject to the new source requirements according to paragraphs (g)(1) or (g)(2) of this section:

(i) The new or reconstructed source shall be in compliance with the new source requirements of subparts H and I of this part upon initial start-up of the new or reconstructed source or by April 22, 1994, whichever is later; and

(ii) The owner or operator of the new or reconstructed source shall comply with the reporting and recordkeeping requirements in subparts H and I of this part that are applicable to new sources. The applicable reports include, but are not limited to:

(A) Reports required by paragraph 63.182(b), if not previously submitted, paragraphs 63.182(c) and (d) of subpart H of this part; and

(B) Reports and notifications required by sections of subpart A of this part that are applicable to subparts H and I of this part, as identified in paragraph 63.192(a) of this subpart.

A. State and Federally Enforcable Section (continued)

(4) If an additional process unit is added to a plant site, if a surge control vessel or bottoms receiver becomes subject to section 63.170 of subpart H, or if a compressor becomes subject to section 63.164 of subpart H, and if the addition or change is not subject to the new source requirements as determined according to paragraphs (g)(1) or (g)(2) of this section, the requirements in paragraphs (g)(4)(i) through (g)(4)(iii) of this section shall apply. Examples of process changes include, but are not limited to, changes in production capacity, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of this paragraph, process changes do not include: process upsets, unintentional temporary process changes, and changes that are within the equipment configuration and operating conditions documented in the Notification of Compliance Status required by paragraph 63.182(c) of subpart H of this part.

(i) The added emission point(s) and any emission point(s) within the added or changed process unit are subject to the requirements of subparts H and I of this part for an existing source;

(ii) The added emission point(s) and any emission point(s) within the added or changed process unit shall be in compliance with subparts H and I of this part by the dates specified in paragraphs (g)(4)(ii)(A) or (g)(4)(ii)(B) of this section, as applicable.

(A) If a process unit is added to a plant site or an emission point(s) is added to an existing process unit, the added process unit or emission point(s) shall be in compliance upon initial start-up of the added process unit or emission point(s) or by April 22, 1997, whichever is later.

(B) If a surge control vessel or bottoms receiver becomes subject to section 63.170 of subpart H, if a compressor becomes subject to section 63.164 of subpart H, or if a deliberate operational process change causes equipment to become subject to subpart H of this part, the owner or operator shall be in compliance upon initial start-up or by April 22, 1997, whichever is later, unless the owner or operator demonstrates to the Administrator that achieving compliance will take longer than making the change. The owner or operator shall submit to the Administrator for approval a compliance schedule, along with a justification for the schedule. The Administrator shall approve the compliance schedule or request changes within 120 calendar days of receipt of the compliance schedule and justification.

(iii) The owner or operator of a process unit or emission point that is added to a plant site and is subject to the requirements for existing sources shall comply with the reporting and recordkeeping requirements of subparts H and I of this part that are applicable to existing sources, including, but not limited to, the reports listed in paragraphs (g)(4)(iii)(A) and (g)(4)(iii)(B) of this section.

(A) Reports required by section 63.182 of subpart H of this part; and

(B) Reports and notifications required by sections of subpart A of this part that are applicable to subparts H and I of this part, as identified in paragraph 63.192(a) of this subpart.

(h) (This paragraph of the federal rule does not apply to the permittee.)

(i) (This paragraph of the federal rule does not apply to the permittee.)

(j) If a change that does not meet the criteria in paragraph (g)(4) of this section is made to a process unit subject to subparts H and I of this part, and the change causes equipment to become subject to the provisions of subpart H of this part, then the owner or operator shall comply with the requirements of subpart H of this part for the equipment as expeditiously as practical, but in no event later than three years after the equipment becomes subject.

(1) The owner or operator shall submit to the Administrator for approval a compliance schedule, along with a justification for the schedule.

(2) The Administrator shall approve the compliance schedule or request changes within 120 calendar days of receipt of the compliance schedule and justification.

A. State and Federally Enforcable Section (continued)

2. 40 CFR Part 63, Subpart I

Section 63.191 Definitions.

(Applicable definitions are found in this section of the federal rule.)

3. 40 CFR Part 63, Subpart I

Section 63.192 Standard.

(a)(1) The owner or operator of a source subject to this subpart shall comply with the requirements of subpart H of this part for the processes and designated organic HAP's listed in paragraph 63.190(b) of this subpart.

(2) (This paragraph of the federal rule does not apply to the permittee.)

(b) All provisions in sections 63.1 through 63.15 of subpart A of this part which apply to owners and operators of sources subject to subparts I and H of this part, are:

(1) The applicability provisions of paragraphs 63.1(a)(1), (a)(2), (a)(10), (a)(12) through (a)(14);

(2) The definitions of section 63.2 unless changed or modified by specific entry in section 63.191 or section 63.161;

(3) The units and abbreviations in section 63.3;

(4) The prohibited activities and circumvention provisions of sections 63.4(a)(1), (a)(2), (a)(3), (a)(5), and (b);

(5) The construction and reconstruction provisions of paragraphs 63.5(a), (b)(1), (b)(3), (d) (except the review is limited to the equipment subject to the provisions of subpart H), (e), and (f);

(6)(i) The compliance with standards and maintenance requirements of paragraphs 63.6(a), (b)(3), (c)(5), (e), (i)(1), (i)(2), (i)(4)(i)(A), (i)(6)(i), (i)(8) through (i)(10), (i)(12) through (i)(14), (i)(16), and (j);

(ii) The operational and maintenance requirements of paragraph 63.6(e). The startup, shutdown, and malfunction plan requirement of paragraph 63.6(e)(3) is limited to control devices subject to the provisions of subpart H of part 63 and is optional for other equipment subject to subpart H. The startup, shutdown, and malfunction plan may include written procedures that identify conditions that justify a delay of repair.

(7) With respect to flares, the performance testing requirements of paragraphs 63.7(a)(3), (d), (e)(1), (e)(2), (e)(4), and (h);

(8) The notification requirements of paragraphs 63.9(a)(1), (a)(3), (a)(4), (b)(1)(i), (b)(4), (b)(5) (except, use the schedule specified in subpart H), (c), (d), and (i);

(9) The recordkeeping and reporting requirements of paragraphs 63.10(a) and (f);

(10) The control device requirements of paragraph 63.11(b); and

(11) The provisions of section 63.12 through section 63.15.

(c) Initial performance tests and initial compliance determinations shall be required only as specified in subpart H of this part.

(1) Performance tests and compliance determinations shall be conducted according to the applicable sections of subpart H.

A. State and Federally Enforcable Section (continued)

(2) The owner or operator shall notify the Administrator of the intention to conduct a performance test at least 30 days before the performance test is scheduled to allow the Administrator the opportunity to have an observer present during the test.

Note: This requirement does not apply to equipment subject to monitoring using Method 21 of part 60, appendix A.

(3) Performance tests shall be conducted according to the provisions of paragraph 63.7(e) of subpart A of this part, except that performance tests shall be conducted at maximum representative operating conditions for the process. During the performance test, an owner or operator may operate the control or recovery device at maximum or minimum representative operating conditions for monitored control or recovery device parameters, whichever results in lower emission reduction.

(4) Data shall be reduced in accordance with the EPA-approved methods specified in the applicable subpart, or, if other test methods are used, the data and methods shall be validated according to the protocol in Method 301 of appendix A of this part.

(d) An application for approval of construction or reconstruction, 40 CFR 63.5 of this chapter, will not be required if:

(1) The new process unit complies with the applicable standards in section 63.162 or section 63.178 of subpart H of this part; and

(2) In the next semiannual report required by paragraph 63.182(d) of subpart H of this part, the information in paragraph 63.182(c) of subpart H of this part is reported.

(e) (This section of the federal rule does not apply to the permittee.)

(f) Each owner or operator of a source subject to subparts I and H of this part shall keep copies of all applicable reports and records required by subpart H for at least 2 years, except as otherwise specified in subpart H. If an owner or operator submits copies of reports to the applicable EPA Regional Office, the owner or operator is not required to maintain copies of reports. If the EPA Regional Office has waived the requirement of paragraph 63.10(a)(4)(ii) for submittal of copies of reports, the owner or operator is not required to maintain copies of reports.

(1) All applicable records shall be maintained in such a manner that they can be readily accessed. The most recent 6 months of records shall be retained on site or shall be accessible from a central location by computer or other means that provides access within 2 hours after a request.

(2) The owner or operator subject to subparts I and H of this part shall keep the records specified in this paragraph, as well as records specified in subpart H of this part.

(i) Records of the occurrence and duration of each start-up, shutdown, and malfunction of operation of a process subject to this subpart as specified in paragraph 63.190(b) of this subpart.

(ii) Records of the occurrence and duration of each malfunction of air pollution control equipment or continuous monitoring systems used to comply with subparts I and H of this part.

(iii) For each start-up, shutdown, and malfunction, records that the procedures specified in the source's start-up, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. These records may take the form of a "checklist," or other form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for the event.

(g) All reports required under subpart H shall be sent to the Administrator at the addresses listed in section 63.13 of subpart A of this part.

A. State and Federally Enforcable Section (continued)

(1) Wherever subpart A specifies "postmark" dates, submittals may be sent by methods other than the U.S. Mail (e.g., by fax or courier). Submittals shall be sent on or before the specified date.

(2) If acceptable to both the Administrator and the owner or operator of a source, reports may be submitted on electronic media.

(h) If, in the judgment of the Administrator, an alternative means of emission limitation will achieve a reduction in organic HAP emissions at least equivalent to the reduction in organic HAP emissions from that source achieved under any design, equipment, work practice, or operational standards in subpart H of this part, the Administrator will publish in the Federal Register a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(1) The notice may condition the permission on requirements related to the operation and maintenance of the alternative means.

(2) Any notice under paragraph (h) of this section shall be published only after public notice and an opportunity for a hearing.

(3) Any person seeking permission to use an alternative means of compliance under this section shall collect, verify, and submit to the Administrator information showing that the alternative means achieves equivalent emission reductions.

(i) Each owner or operator of a source subject to this subpart shall obtain a permit under 40 CFR part 70 or part 71 from the appropriate permitting authority.

(1) If EPA has approved a State operating permit program under 40 CFR part 70, the permit shall be obtained from the State authority.

(2) If the State operating permit program has not been approved, the source shall apply to the EPA regional office pursuant to 40 CFR part 71.

(j) The requirements in subparts I and H of this part are Federally enforceable under section 112 of the Act on and after the dates specified in paragraph 63.190(d) of this subpart.

(k) The owner or operator of a process unit which meets the criteria of paragraph 63.190(c), shall comply with the requirements of either paragraph (k)(1) or (k)(2) of this section.

(1) Retain information, data, and analysis used to determine that the process unit does not have the designated organic hazardous air pollutant present in the process. Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

(2) When requested by the Administrator, demonstrate that the chemical manufacturing process unit does not have the designated organic hazardous air pollutant present in the process.

(l) (This paragraph of the federal rule does not apply to the permittee.)

(m) (This paragraph of the federal rule does not apply to the permittee.)

A. State and Federally Enforcable Section (continued)

4. 40 CFR Part 63, Subpart H

Section 63.160 Applicability and designation of source.

(a) The provisions of this subpart apply to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, instrumentation systems, and control devices for closed vent systems required by this subpart that are intended to operate in organic hazardous air pollutant service 300 hours or more during the calendar year within a source subject to the provisions of a specific subpart in 40 CFR part 63 that references this subpart.

(b) After the compliance date for a process unit, equipment to which this subpart applies that are also subject to the provisions of:

(1) 40 CFR part 60 will be required to comply only with the provisions of this subpart.

(2) 40 CFR part 61 will be required to comply only with the provisions of this subpart.

(c) If a process unit subject to the provisions of this subpart has equipment to which this subpart does not apply, but which is subject to a standard identified in paragraph (c)(1), (c)(2), or (c)(3) of this section, the owner or operator may elect to apply this subpart to all such equipment in the process unit. If the owner or operator elects this method of compliance, all VOC in such equipment shall be considered, for purposes of applicability and compliance with this subpart, as if it were organic hazardous air pollutant (HAP). Compliance with the provisions of this subpart, in the manner described in this paragraph, shall be deemed to constitute compliance with the standard identified in paragraph (c)(1), (c)(2), or (c)(3) of this section.

(1) 40 CFR part 60, subpart VV, GGG, or KKK; (2) 40 CFR part 61, subpart F or J; or (3) 40 CFR part 264, subpart BB or 40 CFR part 265, subpart BB.

(2) [Reserved]

(d) The provisions in paragraph 63.1(a)(3) of subpart A of this part do not alter the provisions in paragraph (b) of this section.

(e) Except as provided in any subpart that references this subpart, lines and equipment not containing process fluids are not subject to the provisions of this subpart. Utilities, and other non-process lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process unit.

(f) The provisions of this subpart do not apply to research and development facilities or to bench-scale batch processes, regardless of whether the facilities or processes are located at the same plant site as a process subject to the provisions of this subpart.

5. 40 CFR Part 63, Subpart H

Section 63.161 Definitions.

(Applicable definitions are found in this section of the federal rule.)

A. State and Federally Enforcable Section (continued)

6. 40 CFR Part 63, Subpart H

Section 63.162 Standards: General.

(a) Compliance with this subpart will be determined by review of the records required by section 63.181 of this subpart and the reports required by section 63.182 of this subpart, review of performance test results, and by inspections.

(b)(1) An owner or operator may request a determination of alternative means of emission limitation to the requirements of sections 63.163 through 63.170, and sections 63.172 through 63.174 of this subpart as provided in section 63.177.

(2) If the Administrator makes a determination that a means of emission limitation is a permissible alternative to the requirements of sections 63.163 through 63.170, and sections 63.172 through 63.174 of this subpart, the owner or operator shall comply with the alternative.

(c) Each piece of equipment in a process unit to which this subpart applies shall be identified such that it can be distinguished readily from equipment that is not subject to this subpart. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process unit boundaries by some form of weatherproof identification.

(d) Equipment that is in vacuum service is excluded from the requirements of this subpart.

(e) Equipment that is in organic HAP service less than 300 hours per calendar year is excluded from the requirements of section 63.163 through 63.174 of this subpart and section 63.178 of this subpart if it is identified as required in paragraph 63.181(j) of this subpart.

(f) When each leak is detected as specified in sections 63.163 and 63.164; sections 63.168 and 63.169; and sections 63.172 through 63.174 of this subpart, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification on a valve may be removed after it has been monitored as specified in paragraphs 63.168(f)(3), and 63.175(e)(7)(i)(D) of this subpart, and no leak has been detected during the follow up monitoring. If the owner or operator elects to comply using the provisions of paragraph 63.174(c)(1)(i) of this subpart, the identification on a connector may be removed after it is monitored as specified in paragraph 63.174(c)(1)(i) and no leak is detected during that monitoring.

(3) The identification which has been placed on equipment determined to have a leak, except for a valve or for a connector that is subject to the provisions of paragraph 63.174(c)(1)(i), may be removed after it is repaired.

(g) Except as provided in paragraph (g)(1) of this section, all terms in this subpart that define a period of time or completion of required tasks (e.g., weekly, monthly, quarterly, annual), refer to the standard calendar periods unless specified otherwise in the section or subsection that imposes the requirement.

(1) If the initial compliance date does not coincide with the beginning of the standard calendar period, an owner or operator may elect to utilize a period beginning on the compliance date, or may elect to comply in accordance with the provisions of paragraphs (g)(2) or (g)(3) of this section.

A. State and Federally Enforcable Section (continued)

(2) Time periods specified in this subpart for completion of required tasks may be changed by mutual agreement between the owner or operator and the Administrator, as specified in subpart A of this part. For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

(3) Except as provided in paragraph (g)(1) or (g)(2) of this section, where the period specified for compliance is a standard calendar period, if the initial compliance date does not coincide with the beginning of the calendar period, compliance shall be required according to the schedule specified in paragraphs (g)(3)(i) or (g)(3)(ii) of this section, as appropriate.

(i) Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs, if there remain at least 3 days or tasks that must be performed weekly, at least 2 weeks or tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(ii) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs.

(4) In all instances where a provision of this subpart requires completion of a task during each of multiple successive periods, an owner or operator may perform the required task at any time during each period, provided the task is conducted at a reasonable interval after completion of the task during the previous period.

(h) In all cases where the provisions of this subpart require an owner or operator to repair leaks by a specified time after the leak is detected, it is a violation of this subpart to fail to take action to repair the leaks within the specified time. If action is taken to repair the leaks within the specified time, failure of that action to successfully repair the leak is not a violation of this subpart. However, if the repairs are unsuccessful, a leak is detected and the owner or operator shall take further action as required by applicable provisions of this subpart.

7. 40 CFR Part 63, Subpart H

Section 63.163 Standards: Pumps in light liquid service.

(a) The provisions of this section apply to each pump that is in light liquid service.

(1) The provisions are to be implemented on the dates specified in the specific subpart in 40 CFR part 63 that references this subpart in the phases specified below:

(i) For each group of existing process units at existing sources subject to the provisions of subparts F or I of this part, the phases of the standard are:

(A) Phase I, beginning on the compliance date;

(B) Phase II, beginning no later than 1 year after the compliance date; and

(C) Phase III, beginning no later than 2 1/2 years after the compliance date.

A. State and Federally Enforcable Section (continued)

(ii) For new sources subject to the provisions of subparts F or I of this part, the applicable phases of the standard are:

(A) After initial startup, comply with the Phase II requirements; and

(B) Beginning no later than 1 year after initial startup, comply with the Phase III requirements.

(2) The owner or operator of a source subject to the provisions of subparts F or I of this part may elect to meet the requirements of a later phase during the time period specified or an earlier phase.

(3) Sources subject to other subparts in 40 CFR part 63 that reference this subpart shall comply on the dates specified in the applicable subpart.

(b)(1) The owner or operator of a process unit subject to this subpart shall monitor each pump monthly to detect leaks by the method specified in paragraph 63.180(b) of this subpart and shall comply with the requirements of paragraphs (a) through (d) of this section, except as provided in paragraph 63.162(b) of this subpart and paragraphs (e) through (j) of this section.

(2) The instrument reading, as determined by the method as specified in paragraph 63.180(b) of this subpart, that defines a leak in each phase of the standard is:

(i) For Phase I, an instrument reading of 10,000 parts per million or greater.

(ii) For Phase II, an instrument reading of 5,000 parts per million or greater.

(iii) For Phase III, an instrument reading of:

(A) 5,000 parts per million or greater for pumps handling polymerizing monomers;

(B) 2,000 parts per million or greater for pumps in food/medical service; and

(C) 1,000 parts per million or greater for all other pumps.

(3) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (c)(3) of this section or section 63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

(i) Tightening of packing gland nuts.

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

(3) For pumps in Phase III to which a 1,000 parts per million leak definition applies, repair is not required unless an instrument reading of 2,000 parts per million or greater is detected.

A. State and Federally Enforcable Section (continued)

(d)(1) The owner or operator shall decide no later than the first monitoring period whether to calculate percent leaking pumps on a process unit basis or on a source-wide basis. Once the owner or operator has decided, all subsequent percent calculations shall be made on the same basis.

(2) If, in Phase III, calculated on a 6 month rolling average, the greater of either 10 percent of the pumps in a process unit or three pumps in a process unit leak, the owner or operator shall implement a quality improvement program for pumps that complies with the requirements of section 63.176 of this subpart.

(3) The number of pumps at a process unit shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process unit within 1 month after startup of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(4) Percent leaking pumps shall be determined by the following equation:

$$\% \text{ PL} = ((\text{PL} - \text{PS}) / (\text{PT} - \text{PS})) \times 100$$

where:

% PL = Percent leaking pumps

PL = Number of pumps found leaking as determined through monthly monitoring as required in paragraphs (b)(1) and (b)(2) of this section.

PT = Total pumps in organic HAP service, including those meeting the criteria in paragraphs (e) and (f) of this section.

PS = Number of pumps leaking within 1 month of startup during the current monitoring period.

(e) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraphs (a) through (d) of this section, provided the following requirements are met:

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of section 63.172 of this subpart; or

(iii) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(2) The barrier fluid is not in light liquid service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump is checked by visual inspection each calendar week or indications of liquids dripping from the pump seal.

(i) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the pump shall be monitored as specified in paragraph 63.180(b) of this subpart to determine if there is a leak of organic HAP in the barrier fluid.

(ii) If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected.

A. State and Federally Enforcable Section (continued)

- (5) Each sensor as described in paragraph (e)(3) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.
- (6)(i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.
- (ii) If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (e)(6)(i) of this section, or if, based on the criteria established in paragraph (e)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.
- (iii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in section 63.171 of this subpart.
- (iv) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- (f) Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of paragraphs (a) through (c) of this section.
- (g) Any pump equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of section 63.172 of this subpart is exempt from the requirements of paragraphs (b) through (e) of this section.
- (h) Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(3) and (e)(4) of this section, and the daily requirements of paragraph (e)(5) of this section, provided that each pump is visually inspected as often as practicable and at least monthly.
- (i) If more than 90 percent of the pumps at a process unit meet the criteria in either paragraph (e) or (f) of this section, the process unit is exempt from the requirements of paragraph (d) of this section.
- (j) Any pump that is designated, as described in paragraph 63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor pump is exempt from the requirements of paragraphs (b) through (e) of this section if:
- (1) The owner or operator of the pump determines that the pump is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (b) through (d) of this section; and
 - (2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.

A. State and Federally Enforcable Section (continued)

8. 40 CFR Part 63, Subpart H

Section 63.164 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in paragraph 63.162(b) of this subpart and paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of section 63.172 of this subpart; or

(3) Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

(c) The barrier fluid shall not be in light liquid service.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in section 63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) through (g) of this section if it is equipped with a closed-vent system to capture and transport leakage from the compressor drive shaft seal back to a process or a fuel gas system or to a control device that complies with the requirements of section 63.172 of this subpart.

(i) Any compressor that is designated, as described in paragraph 63.181(b)(2)(ii) of this subpart, to operate with an instrument reading of less than 500 parts per million above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is demonstrated to be operating with an instrument reading of less than 500 parts per million above background, as measured by the method specified in paragraph 63.180(c) of this subpart; and

(2) Is tested or compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

A. State and Federally Enforcable Section (continued)

9. 40 CFR Part 63, Subpart H

Section 63.165 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with an instrument reading of less than 500 parts per million above background except as provided in paragraph (b) of this section, as measured by the method specified in paragraph 63.180(c) of this subpart.

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in section 63.171 of this subpart.

(2) No later than 5 calendar days after the pressure release and being returned to organic HAP service, the pressure relief device shall be monitored to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in paragraph 63.180(c) of this subpart.

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in section 63.172 of this subpart is exempt from the requirements of paragraphs (a) and (b) of this section.

(d)(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in section 63.171 of this subpart

10. 40 CFR Part 63, Subpart H

Section 63.166 Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in paragraph 63.162(b) of this subpart. Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport the purged process fluid to a control device that complies with the requirements of section 63.172 of this subpart; or

A. State and Federally Enforcable Section (continued)

(4) Collect, store, and transport the purged process fluid to a system or facility identified in paragraph (b)(4)(i), (ii), or (iii) of this section.

(i) A waste management unit as defined in section 63.111 of subpart G of this part, if the waste management unit is subject to, and operated in compliance with the provisions of subpart G of this part applicable to group 1 wastewater streams. If the purged process fluid does not contain any organic HAP listed in Table 9 of subpart G of part 63, the waste management unit need not be subject to, and operated in compliance with the requirements of 40 CFR part 63, subpart G applicable to group 1 wastewater streams provided the facility has an NPDES permit or sends the wastewater to an NPDES permitted facility.

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

11. 40 CFR Part 63, Subpart H

Section 63.167 Standards: Open-ended valves or lines.

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in paragraph 63.162(b) of this subpart and paragraphs (d) and (e) of this section.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

(d) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (a), (b) and (c) of this section.

(e) Open-ended valves or lines containing materials which would auto catalytically polymerize or, would present an explosion, serious over-pressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (a) through (c) of this section are exempt from the requirements of paragraph (a) through (c) of this section.

A. State and Federally Enforcable Section (continued)

12. 40 CFR Part 63, Subpart H

Section 63.168 Standards: Valves in gas/vapor service and in light liquid service.

(a) The provisions of this section apply to valves that are either in gas service or in light liquid service.

(1) The provisions are to be implemented on the dates set forth in the specific subpart in 40 CFR part 63 that references this subpart as specified in paragraph (a)(1)(i), (a)(1)(ii), or (a)(1)(iii) of this section.

(i) For each group of existing process units at existing sources subject to the provisions of subpart F or I of this part, the phases of the standard are:

(A) Phase I, beginning on the compliance date;

(B) Phase II, beginning no later than 1 year after the compliance date; and

(C) Phase III, beginning no later than 2 1/2 years after the compliance date.

(ii) For new sources subject to the provisions of subpart F or I of this part, the applicable phases of the standard are:

(A) After initial startup, comply with the Phase II requirements; and

(B) Beginning no later than 1 year after initial startup, comply with the Phase III requirements.

(iii) Sources subject to other subparts in 40 CFR part 63 that reference this subpart shall comply on the dates specified in the applicable subpart.

(2) The owner or operator of a source subject to this subpart may elect to meet the requirements of a later phase during the time period specified for an earlier phase.

(3) The use of monitoring data generated before April 22, 1994 to qualify for less frequent monitoring is governed by the provisions of paragraph 63.180(b)(6) of this subpart.

(b) The owner or operator of a source subject to this subpart shall monitor all valves, except as provided in paragraph 63.162(b) of this subpart and paragraphs (h) and (i) of this section, at the intervals specified in paragraphs (c) and (d) of this section and shall comply with all other provisions of this section, except as provided in sections 63.171, 63.177, 63.178, and 63.179 of this subpart.

A. State and Federally Enforcable Section (continued)

(1) The valves shall be monitored to detect leaks by the method specified in paragraph 63.180(b) of this subpart.

(2) The instrument reading that defines a leak in each phase of the standard is:

(i) For Phase I, an instrument reading of 10,000 parts per million or greater.

(ii) For Phase II, an instrument reading of 500 parts per million or greater.

(iii) For Phase III, an instrument reading of 500 parts per million or greater.

(c) In Phases I and II, each valve shall be monitored quarterly.

(d) In Phase III, the owner or operator shall monitor valves for leaks at the intervals specified below:

(1) At process units with 2 percent or greater leaking valves, calculated according to paragraph (e) of this section, the owner or operator shall either:

(i) Monitor each valve once per month; or

(ii) Within the first year after the onset of Phase III, implement a quality improvement program for valves that complies with the requirements of paragraph 63.175(d) or (e) of this subpart and monitor quarterly.

(2) At process units with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (d)(3) and (d)(4) of this section.

(3) At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters.

(4) At process units with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters.

(e)(1) Percent leaking valves at a process unit shall be determined by the following equation:

$$\%VL = (VL/(VT+VC)) \times 100$$

where:

% VL = Percent leaking valves as determined through periodic monitoring required in paragraphs (b) through (d) of this section.

VL = Number of valves found leaking excluding non-repairables as provided in paragraph (e)(3)(i) of this section.

VT = Total valves monitored, in a monitoring period excluding valves monitored as required by (f)(3) of this section

VC = Optional credit for removed valves = 0.67 x net number (i.e., total removed - total added) of valves in organic HAP service removed from process unit after the date set forth in paragraph 63.100(k) of subpart F for existing process units, and after the date of initial startup or new sources. If credits are not taken, then VC = 0.

(2) For use in determining monitoring frequency, as specified in paragraph (d) of this section, the percent leaking valves shall be calculated as a rolling average of two consecutive monitoring periods for monthly, quarterly, or semiannual monitoring programs; and as an average of any three out of four consecutive monitoring periods for annual monitoring programs.

A. State and Federally Enforcable Section (continued)

(3)(i) Non-repairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and non-repairable and as required to comply with paragraph (e)(3)(ii) of this section. Otherwise, a number of non-repairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of 1 percent of the total number of valves in organic HAP service at a process unit may be excluded from calculation of percent leaking valves or subsequent monitoring periods.

(ii) If the number of non-repairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process unit, the number of non-repairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves.

(f)(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in section 63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(3) When a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair.

(i) The monitoring shall be conducted as specified in paragraphs 63.180(b) and (c), as appropriate, to determine whether the valve has resumed leaking.

(ii) Periodic monitoring required by paragraphs (b) through (d) of this section may be used to satisfy the requirements of this paragraph (f)(3), if the timing of the monitoring period coincides with the time specified in this paragraph (f)(3). Alternatively, other monitoring may be performed to satisfy the requirements of this paragraph (f)(3), regardless of whether the timing of the monitoring period or periodic monitoring coincides with the time specified in this paragraph (f)(3).

(iii) If a leak is detected by monitoring that is conducted pursuant to paragraph (f)(3) of this section, the owner or operator shall follow the provisions of paragraphs (f)(3)(iii)(A) and (f)(3)(iii)(B) of this section, to determine whether that valve must be counted as a leaking valve or purposes of paragraph 63.168(e) of this subpart.

(A) If the owner or operator elected to use periodic monitoring required by paragraphs (b) through (d) of this section to satisfy the requirements of paragraph (f)(3) of this section, then the valve shall be counted as a leaking valve.

(B) If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by paragraphs (b) through (d) of this section, to satisfy the requirements of paragraph (f)(3) of this section, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(g) First attempts at repair include, but are not limited to, the following practices where practicable:

(1) Tightening of bonnet bolts,

(2) Replacement of bonnet bolts,

(3) Tightening of packing gland nuts, and

(4) Injection of lubricant into lubricated packing.

(h) Any valve that is designated, as described in paragraph 63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor valve is exempt from the requirements of paragraphs (b) through (f) of this section if:

A. State and Federally Enforcable Section (continued)

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (b) through (d) of this section; and

(2) The owner or operator of the valve has a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.

(i) Any valve that is designated, as described in paragraph 63.181(b)(7)(ii) of this subpart, as a difficult-to-monitor valve is exempt from the requirements of paragraphs (b) through (d) of this section if:

(1) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or it is not accessible at anytime in a safe manner;

(2) The process unit within which the valve is located is an existing source or the owner or operator designates less than 3 percent of the total number of valves in a new source as difficult-to-monitor; and

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(j) Any equipment located at a plant site with fewer than 250 valves in organic HAP service is exempt from the requirements for monthly monitoring and a quality improvement program specified in paragraph (d)(1) of this section. Instead, the owner or operator shall monitor each valve in organic HAP service for leaks once each quarter, or comply with paragraph (d)(3) or (d)(4) of this section except as provided in paragraphs (h) and (i) of this section.

13. 40 CFR Part 63, Subpart H

Section 63.169

Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service.

(a) Pumps, valves, connectors, and agitators in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and instrumentation systems shall be monitored within 5 calendar days by the method specified in paragraph 63.180(b) of this subpart if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired as required in paragraphs (c) and (d) of this section, it is not necessary to monitor the system for leaks by the method specified in paragraph 63.180(b) of this subpart.

(b) If an instrument reading of 10,000 parts per million or greater for agitators, 5,000 parts per million or greater for pumps handling polymerizing monomers, 2,000 parts per million or greater for pumps in food/medical service or pumps subject to paragraph 63.163(b)(iii)(C), or 500 parts per million or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in section 63.171 of this subpart.

A. State and Federally Enforcable Section (continued)

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(3) For equipment identified in paragraph (a) of this section that is not monitored by the method specified in paragraph 63.180(b), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure.

(d) First attempts at repair include, but are not limited to, the practices described under paragraphs 63.163(c)(2) and 63.168(g) of this subpart, for pumps and valves, respectively.

14. 40 CFR Part 63, Subpart H

Section 63.170 Standards: Surge control vessels and bottoms receivers.

Each surge control vessel or bottoms receiver that is not routed back to the process and that meets the conditions specified in table 2 or table 3 of this subpart shall be equipped with a closed-vent system that routes the organic vapors vented from the surge control vessel or bottoms receiver back to the process or to a control device that complies with the requirements in section 63.172 of this subpart, except as provided in paragraph 63.162(b) of this subpart, or comply with the requirements of paragraph 63.119(b) or (c) of subpart G of this part.

15. 40 CFR Part 63, Subpart H

Section 63.171 Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected is allowed if the repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service.

(c) Delay of repair for valves, connectors, and agitators is also allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with section 63.172 of this subpart.

A. State and Federally Enforcable Section (continued)

(d) Delay of repair for pumps is also allowed if:

(1) Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of paragraph 63.176(d) of this subpart will provide better performance or:

(i) A dual mechanical seal system that meets the requirements of paragraph 63.163(e) of this subpart,

(ii) A pump that meets the requirements of paragraph 63.163(f) of this subpart, or

(iii) A closed-vent system and control device that meets the requirements of paragraph 63.163(g) of this subpart; and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

16. 40 CFR Part 63, Subpart H

Section 63.172 Standards: Closed-vent systems and control devices.

(a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section, except as provided in paragraph 63.162(b) of this subpart

(b) Recovery or recapture devices (e.g., condensers and absorbers) shall be designed and operated to recover the organic hazardous air pollutant emissions for volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent. The 20 parts per million by volume performance standard is not applicable to the provisions of section 63.179.

(c) Enclosed combustion devices shall be designed and operated to reduce the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 degrees centigrade.

(d) Flares used to comply with this subpart shall comply with the requirements of paragraph 63.11(b) of subpart A of this part.

(e) Owners or operators of control devices that are used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their design. NOTE: The intent of this provision is to ensure proper operation and maintenance of the control device.

(f) Except as provided in paragraphs (k) and (l) of this section, each closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the closed-vent system is constructed of hard-piping, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (g) of this section, and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed-vent system is constructed of duct work, the owner or operator shall:

A. State and Federally Enforcable Section (continued)

- (i) Conduct an initial inspection according to the procedures in paragraph (g) of this section, and
- (ii) Conduct annual inspections according to the procedures in paragraph (g) of this section.
- (g) Each closed-vent system shall be inspected according to the procedures in paragraph 63.180(b) of this subpart.
- (h) Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in paragraph (i) of this section.
 - (1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.
 - (2) Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in paragraph (i) of this section.
- (i) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.
- (j) For each closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall comply with the provisions of either paragraph (j)(1) or (j)(2) of this section, except as provided in paragraph (j)(3) of this section.
 - (1) Install, set or adjust, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in paragraph 63.118(a)(3) of subpart G of this part. The flow indicator shall be installed at the entrance to any bypass line; or
 - (2) Secure the bypass line valve in the non-diverting position with a carseal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.
 - (3) Equipment such as flow leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.
- (k) Any parts of the closed-vent system that are designated, as described in paragraph 63.181(b)(7)(i), as unsafe to inspect are exempt from the inspection requirements of paragraphs (f)(1) and (f)(2) of this section if:
 - (1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraph (f)(1) or (f)(2) of this section; and
 - (2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times, but not more frequently than annually.
- (l) Any parts of the closed-vent system that are designated, as described in paragraph 63.181 (b)(7)(i) of this subpart, as difficult to inspect are exempt from the inspection requirements of paragraphs (f)(1) and (f)(2) of this section if:
 - (1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and
 - (2) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years
- (m) Whenever organic HAP emissions are vented to a closed-vent system or control device used to comply with the provisions of this subpart, such system or control device shall be operating.

A. State and Federally Enforcable Section (continued)

(n) After the compliance dates specified in section 63.100 of subpart F of this part, the owner or operator of any control device subject to this subpart that is also subject to monitoring, record keeping, and reporting requirements in 40 CFR part 264, subpart BB, or is subject to monitoring and record keeping requirements in 40 CFR part 265, subpart BB, may elect to comply either with the monitoring, record keeping, and reporting requirements of this subpart, or with the monitoring, record keeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this paragraph, which shall constitute compliance with the monitoring, record keeping and reporting requirements of this subpart. The owner or operator shall identify which option has been chosen, in the next periodic report required by paragraph 63.182(d).

17. 40 CFR Part 63, Subpart H

Section 63.173 Standards: Agitators in gas/ vapor service and in light liquid service.

(a)(1) Each agitator shall be monitored monthly to detect leaks by the methods specified in paragraph 63.180(b) of this subpart, except as provided in paragraph 63.162(b) of this subpart.

(2) If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

(b)(1) Each agitator shall be checked by visual inspection each calendar week or indications of liquids dripping from the agitator.

(2) If there are indications of liquids dripping from the agitator, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in section 63.171 of this subpart.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the requirements specified in paragraphs (d)(1) through (d)(6) of this section are met:

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the agitator stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of section 63.172 of this subpart; or

(iii) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(2) The barrier fluid is not in light liquid organic HAP service.

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

A. State and Federally Enforcable Section (continued)

(4) Each agitator is checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal.

(i) If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the agitator shall be monitored as specified in paragraph 63.180(b) of this subpart to determine the presence of organic HAP in the barrier fluid.

(ii) If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

(5) Each sensor as described in paragraph (d)(3) of this section is observed daily or is equipped with an alarm unless the agitator is located within the boundary of an unmanned plant site.

(6)(i) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.

(ii) If indications of liquids dripping from the agitator seal exceed the criteria established in paragraph (d)(6)(i) of this section, or if, based on the criteria established in paragraph (d)(6)(i) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(iii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in section 63.171 of this subpart.

(iv) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from paragraphs (a) through (c) of this section.

(f) Any agitator equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or fuel gas system or to a control device that complies with the requirements of section 63.172 of this subpart is exempt from the requirements of paragraphs (a) through (c) of the section.

(g) Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(1) and (d)(4) of this section, and the daily requirements of paragraph (d)(5) of this section, provided that each agitator is visually inspected as often as practical and at least monthly.

(h) Any agitator that is difficult-to-monitor is exempt from the requirements of paragraphs (a) through (d) of this section if:

(1) The owner or operator determines that the agitator cannot be monitored without elevating the monitoring personnel more than two meters above a support surface or it is not accessible at anytime in a safe manner;

(2) The process unit within which the agitator is located is an existing source or the owner or operator designates less than three percent of the total number of agitators in a new source as difficult-to-monitor; and

(3) The owner or operator follows a written plan that requires monitoring of the agitator at least once per calendar year.

(i) Any agitator that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of paragraphs (a) through (d) of this section.

A. State and Federally Enforcable Section (continued)

(j) Any agitator that is designated, as described in paragraph 63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor agitator is exempt from the requirements of paragraphs (a) through (d) of this section if:

(1) The owner or operator of the agitator determines that the agitator is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraphs (a) through (d) of this section; and

(2) The owner or operator of the agitator has a written plan that requires monitoring of the agitator as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.

18. 40 CFR Part 63, Subpart H

Section 63.174 Standards: Connectors in gas/ vapor service and in light liquid service.

(a) The owner or operator of a process unit subject to this subpart shall monitor all connectors in gas/vapor and light liquid service, except as provided in paragraph 63.162(b) of this subpart, and in paragraphs (f) through (h) of this section, at the intervals specified in paragraph (b) of this section.

(1) The connectors shall be monitored to detect leaks by the method specified in paragraph 63.180(b) of this subpart.

(2) If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected.

(b) The owner or operator shall monitor for leaks at the intervals specified in either paragraph (b)(1) or (b)(2) of this section and in paragraph (b)(3) of this section.

(1) For each group of existing process units within an existing source, by no later than 12 months after the compliance date, the owner or operator shall monitor all connectors, except as provided in paragraphs (f) through (h) of this section.

(2) For new sources, within the first 12 months after initial startup or by no later than 12 months after the date of promulgation of a specific subpart that references this subpart, whichever is later, the owner or operator shall monitor all connectors, except as provided in paragraphs (f) through (h) of this section.

(3) After conducting the initial survey required in paragraph (b)(1) or (b)(2) of this section, the owner or operator shall perform all subsequent monitoring of connectors at the frequencies specified in paragraphs (b)(3)(i) through (b)(3)(v) of this section, except as provided in paragraph (c)(2) of this section:

(i) Once per year (i.e., 12-month period), if the percent leaking connectors in the process unit was 0.5 percent or greater during the last required annual or biennial monitoring period.

(ii) Once every 2 years, if the percent leaking connectors was less than 0.5 percent during the last required monitoring period. An owner or operator may comply with this paragraph by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The percent leaking connectors will be calculated for the total of all monitoring performed during the 2 year period.

A. State and Federally Enforcable Section (continued)

(iii) If the owner or operator of a process unit in a biennial leak detection and repair program calculates less than 0.5 percent leaking connectors from the 2-year monitoring period, the owner or operator may monitor the connectors one time every 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 20 percent of the connectors each year until all connectors have been monitored within 4 years.

(iv) If a process unit complying with the requirements of paragraph (b) of this section using a 4-year monitoring interval program has greater than or equal to 0.5 percent but less than 1 percent leaking connectors, the owner or operator shall increase the monitoring frequency to one time every 2 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors in the first year and the remainder of the connectors in the second year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii) of this section when the percent leaking connectors decreases to less than 0.5 percent.

(v) If a process unit complying with requirements of paragraph (b)(3)(iii) of this section using a 4-year monitoring interval program has 1 percent or greater leaking connectors, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii) of this section when the percent leaking connectors decreases to less than 0.5 percent.

(4) The use of monitoring data generated before April 22, 1994 to qualify for less frequent monitoring is governed by the provisions of paragraph 63.180(b)(6).

(c)(1)(i) Except as provided in paragraph (c)(1)(ii) of this section, each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks when it is reconnected or within the first 3 months after being returned to organic hazardous air pollutants service. If the monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section, unless it is determined to be non-repairable, in which case it is counted as a non-repairable connector for the purposes of paragraph (i)(2) of this section.

(ii) As an alternative to the requirements in paragraph (c)(1)(i) of this section, an owner or operator may choose not to monitor connectors that have been opened or otherwise had the seal broken. In this case, the owner or operator may not count non-repairable connectors for the purposes of paragraph (i)(2) of this section. The owner or operator shall calculate the percent leaking connectors for the monitoring periods described in paragraph (b) of this section, by setting the non-repairable component, CAN, in the equation in paragraph (i)(2) of this section to zero for all monitoring periods.

(iii) An owner or operator may switch alternatives described in paragraphs (c)(1) (i) and (ii) of this section at the end of the current monitoring period he is in, provided that it is reported as required in section 63.182 of this subpart and begin the new alternative in annual monitoring. The initial monitoring in the new alternative shall be completed no later than 12 months after reporting the switch.

(2) As an alternative to the requirements of paragraph (b)(3) of this section, each screwed connector 2 inches or less in nominal inside diameter installed in a process unit before the dates specified in paragraph (c)(2)(iii) or (c)(2)(iv) of this section may:

(i) Comply with the requirements of section 63.169 of this subpart, and

(ii) Be monitored for leaks within the first 3 months after being returned to organic hazardous air pollutants service after having been opened or otherwise had the seal broken. If that monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section.

(iii) For sources subject to subparts F and I of this part, the provisions of paragraph (c)(2) of this section apply to screwed connectors installed before December 31, 1992.

(iv) For sources not identified in paragraph (c)(2)(iii) of this section, the provisions of paragraph (c)(2) of this section apply to screwed connectors installed before the date of proposal of the applicable subpart of this part that references this subpart.

A. State and Federally Enforcable Section (continued)

(d) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (g) of this section and in section 63.171 of this subpart. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(e) [Reserved]

(f) Any connector that is designated, as described in paragraph 63.181(b)(7)(i) of this subpart, as an unsafe-to-monitor connector is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator determines that the connector is unsafe to monitor because personnel would be exposed to an immediate danger as a result of complying with paragraphs (a) through (e) of this section; and

(2) The owner or operator has a written plan that requires monitoring of the connector as frequently as practicable during safe to monitor periods, but not more frequently than the periodic schedule otherwise applicable.

(g) Any connector that is designated, as described in paragraph 63.181(b)(7)(iii) of this subpart, as an unsafe-to-repair connector is exempt from the requirements of paragraphs (a), (d), and (e) of this section if:

(1) The owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with paragraph (d) of this section; and

(2) The connector will be repaired before the end of the next scheduled process unit shutdown.

(h)(1) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (c) of this section and from the record keeping and reporting requirements of sections 63.181 and 63.182 of this subpart. An inaccessible connector is one that is:

(i) Buried;

(ii) Insulated in a manner that prevents access to the connector by a monitor probe;

(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(iv) Unable to be reached from a wheeled scissor lift or hydraulic type scaffold which would allow access to connectors up to 7.6 meters (25 feet) above the ground;

(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold; or

(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor lift on unstable or uneven terrain, the use of a motorized man lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(2) If any inaccessible or ceramic or ceramic lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in section 63.171 of this subpart and paragraph (g) of this section.

(3) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(i) For use in determining the monitoring frequency, as specified in paragraph (b) of this section, the percent leaking connectors shall be calculated as specified in paragraphs (i)(1) and (i)(2) of this section.

A. State and Federally Enforcable Section (continued)

(1) For the first monitoring period, use the following equation:

$$\% \text{ CL} = \text{CL}/(\text{Ct} + \text{CC}) \times 100$$

where:

% CL = Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.

CL = Number of connectors measured at 500 parts per million or greater, by the method specified in paragraph 63.180(b) of this subpart.

Ct = Total number of monitored connectors in the process unit.

CC = Optional credit for removed connectors = 0.67 x net (i.e., total removed - total added) number of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial startup for new process units. If credits are not taken, then CC = 0.

(2) For subsequent monitoring periods, use the following equation:

$$\% \text{ CL} = [(\text{CL} - \text{CAN})/(\text{Ct} + \text{CC})] \times 100$$

where:

% CL = Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.

CL = Number of connectors, including non-repairables, measured at 500 parts per million or greater, by the method specified in paragraph 63.180(b) of this subpart.

CAN = Number of allowable non-repairable connectors, as determined by monitoring required in paragraphs (b)(3) and (c) of this section, not to exceed 2 percent of the total connector population, Ct.

Ct = Total number of monitored connectors, including non-repairables, in the process unit.

CC = Optional credit for removed connectors = 0.67 x net number (i.e., total removed - total added) of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial startup for new process units. If credits are not taken, then CC = 0.

(j) Optional credit for removed connectors. If an owner or operator eliminates a connector subject to monitoring under paragraph (b) of this section, the owner or operator may receive credit for elimination of the connector, as described in paragraph (i) of this section, provided the requirements in paragraphs (j)(1) through (j)(4) are met.

(1) The connector was welded after the date of proposal of the specific subpart that references this subpart.

(2) The integrity of the weld is demonstrated by monitoring it according to the procedures in paragraph 63.180(b) of this subpart or by testing using X-ray, acoustic monitoring, hydrotesting, or other applicable method.

(3) Welds created after the date of proposal but before the date of promulgation of a specific subpart that references this subpart are monitored or tested by 3 months after the compliance date specified in the applicable subpart.

(4) Welds created after promulgation of the subpart that references this subpart are monitored or tested within 3 months after being welded.

A. State and Federally Enforcable Section (continued)

(5) If an inadequate weld is found or the connector is not welded completely around the circumference, the connector is not considered a welded connector and is therefore not exempt from the provisions of this subpart.

19. 40 CFR Part 63, Subpart H

Section 63.175 Quality improvement program for valves.

(a) In Phase III, an owner or operator may elect to comply with one of the alternative quality improvement programs specified in paragraphs (d) and (e) of this section. The decision to use one of these alternative provisions to comply with the requirements of paragraph 63.168(d)(1)(ii) of this subpart must be made during the first year of Phase III for existing process units and for new process units.

(b) An owner or operator of a process unit subject to the requirements of paragraph (d) or (e) of this section shall comply with those requirements until the process unit has fewer than 2 percent leaking valves, calculated as a rolling average of 2 consecutive quarters, as specified in paragraph 63.168(e) of this subpart.

(c) After the process unit has fewer than 2 percent leaking valves, the owner or operator may elect to comply with the requirements in section 63.168 of this subpart, to continue to comply with the requirements in paragraph (e) (or (d), if appropriate) of this section, or comply with both the requirements in sections 63.168 and 63.175.

(1) If the owner or operator elects to continue the quality improvement program, the owner or operator is exempt from the requirements for performance trials as specified in paragraph (e)(6) of this section, or further progress as specified in paragraph (d)(4) of this section, as long as the process unit has fewer than 2 percent leaking valves calculated according to paragraph 63.168(e).

(2) If the owner or operator elects to comply with both paragraph (e) of this section and section 63.168 of this subpart, he may also take advantage of the lower monitoring frequencies associated with lower leak rates in paragraphs 63.168(d)(2), (d)(3), and (d)(4) of this subpart.

(3) If the owner or operator elects not to continue the quality improvement program, the program is no longer an option if the process unit again exceeds 2 percent leaking valves, and in such case, monthly monitoring will be required.

(d) The following requirements shall be met if an owner or operator elects to use a quality improvement program to demonstrate further progress:

(1) The owner or operator shall continue to comply with the requirements in section 63.168 of this subpart except each valve shall be monitored quarterly.

(2) The owner or operator shall collect the following data, and maintain records as required in paragraph 63.181(h)(1) of this subpart, for each valve in each process unit subject to the quality improvement program:

(i) The maximum instrument reading observed in each monitoring observation before repair, the response factor for the stream if appropriate, the instrument model number, and date of the observation.

(ii) Whether the valve is in gas or light liquid service.

(iii) If a leak is detected, the repair methods used and the instrument readings after repair.

(3) The owner or operator shall continue to collect data on the valves as long as the process unit remains in the quality improvement program.

(4) The owner or operator must demonstrate progress in reducing the percent leaking valves each quarter the process unit is subject to the requirements of paragraph (d) of this section, except as provided in paragraphs (d)(4)(ii) and (d)(4)(iii) of this section.

A. State and Federally Enforcable Section (continued)

(i) Demonstration of progress shall mean that for each quarter there is at least a 10 percent reduction in the percent leaking valves from the percent leaking valves determined for the preceding monitoring period. The percent leaking valves shall be calculated as a rolling average of two consecutive quarters of monitoring data. The percent reduction shall be calculated using the rolling average percent leaking valves, according to the following:

$$\% \text{ LVR} = (\% \text{ LVAVG1} - \% \text{ LVAVG2} / \% \text{ LVAVG1}) \times 100$$

where:

$\% \text{ LVR}$ = Percent leaking valve reduction.

$\% \text{ LVAVG1}$ = $(\% \text{ VLi} + \% \text{ VLi+1})/2$.

$\% \text{ LVAVG2}$ = $(\% \text{ VLi+1} + \% \text{ VLi+2})/2$.

where:

$\% \text{ VLi}$, $\% \text{ VLi+1}$, $\% \text{ VLi+2}$ are percent leaking valves calculated for subsequent monitoring periods, i , $i+1$, $i+2$.

(ii) An owner or operator who fails for two consecutive rolling averages to demonstrate at least a 10 percent reduction per quarter in percent leaking valves, and whose overall average percent reduction based on two or more rolling averages is less than 10 percent per quarter, shall either comply with the requirements in paragraph 63.168(d)(1)(i) of this subpart using monthly monitoring or shall comply using a quality improvement program or technology review as specified in paragraph (e) of this section. If the owner or operator elects to comply with the requirements of paragraph (e) of this section, the schedule for performance trials and valve replacements remains as specified in paragraph (e) of this section.

(iii) As an alternative to the provisions in paragraph (d)(4)(i), an owner or operator may use the procedure specified in paragraphs (d)(4)(iii)(A) and (d)(4)(iii)(B) of this section to demonstrate progress in reducing the percent leaking valves.

(A) The percent reduction that must be achieved each quarter shall be calculated as follows:

$$\% \text{ RR} = (\% \text{ VL} - 2\%) / 0.10$$

$\% \text{ RR}$ = percent reduction required each quarter, as calculated according to paragraph 63.168(e)

$\% \text{ VL}$ = percent leaking valves, calculated according to paragraph 63.168(e), at the time elected to use provisions of paragraph 63.168(d)(1)(ii)

(B) The owner or operator shall achieve less than 2 percent leaking valves no later than 2 years after electing to use the demonstration of progress provisions in paragraph 63.175(d) of this subpart.

(e) The following requirements shall be met if an owner or operator elects to use a quality improvement program of technology review and improvement:

(1) The owner or operator shall comply with the requirements in paragraph 63.168 of this subpart except the requirement or monthly monitoring in paragraph 63.168(d)(1)(i) of this subpart does not apply.

(2) The owner or operator shall collect the data specified below, and maintain records as required in paragraph 63.181(h)(2), for each valve in each process unit subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or group of process units basis. The data shall include the following:

A. State and Federally Enforcable Section (continued)

- (i) Valve type (e.g., ball, gate, check); valve manufacturer; valve design (e.g., external stem or actuating mechanism, flanged body); materials of construction; packing material; and year installed.
 - (ii) Service characteristics of the stream such as operating pressure, temperature, line diameter, and corrosivity.
 - (iii) Whether the valve is in gas or light liquid service.
 - (iv) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if adjusted, instrument model number, and date of the observation.
 - (v) If a leak is detected, the repair methods used and the instrument readings after repair.
 - (vi) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance.
- (3) The owner or operator shall continue to collect data on the valves as long as the process unit remains in the quality improvement program.
- (4) The owner or operator shall inspect all valves removed from the process unit due to leaks. The inspection shall determine which parts of the valve have failed and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.
- (5)(i) The owner or operator shall analyze the data collected to comply with the requirements of paragraph (e)(2) of this section to determine the services, operating or maintenance practices, and valve designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process specific factors.
- (ii) The analysis shall also be used to identify any superior performing valve technologies that are applicable to the service(s), operating conditions, or valve designs associated with poorer than average emission performance. A superior performing valve technology is one for which a group of such valves has a leak frequency of less than 2 percent for specific applications in such a process unit. A candidate superior performing valve technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 2 percent leaking valves in the process unit.
- (iii) The analysis shall include consideration of:
- (A) The data obtained from the inspections of valves removed from the process unit due to leaks,
 - (B) Information from the available literature and from the experience of other plant sites that will identify valve designs or technologies and operating conditions associated with low emission performance for specific services, and
 - (C) Information on limitations on the service conditions for the valve design and operating conditions as well as information on maintenance procedures to ensure continued low emission performance.
- (iv) The data analysis may be conducted through an inter or intra-company program (or through some combination of the two approaches) and may be for a single process unit, a company, or a group of process units.
- (v) The first analysis of the data shall be completed no later than 18 months after the start of Phase III. The first analysis shall be performed using a minimum of two quarters of data. An analysis of the data shall be done each year the process unit is in the quality improvement program.

A. State and Federally Enforcable Section (continued)

(6) A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify superior performing valve designs or technologies that can be applied to the operating conditions and services identified as having poorer than average performance, except as provided in paragraph (e)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit the valve designs or technologies that have been identified by others as having low emission performance.

(i) The trial program shall include online trials of valves or operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 2 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing valve technologies is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in paragraph 63.181(h)(5)(ii) of this subpart.

(ii) The number of valves in the trial evaluation program shall be the lesser of 1 percent or 20 valves for programs involving single process units and the lesser of 1 percent or 50 valves for programs involving groups of process units.

(iii) The trial evaluation program shall specify and include documentation of:

(A) The candidate superior performing valve designs or technologies to be evaluated, the stages for evaluating the identified candidate valve designs or technologies, including the estimated time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services or the trial valves.

(iv) The performance trials shall initially be conducted for, at least, a 6-month period beginning not later than 18 months after the start of Phase III. Not later than 24 months after the start of Phase III, the owner or operator shall have identified valve designs or technologies that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph (e)(6)(vi) of this section. The compilation of candidate and demonstrated superior emission performance valve designs or technologies shall be amended in the future, as appropriate, as additional information and experience is obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 total employees shall be exempt from trial evaluations of valves. Plant sites exempt from the trial evaluations of valves shall begin the program at the start of the fourth year of Phase III.

(vi) An owner or operator who has conducted performance trials on all candidate superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible candidate superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

A. State and Federally Enforcable Section (continued)

(7) Each owner or operator who elects to use a quality improvement program for technology review and improvement shall prepare and implement a valve quality assurance program that details purchasing specifications and maintenance procedures for all valves in the process unit. The quality assurance program may establish any number of categories, or classes, of valves as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (e)(5) of this section, if applicable, the findings of the trial evaluation required in paragraph (e)(6) of this section, and the operating conditions in the process unit. The quality assurance program shall be reviewed and, as appropriate, updated each year as long as the process unit has 2 percent or more leaking valves.

(i) The quality assurance program shall:

(A) Establish minimum design standards for each category of valves. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the valve;

(C) Include a written procedure for bench testing of valves that specifies performance criteria for acceptance of valves and specifies criteria for the precision and accuracy of the test apparatus. All valves repaired offline after preparation of the quality assurance plan shall be bench-tested for leaks. This testing may be conducted by the owner or operator of the process unit, by the vendor, or by a designated representative. The owner or operator shall install only those valves that have been documented through bench-testing to be non-leaking.

(D) Require that all valves repaired on-line be monitored using the method specified in paragraph 63.180(b) of this subpart for leaks for 2 successive months, after repair.

(E) Provide for an audit procedure or quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the process unit or by a designated representative.

(F) Detail offline valve maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished valves will meet the design specifications for the valve type and will operate such that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of Phase III for plant sites with 400 or more valves or owned by a corporation with 100 or more employees; and no later than the start of the fourth year of Phase III for plant sites with less than 400 valves and owned by a corporation with less than 100 employees.

(8) Beginning at the start of the third year of Phase III for plant sites with 400 or more valves or owned by a corporation with 100 or more employees and at the start of the fourth year of Phase III for plant sites with less than 400 valves and owned by a corporation with less than 100 employees, each valve that is replaced for any reason shall be replaced with a new or modified valve that complies with the quality assurance standards for the valve category and that is identified as superior emission performance technology. Superior emission performance technology means valves or valve technologies identified with emission performance that, combined with appropriate process, operating, and maintenance practices, will result in less than 2 percent leaking valves for specific applications in a large population, except as provided in paragraph (e)(8)(ii) of this section.

(i) The valves shall be maintained as specified in the quality assurance program.

(ii) If a superior emission performance technology cannot be identified, then valve replacement shall be with one of (if several) the lowest emission performance technologies that has been identified for the specific application.

A. State and Federally Enforcable Section (continued)

20. 40 CFR Part 63, Subpart H

Section 63.176 Quality improvement program for pumps.

(a) In Phase III, if, on a 6-month rolling average, the greater of either 10 percent of the pumps in a process unit (or plant site) or three pumps in a process unit (or plant site) leak, the owner or operator shall comply with the requirements of this section as specified below:

(1) Pumps that are in food/medical service or in polymerizing monomer service shall comply with all requirements except for those specified in paragraph (d)(8) of this section.

(2) Pumps that are not in food/medical or polymerizing monomer service shall comply with all requirements of this section.

(b) The owner or operator shall comply with the requirements of this section until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps, calculated as a 6-month rolling average, in the process unit (or plant site). Once the performance level is achieved, the owner or operator shall comply with the requirements in section 63.163 of this subpart.

(c) If in a subsequent monitoring period, the process unit (or plant site) has greater than 10 percent of the pumps leaking or three pumps leaking (calculated as a 6-month rolling average), the owner or operator shall resume the quality improvement program starting at performance trials.

(d) The quality improvement program shall include the following:

(1) The owner or operator shall comply with the requirements in section 63.163 of this subpart.

(2) The owner or operator shall collect the following data, and maintain records as required in paragraph 63.181(h)(3), for each pump in each process unit (or plant site) subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or plant site basis.

(i) Pump type (e.g., piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (e.g., external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed.

(ii) Service characteristics of the stream such as discharge pressure, temperature, flow rate, corrosivity, and annual operating hours.

(iii) The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation.

(iv) If a leak is detected, the repair methods used and the instrument readings after repair.

(v) If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance.

(3) The owner or operator shall continue to collect data on the pumps as long as the process unit (or plant site) remains in the quality improvement program.

(4) The owner or operator shall inspect all pumps or pump seals which exhibited frequent seal failures and were removed from the process unit due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

A. State and Federally Enforcable Section (continued)

(5)(i) The owner or operator shall analyze the data collected to comply with the requirements of paragraph (d)(2) of this section to determine the services, operating or maintenance practices, and pump or pump seal designs for technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process specific factors.

(ii) The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the process unit or plant site. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit (or plant site).

(iii) The analysis shall include consideration of:

(A) The data obtained from the inspections of pumps and pump seals removed from the process unit due to leaks;

(B) Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services; and

(C) Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

(iv) The data analysis may be conducted through an inter or intra company program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units.

(v) The first analysis of the data shall be completed no later than 18 months after the start of the quality improvement program. The first analysis shall be performed using a minimum of 6 months of data. An analysis of the data shall be done each year the process unit is in the quality improvement program.

(6) A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify use of superior performing pump seal technology or pumps that can be applied to the areas identified as having poorer than average performance, except as provided in paragraph (d)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit (or plant site) the pump designs or seal technologies, and operating and maintenance practices that have been identified by others as having low emission performance.

(i) The trial program shall include online trials of pump seal technologies or pump designs and operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 10 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing pump seal technologies or pumps is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in paragraph 63.181(h)(5)(ii).

(ii) The number of pump seal technologies or pumps in the trial evaluation program shall be the lesser of 1 percent or two pumps for programs involving single process units and the lesser of 1 percent or five pumps for programs involving a plant site or groups of process units. The minimum number of pumps or pump seal technologies in a trial program shall be one.

A. State and Federally Enforcable Section (continued)

(iii) The trial evaluation program shall specify and include documentation of:

(A) The candidate superior performing pump seal designs or technologies to be evaluated, the stages for evaluating the identified candidate pump designs or pump seal technologies, including the time period necessary to test the applicability;

(B) The frequency of monitoring or inspection of the equipment;

(C) The range of operating conditions over which the component will be evaluated; and

(D) Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps.

(iv) The performance trials shall initially be conducted, at least, for a 6 month period beginning not later than 18 months after the start of the quality improvement program. No later than 24 months after the start of the quality improvement program, the owner or operator shall have identified pump seal technologies or pump designs that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph (d)(6)(vi) of this section. The initial list of superior emission performance pump designs or pump seal technologies shall be amended in the future, as appropriate, as additional information and experience is obtained.

(v) Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 employees shall be exempt from trial evaluations of pump seals or pump designs. Plant sites exempt from the trial evaluations of pumps shall begin the pump seal or pump replacement program at the start of the fourth year of the quality improvement program.

(vi) An owner or operator who has conducted performance trials on all alternative superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated or there are no technically feasible alternative superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

(7) Each owner or operator shall prepare and implement a pump quality assurance program that details purchasing specifications and maintenance procedures for all pumps and pump seals in the process unit. The quality assurance program may establish any number of categories, or classes, of pumps as needed to distinguish among operating conditions and services associated with poorer than average emission performance as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (d)(5) of this section, if applicable, the findings of the trial evaluation required in paragraph (d)(6) of this section, and the operating conditions in the process unit. The quality assurance program shall be updated each year as long as the process unit has the greater of either 10 percent or more leaking pumps or has three leaking pumps.

A. State and Federally Enforcable Section (continued)

(i) The quality assurance program shall:

(A) Establish minimum design standards for each category of pumps or pump seal technology. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

(B) Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or the pump seal;

(C) Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the plant site or process unit or by a designated representative; and

(D) Detail offline pump maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished pumps and pump seals will meet the design specifications for the pump category and will operate such that emissions are minimized.

(ii) The quality assurance program shall be established no later than the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees; and no later than the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees.

(8) Beginning at the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees and at the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees, the owner or operator shall replace, as described in paragraphs (d)(8)(i) and (d)(8)(ii) of this section, the pumps or pump seals that are not superior emission performance technology with pumps or pump seals that have been identified as superior emission performance technology and that comply with the quality assurance standards for the pump category. Superior emission performance technology is that category or design of pumps or pump seals with emission performance which, when combined with appropriate process, operating, and maintenance practices, will result in less than 10 percent leaking pumps for specific applications in the process unit or plant site. Superior emission performance technology includes material or design changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent, or pump replacement.

(i) Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in light liquid service. The calculated value shall be rounded to the nearest non-zero integer value. The minimum number of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of section 63.163 of this subpart are pumps determined to be superior performance technology.

(ii) The owner or operator may delay replacement of pump seals or pumps with superior technology until the next planned process unit shutdown, provided the number of pump seals and pumps replaced is equivalent to the 20 percent or greater annual replacement rate.

(iii) The pumps shall be maintained as specified in the quality assurance program.

A. State and Federally Enforcable Section (continued)

21. 40 CFR Part 63, Subpart H

Section 63.177 Alternative means of emission limitation: General.

(a) Permission to use an alternative means of emission limitation under section 112(h)(3) of the Act shall be governed by the following procedures in paragraphs (b) through (e) of this section.

(b) Where the standard is an equipment, design, or operational requirement:

(1) Each owner or operator applying for permission to use an alternative means of emission limitation under paragraph 63.6(g) of subpart A of this part shall be responsible for collecting and verifying emission performance test data for an alternative means of emission limitation.

(2) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Where the standard is a work practice:

(1) Each owner or operator applying for permission shall be responsible for collecting and verifying test data for an alternative means of emission limitation.

(2) For each kind of equipment for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months.

(3) For each kind of equipment for which permission is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for permission shall commit, in writing, for each kind of equipment to work practices that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practices.

(5) The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4) of this section.

(6) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same or greater emission reduction as the required work practices of this subpart.

(d) An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation

(e)(1) Manufacturers of equipment used to control equipment leaks of an organic HAP may apply to the Administrator for permission for an alternative means of emission limitation that achieves a reduction in emissions of the organic HAP achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will grant permission according to the provisions of paragraphs (b), (c), and (d) of this section.

A. State and Federally Enforcable Section (continued)

22. 40 CFR Part 63, Subpart H

Section 63.178 Alternative means of emission limitation: Batch processes.

(This section of the federal rule does not apply to the permittee.)

23. 40 CFR Part 63, Subpart H

Section 63.179 Alternative means of emission limitation: Enclosed-vented process units.

Process units enclosed in such a manner that all emissions from equipment leaks are vented through a closed-vent system to a control device meeting the requirements of section 63.172 of this subpart are exempt from the requirements of sections 63.163 through 63.171, and sections 63.173 and 63.174 of this subpart. The enclosure shall be maintained under a negative pressure at all times while the process unit is in operation to ensure that all emissions are routed to a control device.

24. 40 CFR Part 63, Subpart H

Section 63.180 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Monitoring, as required under this subpart, shall comply with the following requirements:

(1) Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A.

(2)(i) Except as provided for in paragraph (b)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in Section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, water, air, or other inerts which are not organic HAP's or VOC's, the average stream response factor may be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring or leaks will be conducted.

(ii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (b)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) Calibration gases shall be:

(i) Zero air (less than 10 parts per million of hydrocarbon in air); and

(ii) Mixtures of methane in air at the concentrations specified in paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(C) of this section. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

A. State and Federally Enforcable Section (continued)

(A) For Phase I, a mixture of methane or other compounds, as applicable, in air at a concentration of approximately, but less than, 10,000 parts per million.

(B) For Phase II, a mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 10,000 parts per million for agitators, 5,000 parts per million for pumps, and 500 parts per million for all other equipment, except as provided in paragraph (b)(4)(iii) of this section.

(C) For Phase III, a mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 10,000 parts per million methane for agitators; 2,000 parts per million for pumps in food/ medical service; 5,000 parts per million for pumps in polymerizing monomer service; 1,000 parts per million for all other pumps; and 500 parts per million for all other equipment, except as provided in paragraph (b)(4)(iii) of this section.

(iii) The instrument may be calibrated at a higher methane concentration than the concentration specified for that piece of equipment. The concentration of the calibration gas may exceed the concentration specified as a leak by no more than 2,000 parts per million. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(5) Monitoring shall be performed when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor.

(6) Monitoring data that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section may be used to qualify for less frequent monitoring under the provisions in paragraphs 63.168(d)(2) and (d)(3) or paragraph 63.174(b)(3)(ii) or (b)(3)(iii) of this subpart provided the data meet the conditions specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section.

(i) The data were obtained before April 22, 1994.

(ii) The departures from the criteria specified in paragraphs (b)(1) through (b)(5) of this section or from the specified monitoring frequency of paragraph 63.168(c) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every six weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2(a) of Method 21 of appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section, or monitoring at a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure.

(c) When equipment is monitored for compliance as required in paragraphs 63.164(i), 63.165(a), and 63.172(f) or when equipment subject to a leak definition of 500 ppm is monitored for leaks as required by this subpart, the owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects to not adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(4) of this section. In such case, all instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (c)(1) through (c)(4) of this section.

(1) The requirements of paragraphs (b) (1) through (4) of this section shall apply.

(2) The background level shall be determined, using the same procedures that will be used to determine whether the equipment is leaking.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A.

A. State and Federally Enforcable Section (continued)

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 parts per million for determining compliance.

(d)(1) Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used.

(2)(i) An owner or operator may use good engineering judgment rather than the procedures in paragraph (d)(1) of this section to determine that the percent organic HAP content does not exceed 5 percent by weight. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in paragraph (d)(1) of this section shall be used to resolve the disagreement.

(ii) Conversely, the owner or operator may determine that the organic HAP content of the process fluid does not exceed 5 percent by weight by, for example, accounting for 98 percent of the content and showing that organic HAP is less than 3 percent.

(3) If an owner or operator determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in paragraph (d)(1) of this section, or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service.

(4) Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment.

(e) When a flare is used to comply with paragraph 63.172(d), the owner or operator shall comply with paragraphs (e)(1) through (3) of this section. The owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration.

(1) Conduct a visible emission test using the techniques specified in paragraph 63.11(b)(4).

(2) Determine the net heating value of the gas being combusted using the techniques specified in paragraph 63.11(b)(6).

(3) Determine the exit velocity using the techniques specified in either paragraph 63.11(b)(7)(i) (and 63.11(b)(7)(iii), where applicable) or 63.11(b)(8), as appropriate.

(f) The following procedures shall be used to pressure test batch product/process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of paragraph 63.178(b)(3)(i) of this subpart.

(1) The batch product/process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively, the equipment shall be placed under a vacuum.

A. State and Federally Enforcable Section (continued)

(2) Once the test pressure is obtained, the gas source or vacuum source shall be shut off.

(3) The test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded. The pressure in the batch product/process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product/process equipment shall be calculated using the following equation:

$$\text{change (P/t)} = [\text{absolute value of (Pf - Pi)}]/(\text{tf} - \text{ti})$$

where:

change (P/t) = Change in pressure, psig/hr.

Pf = Final pressure, psig.

Pi = Initial pressure, psig.

tf - ti = Elapsed time, hours.

(4) The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) which has a precision of +/- 2.5 millimeter mercury in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of at least +10 percent of the test pressure of the equipment and shall extend the duration of the test or the time necessary to detect a pressure loss or rise that equals a rate of one psig per hour.

(5) An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise.

(g) The following procedures shall be used to pressure test batch product/process equipment using a liquid to demonstrate compliance with the requirements of paragraph 63.178(b)(3)(ii) of this subpart.

(1) The batch product/process equipment train, or section of the train, shall be filled with the test liquid (e.g., water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.

(2) The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure.

(3) Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

(4) An alternative procedure may be used for leak testing the equipment, if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid.

A. State and Federally Enforcable Section (continued)

25. 40 CFR Part 63, Subpart H

Section 63.181 Record keeping requirements.

(a) An owner or operator of more than one process unit subject to the provisions of this subpart may comply with the record keeping requirements for these process units in one record keeping system if the system identifies each record by process unit and the program being implemented (e.g., quarterly monitoring, quality improvement) for each type of equipment. All records and information required by this section shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site.

(b) Except as provided in paragraph (e) of this section, the following information pertaining to all equipment in each process unit subject to the requirements in section 63.162 through 63.174 of this subpart shall be recorded:

(1)(i) A list of identification numbers for equipment (except connectors exempt from monitoring and record keeping identified in section 63.174 of this subpart and instrumentation systems) subject to the requirements of this subpart. Connectors need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this subpart are identified as a group, and the number of connectors subject is indicated. With respect to connectors, the list shall be complete no later than the completion of the initial survey required by paragraph 63.174(b)(1) or (b)(2) of this subpart.

(ii) A schedule by process unit for monitoring connectors subject to the provisions of paragraph 63.174(a) of this subpart and valves subject to the provisions of paragraph 63.168(d) of this subpart.

(iii) Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(2)(i) A list of identification numbers for equipment that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of paragraph 63.163(g), 63.164(h), 63.165(c), or 63.173(f) of this subpart.

(ii) A list of identification numbers for compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of paragraph 63.164(i) of this subpart.

(iii) Identification of surge control vessels or bottoms receivers subject to the provisions of this subpart that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of section 63.170 of this subpart.

(3)(i) A list of identification numbers for pressure relief devices subject to the provisions in paragraph 63.165(a) of this subpart.

(ii) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of paragraph 63.165(d) of this subpart.

(4) Identification of instrumentation systems subject to the provisions of this subpart. Individual components in an instrumentation system need not be identified.

(5) Identification of screwed connectors subject to the requirements of paragraph 63.174(c)(2) of this subpart. Identification can be by area or grouping as long as the total number within each group or area is recorded.

A. State and Federally Enforcable Section (continued)

(6) The following information shall be recorded for each dual mechanical seal system:

(i) Design criteria required in paragraphs 63.163(e)(6)(i), 63.164(e)(2), and 63.173(d)(6)(i) of this subpart and an explanation of the design criteria; and

(ii) Any changes to these criteria and the reasons for the changes.

(7) The following information pertaining to all pumps subject to the provisions of paragraph 63.163(j), valves subject to the provisions of paragraphs 63.168(h) and (i) of this subpart, agitators subject to the provisions of paragraphs 63.173(h) through (j), and connectors subject to the provisions of paragraphs 63.174(f) and (g) of this subpart shall be recorded:

(i) Identification of equipment designated as unsafe to monitor, difficult to monitor, or unsafe to inspect and the plan for monitoring or inspecting this equipment.

(ii) A list of identification numbers for the equipment that is designated as difficult to monitor, an explanation of why the equipment is difficult to monitor, and the planned schedule or monitoring this equipment.

(iii) A list of identification numbers for connectors that are designated as unsafe to repair and an explanation why the connector is unsafe to repair.

(8)(i) A list of valves removed from and added to the process unit, as described in paragraph 63.168(e)(1) of this subpart, if the net credits for removed valves is expected to be used.

(ii) A list of connectors removed from and added to the process unit, as described in paragraph 63.174(i)(1) of this subpart, and documentation of the integrity of the weld for any removed connectors, as required in paragraph 63.174(j) of this subpart. This is not required unless the net credits for removed connectors is expected to be used.

(9)(i) For batch process units that the owner or operator elects to monitor as provided under paragraph 63.178(c) of this subpart, a list of equipment added to batch product process units since the last monitoring period required in paragraphs 63.178(c)(3)(ii) and (3)(iii) of this subpart.

(ii) Records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit. These records are not required if the owner or operator does not adjust monitoring frequency by the time in use, as provided in paragraph 63.178(c)(3)(iii) of this subpart.

(c) For visual inspections of equipment subject to the provisions of this subpart (e.g., paragraphs 63.163(b)(3), 63.163(e)(4)(i)), the owner or operator shall document that the inspection was conducted and the date of the inspection. The owner or operator shall maintain records as specified in paragraph (d) of this section for leaking equipment identified in this inspection, except as provided in paragraph (e) of this section. These records shall be retained for 2 years.

(d) When each leak is detected as specified in sections 63.163 and 63.164; sections 63.168 and 63.169; and sections 63.172 through 63.174 of this subpart, the following information shall be recorded and kept for 2 years:

(1) The instrument and the equipment identification number and the operator name, initials, or identification number.

(2) The date the leak was detected and the date of first attempt to repair the leak.

(3) The date of successful repair of the leak.

A. State and Federally Enforcable Section (continued)

- (4) Maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A after it is successfully repaired or determined to be non-repairable.
- (5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.
- (i) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/ malfunction plan, required by paragraph 63.6(e)(3), for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.
- (ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked onsite before depletion and the reason for depletion.
- (6) Dates of process unit shutdowns that occur while the equipment is unrepaired.
- (7)(i) Identification, either by list, location (area or grouping), or tagging of connectors that have been opened or otherwise had the seal broken since the last monitoring period required in paragraph 63.174(b) of this subpart, as described in paragraph 63.174(c)(1) of this subpart, unless the owner or operator elects to comply with the provisions of paragraph 63.174(c)(1)(ii) of this subpart.
- (ii) The date and results of monitoring as required in paragraph 63.174(c) of this subpart. If identification of connectors that have been opened or otherwise had the seal broken is made by location under paragraph (d)(7)(i) of this section, then all connectors within the designated location shall be monitored.
- (8) The date and results of the monitoring required in paragraph 63.178(c)(3)(i) of this subpart for equipment added to a batch process unit since the last monitoring period required in paragraphs 63.178 (c)(3)(ii) and (c)(3)(iii) of this subpart. If no leaking equipment is found in this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.
- (9) Copies of the periodic reports as specified in paragraph 63.182(d) of this subpart, if records are not maintained on a computerized database capable of generating summary reports from the records.
- (e) The owner or operator of a batch product process who elects to pressure test the batch product process equipment train to demonstrate compliance with this subpart is exempt from the requirements of paragraphs (b), (c), (d), and (f) of this section. Instead, the owner or operator shall maintain records of the following information:

A. State and Federally Enforcable Section (continued)

(1) The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in a batch product process equipment train.

(2) [Reserved]

(3) Physical tagging of the equipment to identify that it is in organic HAP service and subject to the provisions of this subpart is not required. Equipment in a batch product process subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

(4) The dates of each pressure test required in paragraph 63.178(b) of this subpart, the test pressure, and the pressure drop observed during the test.

(5) Records of any visible, audible, or olfactory evidence of fluid loss.

(6) When a batch product process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years:

(i) The date of each pressure test and the date of each leak repair attempt.

(ii) Repair methods applied in each attempt to repair the leak.

(iii) The reason for the delay of repair.

(iv) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment.

(v) The date of successful repair.

(f) The dates and results of each compliance test required for compressors subject to the provisions in paragraph 63.164(i) and the dates and results of the monitoring following a pressure release for each pressure relief device subject to the provisions in paragraphs 63.165 (a) and (b) of this subpart. The results shall include:

(1) The background level measured during each compliance test.

(2) The maximum instrument reading measured at each piece of equipment during each compliance test.

(g) The owner or operator shall maintain records of the information specified in paragraphs (g)(1) through (g)(3) of this section for closed-vent systems and control devices subject to the provisions of section 63.172 of this subpart. The records specified in paragraph (g)(1) of this section shall be retained for the life of the equipment. The records specified in paragraphs (g)(2) and (g)(3) of this section shall be retained for 2 years.

A. State and Federally Enforcable Section (continued)

- (1) The design specifications and performance demonstrations specified in paragraphs (g)(1)(i) through (g)(1)(iv) of this section.
 - (i) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.
 - (ii) The dates and descriptions of any changes in the design specifications.
 - (iii) The flare design (i.e., steam-assisted, air-assisted, or non-assisted) and the results of the compliance demonstration required by paragraph 63.11(b) of subpart A of this part.
 - (iv) A description of the parameter or parameters monitored, as required in paragraph 63.172(e) of this subpart, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.
- (2) Records of operation of closed-vent systems and control devices, as specified in paragraphs (g)(2)(i) through (g)(2)(iii) of this section.
 - (i) Dates and durations when the closed-vent systems and control devices required in sections 63.163 through 63.166, and 63.170 of this subpart are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame.
 - (ii) Dates and durations during which the monitoring system or monitoring device is inoperative.
 - (iii) Dates and durations of startups and shutdowns of control devices required in sections 63.163 through 63.166, and 63.170 of this subpart.
- (3) Records of inspections of closed-vent systems subject to the provisions of section 63.172 of this subpart, as specified in paragraphs (g)(3)(i) and (g)(3)(ii) of this section.
 - (i) For each inspection conducted in accordance with the provisions of paragraph 63.172(f)(1) or (f)(2) of this subpart during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.
 - (ii) For each inspection conducted in accordance with the provisions of paragraph 63.172(f)(1) or (f)(2) of this subpart during which leaks were detected, the information specified in paragraph (d) of this section shall be recorded.
- (h) Each owner or operator of a process unit subject to the requirements of paragraphs 63.175 and 63.176 of this subpart shall maintain the records specified in paragraphs (h)(1) through (h)(9) of this section for the period of the quality improvement program for the process unit.
 - (1) For owners or operators who elect to use a reasonable further progress quality improvement program, as specified in paragraph 63.175(d) of this subpart:
 - (i) All data required in paragraph 63.175(d)(2) of this subpart.
 - (ii) The percent leaking valves observed each quarter and the rolling average percent reduction observed in each quarter.
 - (iii) The beginning and ending dates while meeting the requirements of paragraph 63.175(d) of this subpart.
 - (2) For owners or operators who elect to use a quality improvement program of technology review and improvement, as specified in paragraph 63.175(e) of this subpart:
 - (i) All data required in paragraph 63.175(e)(2) of this subpart.

A. State and Federally Enforcable Section (continued)

- (ii) The percent leaking valves observed each quarter.
 - (iii) Documentation of all inspections conducted under the requirements of paragraph 63.175(e)(4) of this subpart, and any recommendations for design or specification changes to reduce leak frequency.
 - (iv) The beginning and ending dates while meeting the requirements of paragraph 63.175(e) of this subpart.
- (3) For owners or operators subject to the requirements of the pump quality improvement program as specified in section 63.176 of this subpart:
- (i) All data required in paragraph 63.176(d)(2) of this subpart.
 - (ii) The rolling average percent leaking pumps.
 - (iii) Documentation of all inspections conducted under the requirements of paragraph 63.176(d)(4) of this subpart, and any recommendations for design or specification changes to reduce leak frequency.
 - (iv) The beginning and ending dates while meeting the requirements of paragraph 63.176(d) of this subpart.
- (4) If a leak is not repaired within 15 calendar days after discovery of the leak, the reason for the delay and the expected date of successful repair.
- (5) Records of all analyses required in paragraph 63.175(e) and 63.176(d) of this subpart. The records will include the following:
- (i) A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions and maintenance practices.
 - (ii) The reasons for rejecting specific candidate superior emission performing valve or pump technology from performance trials.
 - (iii) The list of candidate superior emission performing valve or pump technologies, and documentation of the performance trial program items required under paragraphs 63.175(e)(6)(iii) and 63.176(d)(6)(iii) of this subpart.
 - (iv) The beginning date and duration of performance trials of each candidate superior emission performing technology.
- (6) All records documenting the quality assurance program for valves or pumps as specified in paragraphs 63.175(e)(7) and 63.176(d)(7) of this subpart.
- (7) Records indicating that all valves or pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance requirements in paragraphs 63.175(e)(7) and 63.176(d)(7) of this subpart.
- (8) Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in paragraph 63.176(d)(8) of this subpart.
- (9) Information and data to show the corporation has fewer than 100 employees, including employees providing professional and technical contracted services.
- (i) The owner or operator of equipment in heavy liquid service shall comply with the requirements of either paragraph (i)(1) or (i)(2) of this section, as provided in paragraph (i)(3) of this section.
- (1) Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service.

A. State and Federally Enforcable Section (continued)

(2) When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service.

(3) A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of "in light liquid service." Examples of information that could document this include, but are not limited to, records of chemicals purchased or the process, analyses of process stream composition, engineering calculations, or process knowledge.

(j) Identification, either by list, location (area or group) of equipment in organic HAP service less than 300 hours per year within a process unit subject to the provisions of this subpart under section 63.160 of this subpart.

(k) Owners and operators choosing to comply with the requirements of section 63.179 of this subpart shall maintain the following records:

(1) Identification of the process unit(s) and the organic HAP's they handle.

(2) A schematic of the process unit, enclosure, and closed-vent system.

(3) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

26. 40 CFR Part 63, Subpart H

Section 63.182 Reporting requirements.

(a) Each owner or operator of a source subject to this subpart shall submit the reports listed in paragraphs (a)(1) through (a)(5) of this section. Owners or operators requesting an extension of compliance shall also submit the report listed in paragraph (a)(6) of this section.

(1) An Initial Notification described in paragraph (b) of this section, and

(2) A Notification of Compliance Status described in paragraph (c) of this section,

(3) Periodic Reports described in paragraph (d) of this section, and

(4) and (5) [Reserved]

(6) Pursuant to section 112(i)(3)(B) of the Act, an owner or operator may request an extension allowing an existing source up to 1 additional year beyond the compliance date specified in the subpart that references this subpart.

A. State and Federally Enforcable Section (continued)

- (i) For purposes of this subpart, a request for an extension shall be submitted to the operating permit authority as part of the operating permit application. If the State in which the source is located does not have an approved operating permit program, a request for an extension shall be submitted to the Administrator as a separate submittal. The dates specified in paragraph 63.6(i) of subpart A of this part or submittal of requests for extensions shall not apply to sources subject to this subpart.
- (ii) A request for an extension of compliance must include the data described in paragraphs 63.6(i)(6)(i) (A), (B), and (D) of subpart A of this part.
- (iii) The requirements in paragraphs 63.6(i)(8) through (i)(14) of subpart A of this part will govern the review and approval of requests for extensions of compliance with this subpart.
- (b) Each owner or operator of an existing or new source subject to the provisions of this subpart shall submit a written Initial Notification to the Administrator, containing the information described in paragraph (b)(1), according to the schedule in paragraph (b)(2) of this section. The Initial Notification provisions in paragraphs 63.9(b)(1) through (b)(3) of subpart A of this part shall not apply to owners or operators of sources subject to this subpart.
- (1) The Initial Notification shall include the following information:
 - (i) The name and address of the owner or operator;
 - (ii) The address (physical location) of the affected source;
 - (iii) An identification of the chemical manufacturing processes subject to this subpart; and
 - (iv) A statement of whether the source can achieve compliance by the applicable compliance date specified in the subpart in 40 CFR part 63 that references this subpart.
- (2) The Initial Notification shall be submitted according to the schedule in paragraph (b)(2)(i), (b)(2)(ii), or (b)(2)(iii) of this section, as applicable.
 - (i) For an existing source, the Initial Notification shall be submitted within 120 days after the date of promulgation of the subpart that references this subpart.
 - (ii) For a new source that has an initial startup 90 days after the date of promulgation of this subpart or later, the application or approval of construction or reconstruction required by paragraph 63.5(d) of subpart A of this part shall be submitted in lieu of the Initial Notification. The application shall be submitted as soon as practicable before the construction or reconstruction is planned to commence (but it need not be sooner than 90 days after the date of promulgation of the subpart that references this subpart).

A. State and Federally Enforcable Section (continued)

(iii) For a new source that has an initial startup prior to 90 days after the date of promulgation of the applicable subpart, the Initial Notification shall be submitted within 90 days after the date of promulgation of the subpart that references this subpart.

(c) Each owner or operator of a source subject to this subpart shall submit a Notification of Compliance Status within 90 days after the compliance dates specified in the subpart in 40 CFR part 63 that references this subpart, except as provided in paragraph (c)(4) of this section.

(1) The notification shall provide the information listed in paragraphs (c)(1)(i) through (c)(1)(iv) of this section for each process unit subject to the requirements of sections 63.163 through 63.174 of this subpart.

(i) Process unit identification.

(ii) Number of each equipment type (e.g., valves, pumps) excluding equipment in vacuum service.

(iii) Method of compliance with the standard (for example, "monthly leak detection and repair" or "equipped with dual mechanical seals").

(iv) Planned schedule for each phase of the requirements in sections 63.163 and 63.168 of this subpart.

(2) The notification shall provide the information listed in paragraphs (c)(2)(i) and (c)(2)(ii) of this section for each process unit subject to the requirements of paragraph 63.178(b) of this subpart.

(i) Batch products or product codes subject to the provisions of this subpart, and

(ii) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this subpart.

(3) The notification shall provide the information listed in paragraphs (c)(3)(i) and (c)(3)(ii) of this section for each process unit subject to the requirements in section 63.179 of this subpart.

(i) Process unit identification.

(ii) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of section 63.172 of this subpart.

(4) For existing sources subject to subpart F of this part, the Notification of Compliance Status shall be submitted for the group of process units with the earliest compliance date specified in paragraph 63.100(k) of subpart F of this part, by no later than 90 days after the compliance date for that group. The Notification of Compliance Status for each subsequent group shall be submitted as part of the first periodic report that is due not less than 90 days after the compliance date for that group.

(d) The owner or operator of a source subject to this subpart shall submit Periodic Reports.

(1) A report containing the information in paragraphs (d)(2), (d)(3), and (d)(4) of this section shall be submitted semiannually starting 6 months after the Notification of Compliance Status, as required in paragraph (c) of this section. The first periodic report shall cover the first 6 months after the compliance date specified in paragraph 63.100(k)(3) of subpart F. Each subsequent periodic report shall cover the 6 month period following the preceding period.

(2) For each process unit complying with the provisions of sections 63.163 through 63.174 of this subpart, the summary information listed in paragraphs (i) through (xvi) of this paragraph for each monitoring period during the 6-month period.

(i) The number of valves for which leaks were detected as described in paragraph 63.168(b) of this subpart, the percent leakers, and the total number of valves monitored;

A. State and Federally Enforcable Section (continued)

- (ii) The number of valves for which leaks were not repaired as required in paragraph 63.168(f) of this subpart, identifying the number of those that are determined non-repairable;
 - (iii) The number of pumps for which leaks were detected as described in paragraph 63.163(b) of this subpart, the percent leakers, and the total number of pumps monitored;
 - (iv) The number of pumps for which leaks were not repaired as required in paragraph 63.163(c) of this subpart;
 - (v) The number of compressors for which leaks were detected as described in paragraph 63.164(f) of this subpart;
 - (vi) The number of compressors for which leaks were not repaired as required in paragraph 63.164(g) of this subpart;
 - (vii) The number of agitators for which leaks were detected as described in paragraphs 63.173(a) and (b) of this subpart;
 - (viii) The number of agitators for which leaks were not repaired as required in paragraph 63.173(c) of this subpart;
 - (ix) The number of connectors for which leaks were detected as described in paragraph 63.174(a) of this subpart, the percent of connectors leaking, and the total number of connectors monitored;
 - (x) [Reserved]
 - (xi) The number of connectors for which leaks were not repaired as required in paragraph 63.174(d) of this subpart, identifying the number of those that are determined non-repairable;
 - (xii) [Reserved]
 - (xiii) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.
 - (xiv) The results of all monitoring to show compliance with paragraphs 63.164(i), 63.165(a), and 63.172(f) of this subpart conducted within the semiannual reporting period.
 - (xv) If applicable, the initiation of a monthly monitoring program under paragraph 63.168(d)(1)(i) of this subpart, or a quality improvement program under either section 63.175 or 63.176 of this subpart.
 - (xvi) If applicable, notification of a change in connector monitoring alternatives as described in paragraph 63.174(c)(1) of this subpart.
 - (xvii) If applicable, the compliance option that has been selected under paragraph 63.172(n).
- (3) For owners or operators electing to meet the requirements of paragraph 63.178(b) of this subpart, the report shall include the information listed in paragraphs (i) through (v) of this paragraph for each process unit.
- (i) Batch product process equipment train identification;
 - (ii) The number of pressure tests conducted;
 - (iii) The number of pressure tests where the equipment train failed the pressure test;
 - (iv) The facts that explain any delay of repairs; and

A. State and Federally Enforcable Section (continued)

(v) The results of all monitoring to determine compliance with paragraph 63.172(f) of this subpart.

(4) The information listed in paragraph (c) of this section or the Notification of Compliance Status for process units with later compliance dates. Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report.

27. Sections II.A.1 through II.A.26 above apply to "equipment" as identified in section II.A.1, as applicable within the following emissions units:

P004 - G-1 Process Unit,
P006 - K-3 Process Unit,
P007 - G-2 Process Unit,
P010 - K-1 Process Unit,
T036 - Butadiene Sphere V-945,
Z017 - Butadiene Sphere V-936,
T054 - Styrene Tank T-920, and
T055 - Styrene Tank T-921.

28. Every effort has been made in this permit to restate the obligations of the HON rule (i.e., 40 CFR part 63, subparts H and I) accurately and completely. The Ohio EPA recognizes that the USEPA may make revisions to the HON rule in the future. If such revisions occur, it will be necessary to amend this permit to include those revisions.

29.a The permittee may be subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for industrial boilers, 40 CFR part 63, subpart DDDDD, and miscellaneous organic chemical manufacturing, 40 CFR part 63 subpart FFFF.
USEPA failed to promulgate these standards by May 15, 2002, the Maximum Achievable Control Technology (MACT) hammer date. In accordance with 40 CFR part 63, subpart B (40 CFR parts 63.50 through 63.56), the permittee shall submit an application to revise this permit to include equivalent emission limitations as a result of a case-by-case MACT determination. The application shall be submitted in two parts. The deadline to submit the Part I application, as specified in 40 CFR part 63.53, was May 15, 2002.

29.b If the final NESHAP standards are not promulgated by the deadline specified by USEPA, the permittee shall submit the Part II application as specified in 40 CFR part 63.53. The Part II application shall be submitted within 60 days after the deadline to promulgate the respective standard or by May 15, 2003, whichever is later. It must contain the following information, unless otherwise specified by future USEPA regulations:

- i. for a new affected source, the anticipated date of startup of operation;
- ii. the hazardous air pollutants (HAPs) emitted by each affected source in the relevant source category and an estimated total uncontrolled and controlled emission rate for HAPs from the affected source;
- iii. any existing federal, State, or local limitations or requirements applicable to the affected source;
- iv. for each affected emission point or group of affected emission points, an identification of control technology in place;
- v. information relevant to establishing the MACT floor (or MACT emission limitation), and, at the option of the permittee, a recommended MACT floor; and
- vi. any other information reasonably needed by the Director including, at the discretion of the Director, information required pursuant to 40 CFR part 63, subpart A.

A. State and Federally Enforcable Section (continued)

- 29.c** The Part II application for a MACT determination may, but is not required to, contain the following information:
- i. recommended emission limitations for the affected source and support information (the permittee may recommend a specific design, equipment, work practice, or operational standard, or combination thereof, as an emission limitation);
 - ii. a description of the control technologies that would be applied to meet the emission limitation, including technical information on the design, operation, size, estimated control efficiency and any other information deemed appropriate by the permitting authority, and identification of the affected sources to which the control technologies must be applied; and
 - iii. relevant parameters to be monitored and frequency of monitoring to demonstrate continuous compliance with the MACT emission limitation over the applicable reporting period.
- 29.d** If the NESHAP is promulgated before the Part II application is due for the relevant source category, the permittee may be subject to the rule as an existing major source with a compliance date as specified in the NESHAP. If subject, the permittee shall submit the following notifications:
- i. Unless otherwise specified in the relevant subpart, within 120 days after promulgation of a 40 CFR part 63 subpart to which the source is subject, the permittee shall submit an Initial Notification Report that contains the following information, in accordance with 40 CFR part 63.9(b)(2):
 - (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 source's compliance date;
 - (d) a brief description of the nature, design, size, and method of operation of the source, and an identification of the types of emission points within the affected source subject to the relevant standard and the types of HAPs emitted; and
 - (e) a statement confirming the facility is a major source for HAPs.
 - ii. Unless otherwise specified in the relevant subpart, within 60 days following completion of any required compliance demonstration activity specified in the relevant subpart, 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, visible emission observations, continuous monitoring systems 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 HAPs emitted by the source, reported in units and averaging times in accordance with the test methods specified in the relevant subpart;
 - (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 HAP 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 the relevant subpart.

B. State Only Enforceable Section

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

F001 - Plant Roadways and Parking Areas;
F002 - Coal and Ash Handling;
G001 - Gasoline Tank;
T003 - Oil Tank T-TR-900;
T004 - Mineral Oil Tank T-TR-901;
T005 - Fuel Oil Tank T-904;
T006 - Fuel Oil Tank T-906;
T007 - Mineral Oil Tank T-907;
T008 - Mineral Oil Tank T-908;
T009 - Oil Tank T-909;
T014 - Mineral Oil Tank T-945;
T024 - Isoprene Vessel V-901;
T025 - Isoprene Vessel V-902;
T027 - Isoprene Vessel V-904;
T028 - Isoprene Vessel V-905;
T029 - Isoprene Vessel V-906;
T030 - Isoprene Vessel V-907;
T031 - Isoprene Vessel V-909;
T033 - Isoprene Vessel T-TR-912;
T053 - Oil Tank T-940;
Z007 - Product Loading Operations;
Z008 - Byproduct Loading Operations;
Z009 - Raw Material Unloading;
Z010 - QA/QC Laboratory;
Z011 - Abrasive Blasting;
Z012 - Firefighting Training;
Z013 - Misc. Utilities Operations;
Z014 - Misc. Maintenance Operations;
Z015 - Cold Cleaners;
Z016 - Raw Material Sampling; and
Z023 - Firewater Training Sump Pump Q-502.

Each insignificant emissions unit at this facility must comply with all applicable State and federal regulations, as well as any emission 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: Boiler F-1001 (B005)

Activity Description: Coal fired boiler, rated heat input capacity 247 MMBtu/hr

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
247 mmBtu/hr coal-fired boiler, capable of using #2 fuel oil as a back up fuel, controlled with a multiclone and two electrostatic precipitators in series	OAC rule 3745-31-05(A)(3) (PTI 06-825)	1215 lbs/hr of sulfur dioxide from B005, B007, and B009, combined, when B009 is fired with #2 fuel oil
		2.25 pounds of sulfur dioxide per mmBtu of actual heat input from B005 and B007, combined, as a rolling, 30-day average, when B009 is fired with #2 fuel oil
		See section A.1.2.a below.
	40 CFR 52.1881(b)(29)(i)	2.50 pounds of sulfur dioxide per mmBtu of actual heat input as a rolling, 30-day average
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-17-10(C)(1)	0.124 pound of particulate emissions per mmBtu of actual heat input, based on the total combined heat input from boilers B005 and B007

2. Additional Terms and Conditions

- 2.a This emissions unit was installed in 1961 and was not required to obtain a PTI. PTI 06-825 was issued for emissions unit B009 and contains the emissions limitations above for emissions units B005 and B007 when #2 fuel oil is fired in B009.

II. Operational Restrictions

1. For each 3-hour block of time during which both B005 and B007 were in operation and the combined steam load was equal to or greater than 80% of the maximum capacity for B005 and B007 combined (i.e., a steam load equal to or greater than an average of 280,000 lbs/hr), the total combined power input (in kilowatts) to all fields of the electrostatic precipitator (ESP) system, as an average over such 3-hour block of time, shall not be less than the total combined power input level defined by the engineering study required by section A.II.3.
2. For each 3-hour block of time during which B005 and/or B007 was (were) in operation and the combined steam load was less than 80% of the maximum capacity of B005 and B007 combined (i.e., a steam load less than an average of 280,000 lbs/hr), the total combined power input (in kilowatts) to all fields of the electrostatic precipitator (ESP) system, as an average over such 3-hour block of time, shall not be less than the total combined power input level defined by the engineering study required by section A.II.3.
3. Within 180 days of the effective date of this permit, the permittee shall perform emission tests for B005 and B007, in accordance with section A.V of this permit, to demonstrate compliance with allowable particulate emission rate for B005 and B007. Also within 180 days of the effective date of this permit, the permittee shall complete an engineering study of the ESP, using monitored data, reference test methods results, and manufacturer's recommendations to determine the total combined power input level that will ensure ongoing compliance with the allowable particulate emission rate when the combined steam load for B005 and B007 is equal to or greater than 280,000 lbs/hr and when the combined steam load for B005 and B007 is less than 280,000 lbs/hr. The engineering study, including supporting information, shall be submitted to and approved by the Ohio EPA, Southeast District Office. A copy of the engineering study also shall be submitted to the Ohio EPA, DAPC, Central Office.
4. The permittee shall operate a minimum of three fields of the ESP during any operation of this emissions unit when combusting coal, except the ESP may not be operated during periods of start-up until the exhaust gases have achieved a temperature of 250 degrees Fahrenheit at the inlet of the ESP or during periods of shutdown when the temperature of the exhaust gases has dropped below 250 degrees Fahrenheit at the inlet of the ESP.

III. Monitoring and/or Record Keeping Requirements

- 1.a When the continuous sulfur dioxide monitoring system is used to demonstrate compliance with the sulfur dioxide emission limitation, the permittee shall operate and maintain equipment to continuously monitor and record sulfur dioxide emissions from this emissions unit in units of the applicable standards. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

Each continuous monitoring system consists of all the equipment used to acquire data and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

- 1.b A statement of certification of the continuous sulfur dioxide 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 2 and 3. Proof of certification shall be made available to the appropriate Ohio EPA District Office upon request.
- 1.c The permittee shall maintain records of the following data, either obtained from the continuous sulfur dioxide monitoring system or from the required coal sampling and testing: the hours of operation of the emissions unit; the emission rate of sulfur dioxide in lbs/hr and lbs/mmBtu; the average daily and rolling, 30-day average emission rate of sulfur dioxide in lbs/mmBtu; results of daily zero/span calibration checks; and magnitude of manual calibration adjustments. In addition, the permittee shall maintain daily records of the total actual heat input values as determined through the F-Factor and carbon dioxide/oxygen calculations as specified in 40 CFR Part 60, Appendix A, Method 19.

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

- 1.d** For each day when emissions unit B009 is fired with #2 fuel oil, the permittee shall maintain the following additional records:
- i. the average daily and rolling, 30-day average heat input for this emissions unit, in mmBtu/day;
 - ii. the average daily and rolling, 30-day average emission rate of sulfur dioxide from this emissions unit, in lbs/day;
 - iii. the average daily and rolling, 30-day average emission rate of sulfur dioxide for B005 and B007, combined, in lbs/mmBtu, calculated by dividing the sum of the rolling, 30-day average emission rates of sulfur dioxide from B005 and B007, in lbs/day, by the sum of the rolling, 30-day average heat inputs for B005 and B007, in mmBtu/day; and
 - iv. the average daily emission rate of sulfur dioxide from B005, B007 and B009, combined, in lbs/hr, calculated by dividing the pounds of sulfur dioxide emitted from each emissions unit in a day by the number of hours the emissions unit operated during that day, and summing the results for all three emissions units.
- 1.e** If the continuous SO₂ emission monitor system malfunctions, the permittee shall immediately begin collecting daily composite samples of coal in accordance with the procedure in section A.III.2. However, analyses will not have to be performed unless the monitor is inoperable for more than five days.
- In the event the analyzer is down on this emissions unit, the analyzer on boiler B007 shall provide an indication of SO₂ emissions when both emission units are combusting the same fuel.
- 2.a** If coal sampling and analysis is used to demonstrate compliance with the sulfur dioxide emission limitations, the permittee shall maintain daily records of the total quantity of coal burned, the hours of operation of this emissions unit, the results of the analyses for ash content, sulfur content, heat content, and the calculated sulfur dioxide emission rate in lbs/mmBtu as an average daily and rolling, 30-day average, and the average calculated sulfur dioxide emission rate for each calendar day, in lbs/hr.
- 2.b** The permittee shall collect daily composite samples of the coal received for this emissions unit. A sufficient number of individual samples shall be collected so that each composite sample is representative of the average quality of coal burned in this emissions unit during each calendar day. The coal sampling shall be performed in accordance with ASTM method D2234, Collection of a Gross Sample of Coal.
- 2.c** Each daily composite sample of coal shall be analyzed for ash content (percent), sulfur content (percent), and heat content (Btu/pound). The analytical methods for ash content, sulfur content and heat content shall be the most recent versions of: ASTM method D3174, Ash in the Analysis of Coal and Coke; ASTM method D3177, Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods; and ASTM method D2015, Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, ASTM method D3286, Gross Calorific Value of Coal and Coke by the Isothermal Bomb Calorimeter, or ASTM method D1989, Standard Test Method for Gross Calorific Value of Coal and Coke by Microprocessor Controlled Iso-peribol Calorimeters, respectively. Equivalent methods may be used upon written approval from the appropriate Ohio EPA District Office or local air agency.
- 3.** The permittee shall operate and maintain equipment to continuously monitor and record the steam load for this emissions unit, in lbs/hr.
- 4.** The permittee shall record each day the duration of any downtime for the ESP monitoring equipment for total power inputs, the ESP sections that are out of service, and the duration of the downtime for each section, when the associated emissions unit was in operation.

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

5. The permittee shall operate and maintain equipment to continuously monitor and record the following during any operation of the ESP:
 - a. the kilowatts for each transformer-rectifier (TR) set in the ESP system; and
 - b. the total combined power input, in kilowatts, to the ESP system.
6. The permittee shall maintain daily records of the following information for each 3-hour block of time during which B005 and/or B007 is (are) in operation:
 - a. the steam load for B005, in lbs/hr (average);
 - b. the steam load for B007, in lbs/hr (average);
 - c. the total combined steam load for B005 and B007, in lbs/hr (average); and
 - d. the total power, in kilowatts (average), to the ESP system.
7. The permittee shall operate and maintain a temperature monitor and recorder that measures and records the temperature of the boiler exhaust gases entering the ESP as follows.
 - a. during all periods of start-up until the ESP is operational or until the inlet temperature of the ESP achieves the temperature level specified in OAC rule 3745-17-07(A)(3)(a)(i); and
 - b. during all periods of shutdown until the inlet temperature of the ESP drops below the temperature level specified in OAC rule 3745-17-07(A)(3)(b)(i).

The temperature monitor and recorder shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee, and shall be capable of accurately measuring the temperature of the emissions unit exhaust gases in degrees Fahrenheit.
8. The permittee shall maintain records of the days, and hours during each day, when #2 fuel oil is burned in B009.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all of the following exceedences:
 - a. sulfur dioxide emission values in excess of the applicable rolling, 30-day average emission limitation of 2.50 lbs/mmBtu when B009 is not fired with #2 fuel oil;
 - b. sulfur dioxide emission values in excess of the applicable rolling, 30-day average emission limitation of 2.25 lbs/mmBtu for B005 and B007, combined, when B009 is fired with #2 fuel oil; and
 - c. sulfur dioxide emission values in excess of the applicable emission limitation of 1215 lbs/hr for B005, B007 and B009, combined, when B009 is fired with #2 fuel oil.

These reports shall also contain the average daily sulfur dioxide emission rates for B005, in lbs/mmBtu, that are greater than 1.5 times the 30-day average sulfur dioxide emission limitation.

The reports shall also document any downtime of the continuous sulfur dioxide monitoring system while the emissions unit was on line (date, time, duration and reason) along with any corrective actions taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective actions 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 date, time, reason, and corrective actions taken for each time period of monitoring system malfunction.

2. The permittee shall submit quarterly deviation (excursion) reports which identify:
 - a. All periods of time during start-up and shutdown of the emissions unit when the ESP was not in operation and the temperature of the boiler exhaust exceeded the temperature levels specified in OAC rule 3745-17-07(A)(3)(a)(i) and (b)(i). Such periods when coal was not being used as fuel do not require reporting.
 - b. All periods of time, excluding periods reported in A.IV.2.a, when a minimum of three ESP fields were not in operation while the emissions unit was combusting coal.
3. The permittee shall submit quarterly reports which identify the sections of the ESP that were out of service along with the time periods involved. These quarterly reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall address the information obtained during the previous calendar quarter.
4. After completing the emission tests required in section A.V and completing the engineering study required in section A.II.3, the permittee shall submit quarterly deviation (excursion) reports that identify all deviations of the total combined power input limitations specified in sections A.II.1 and A.II.2.
5. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c. of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - 1.a Emission Limitation:

0.124 pound of particulate emissions per mmBtu of actual heat input, based on the total combined heat input from boilers B005 and B007

Applicable Compliance Method:

Compliance shall be determined in accordance with methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and in OAC rule 3745-17-03(B)(9).

V. Testing Requirements (continued)

1.b Emission Limitation:

2.50 pounds of sulfur dioxide per mmBtu of actual heat input, as a rolling, 30-day average

Applicable Compliance Method:

Compliance shall be based upon a rolling, 30-day average of the daily sulfur dioxide emission rates, in accordance with the USEPA's policy entitled "Enforcement Policy for Sulfur Dioxide Emission Limitations in Ohio" and dated February 11, 1980 (45 FR 9101). The daily and rolling 30-day sulfur dioxide emission rates shall be determined and reported in accordance with the applicable requirements of sections A.III.1, A.III.2 and A.IV.1 of this permit. The permittee may be required to perform sulfur dioxide emission tests if warranted by the U.S. EPA's enforcement policy. In such cases, the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6 shall be employed.

1.c Emission Limitation:

2.25 pounds of sulfur dioxide per mmBtu of actual heat input for B005 and B007, combined, as a rolling, 30-day average, when #2 fuel oil is fired in B009

Applicable Compliance Method:

Compliance shall be based upon a rolling, 30-day average of the daily sulfur dioxide emission rates, in accordance with the USEPA's policy entitled "Enforcement Policy for Sulfur Dioxide Emission Limitations in Ohio" and dated February 11, 1980 (45 FR 9101). The daily and rolling 30-day sulfur dioxide emission rates shall be determined and reported in accordance with the applicable requirements of sections A.III.1, A.III.2 and A.IV.1 of this permit. The permittee may be required to perform sulfur dioxide emission tests if warranted by the U.S. EPA's enforcement policy. In such cases, the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6 shall be employed.

1.d Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

1.e Emission Limitation:

1215 lbs/hr of sulfur dioxide emissions from B005, B007, and B009, combined, when B009 is fired with #2 fuel oil

Applicable Compliance Method:

Compliance shall be demonstrated based upon records required by section A.III.1 or A.III.2. If required, compliance shall be determined based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

V. Testing Requirements (continued)

- 2.a** Particulate emission testing shall be conducted twice during the term of this permit. Once within 180 days of the effective date of this permit and once during the last year of the permit.

The tests 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 dates, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Director's refusal to accept the results of the emission tests.

Personnel from the appropriate Ohio EPA District Office shall be permitted to witness the tests, 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 tests shall be signed by the persons responsible for the tests and submitted to the appropriate Ohio EPA District Office within 30 days following completion of the tests. The appropriate Ohio EPA District Office may allow additional time for the submittal of the written report, where warranted, upon written request from the permittee.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
247 mmBtu/hr coal fired boiler controlled with multiclone and two electrostatic precipitators in series	OAC rule 3745-18-90(C)	See B.I.2.a below.

2. Additional Terms and Conditions

- 2.a The emission limitation required by this rule is equivalent to the emission limitation specified in 40 CFR 52.1881(b)(29)(i). See section A.I.1.

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: Boiler F-1002 (B007)

Activity Description: Coal fired boiler, rated heat input capacity 247 MMBtu/hr

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
247 mmBtu/hr coal-fired boiler, capable of using #2 fuel oil as a back up fuel, controlled with a multiclone and two electrostatic precipitators in series	OAC rule 3745-31-05(A)(3) (PTI 06-825)	1215 lbs/hr of sulfur dioxide from B005, B007, and B009, combined, when B009 is fired with #2 fuel oil
		2.25 pounds of sulfur dioxide per mmBtu of actual heat input from B005 and B007, combined, as a rolling, 30-day average, when B009 is fired with #2 fuel oil
		See section A.1.2.a below.
	40 CFR 52.1881(b)(29)(i)	2.50 pounds of sulfur dioxide per mmBtu of actual heat input as a rolling, 30-day average
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-17-10(C)(1)	0.124 pound of particulate emissions per mmBtu of actual heat input, based on the total combined heat input from boilers B005 and B007

2. Additional Terms and Conditions

- 2.a This emissions unit was installed in 1961 and was not required to obtain a PTI. PTI 06-825 was issued for emissions unit B009 and contains the emissions limitations above for emissions units B005 and B007 when #2 fuel oil is fired in B009.

II. Operational Restrictions

1. For each 3-hour block of time during which both B005 and B007 were in operation and the combined steam load was equal to or greater than 80% of the maximum capacity for B005 and B007 combined (i.e., a steam load equal to or greater than an average of 280,000 lbs/hr), the total combined power input (in kilowatts) to all fields of the electrostatic precipitator (ESP) system, as an average over such 3-hour block of time, shall not be less than the total combined power input level defined by the engineering study required by section A.II.3.
2. For each 3-hour block of time during which B005 and/or B007 was (were) in operation and the combined steam load was less than 80% of the maximum capacity of B005 and B007 combined (i.e., a steam load less than an average of 280,000 lbs/hr), the total combined power input (in kilowatts) to all fields of the electrostatic precipitator (ESP) system, as an average over such 3-hour block of time, shall not be less than the total combined power input level defined by the engineering study required by section A.II.3.
3. Within 180 days of the effective date of this permit, the permittee shall perform emission tests for B005 and B007, in accordance with section A.V of this permit, to demonstrate compliance with allowable particulate emission rate for B005 and B007. Also within 180 days of the effective date of this permit, the permittee shall complete an engineering study of the ESP, using monitored data, reference test methods results, and manufacturer's recommendations to determine the total combined power input level that will ensure ongoing compliance with the allowable particulate emission rate when the combined steam load for B005 and B007 is equal to or greater than 280,000 lbs/hr and when the combined steam load for B005 and B007 is less than 280,000 lbs/hr. The engineering study, including supporting information, shall be submitted to and approved by the Ohio EPA, Southeast District Office. A copy of the engineering study also shall be submitted to the Ohio EPA, DAPC, Central Office.
4. The permittee shall operate a minimum of three fields of the ESP during any operation of this emissions unit when combusting coal, except the ESP may not be operated during periods of start-up until the exhaust gases have achieved a temperature of 250 degrees Fahrenheit at the inlet of the ESP or during periods of shutdown when the temperature of the exhaust gases has dropped below 250 degrees Fahrenheit at the inlet of the ESP.

III. Monitoring and/or Record Keeping Requirements

- 1.a When the continuous sulfur dioxide monitoring system is used to demonstrate compliance with the sulfur dioxide emission limitation, the permittee shall operate and maintain equipment to continuously monitor and record sulfur dioxide emissions from this emissions unit in units of the applicable standards. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

Each continuous monitoring system consists of all the equipment used to acquire data and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

- 1.b A statement of certification of the continuous sulfur dioxide 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 2 and 3. Proof of certification shall be made available to the appropriate Ohio EPA District Office upon request.
- 1.c The permittee shall maintain records of the following data, either obtained from the continuous sulfur dioxide monitoring system or from the required coal sampling and testing: the hours of operation of the emissions unit; the emission rate of sulfur dioxide in lbs/hr and lbs/mmBtu; the average daily and rolling, 30-day average emission rate of sulfur dioxide in lbs/mmBtu; results of daily zero/span calibration checks; and magnitude of manual calibration adjustments. In addition, the permittee shall maintain daily records of the total actual heat input values as determined through the F-Factor and carbon dioxide/oxygen calculations as specified in 40 CFR Part 60, Appendix A, Method 19.

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

- 1.d** For each day when emissions unit B009 is fired with #2 fuel oil, the permittee shall maintain the following additional records:
- i. the average daily and rolling, 30-day average heat input for this emissions unit, in mmBtu/day;
 - ii. the average daily and rolling, 30-day average emission rate of sulfur dioxide from this emissions unit, in lbs/day;
 - iii. the average daily and rolling, 30-day average emission rate of sulfur dioxide for B005 and B007, combined, in lbs/mmBtu, calculated by dividing the sum of the rolling, 30-day average emission rates of sulfur dioxide from B005 and B007, in lbs/day, by the sum of the rolling, 30-day average heat inputs for B005 and B007, in mmBtu/day; and
 - iv. the average daily emission rate of sulfur dioxide from B005, B007 and B009, combined, in lbs/hr, calculated by dividing the pounds of sulfur dioxide emitted from each emissions unit in a day by the number of hours the emissions unit operated during that day, and summing the results for all three emissions units.
- 1.e** If the continuous SO₂ emission monitor system malfunctions, the permittee shall immediately begin collecting daily composite samples of coal in accordance with the procedure in section A.III.2. However, analyses will not have to be performed unless the monitor is inoperable for more than five days.
- In the event the analyzer is down on this emissions unit, the analyzer on boiler B007 shall provide an indication of SO₂ emissions when both emission units are combusting the same fuel.
- 2.a** If coal sampling and analysis is used to demonstrate compliance with the sulfur dioxide emission limitations, the permittee shall maintain daily records of the total quantity of coal burned, the hours of operation of this emissions unit, the results of the analyses for ash content, sulfur content, heat content, and the calculated sulfur dioxide emission rate in lbs/mmBtu as an average daily and rolling, 30-day average, and the average calculated sulfur dioxide emission rate for each calendar day, in lbs/hr.
- 2.b** The permittee shall collect daily composite samples of the coal received for this emissions unit. A sufficient number of individual samples shall be collected so that each composite sample is representative of the average quality of coal burned in this emissions unit during each calendar day. The coal sampling shall be performed in accordance with ASTM method D2234, Collection of a Gross Sample of Coal.
- 2.c** Each daily composite sample of coal shall be analyzed for ash content (percent), sulfur content (percent), and heat content (Btu/pound). The analytical methods for ash content, sulfur content and heat content shall be the most recent versions of: ASTM method D3174, Ash in the Analysis of Coal and Coke; ASTM method D3177, Total Sulfur in the Analysis Sample of Coal and Coke or ASTM method D4239, Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods; and ASTM method D2015, Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, ASTM method D3286, Gross Calorific Value of Coal and Coke by the Isothermal Bomb Calorimeter, or ASTM method D1989, Standard Test Method for Gross Calorific Value of Coal and Coke by Microprocessor Controlled Iso-peribol Calorimeters, respectively. Equivalent methods may be used upon written approval from the appropriate Ohio EPA District Office or local air agency.
- 3.** The permittee shall operate and maintain equipment to continuously monitor and record the steam load for this emissions unit, in lbs/hr.
- 4.** The permittee shall record each day the duration of any downtime for the ESP monitoring equipment for total power inputs, the ESP sections that are out of service, and the duration of the downtime for each section, when the associated emissions unit was in operation.

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

5. The permittee shall operate and maintain equipment to continuously monitor and record the following during any operation of the ESP:
 - a. the kilowatts for each transformer-rectifier (TR) set in the ESP system; and
 - b. the total combined power input, in kilowatts, to the ESP system.
6. The permittee shall maintain daily records of the following information for each 3-hour block of time during which B005 and/or B007 is (are) in operation:
 - a. the steam load for B005, in lbs/hr (average);
 - b. the steam load for B007, in lbs/hr (average);
 - c. the total combined steam load for B005 and B007, in lbs/hr (average); and
 - d. the total power, in kilowatts (average), to the ESP system.
7. The permittee shall operate and maintain a temperature monitor and recorder that measures and records the temperature of the boiler exhaust gases entering the ESP as follows.
 - a. during all periods of start-up until the ESP is operational or until the inlet temperature of the ESP achieves the temperature level specified in OAC rule 3745-17-07(A)(3)(a)(i); and
 - b. during all periods of shutdown until the inlet temperature of the ESP drops below the temperature level specified in OAC rule 3745-17-07(A)(3)(b)(i).

The temperature monitor and recorder shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee, and shall be capable of accurately measuring the temperature of the emissions unit exhaust gases in degrees Fahrenheit.
8. The permittee shall maintain records of the days, and hours during each day, when #2 fuel oil is burned in B009.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all of the following exceedences:
 - a. sulfur dioxide emission values in excess of the applicable rolling, 30-day average emission limitation of 2.50 lbs/mmBtu when B009 is not fired with #2 fuel oil;
 - b. sulfur dioxide emission values in excess of the applicable rolling, 30-day average emission limitation of 2.25 lbs/mmBtu for B005 and B007, combined, when B009 is fired with #2 fuel oil; and
 - c. sulfur dioxide emission values in excess of the applicable emission limitation of 1215 lbs/hr for B005, B007 and B009, combined, when B009 is fired with #2 fuel oil.

These reports shall also contain the average daily sulfur dioxide emission rates for B005, in lbs/mmBtu, that are greater than 1.5 times the 30-day average sulfur dioxide emission limitation.

The reports shall also document any downtime of the continuous sulfur dioxide monitoring system while the emissions unit was on line (date, time, duration and reason) along with any corrective actions taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective actions 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 date, time, reason, and corrective actions taken for each time period of monitoring system malfunction.

2. The permittee shall submit quarterly deviation (excursion) reports which identify:
 - a. All periods of time during start-up and shutdown of the emissions unit when the ESP was not in operation and the temperature of the boiler exhaust exceeded the temperature levels specified in OAC rule 3745-17-07(A)(3)(a)(i) and (b)(i). Such periods when coal was not being used as fuel do not require reporting.
 - b. All periods of time, excluding periods reported in A.IV.2.a, when a minimum of three ESP fields were not in operation while the emissions unit was combusting coal.
3. The permittee shall submit quarterly reports which identify the sections of the ESP that were out of service along with the time periods involved. These quarterly reports shall be submitted by January 31, April 30, July 31 and October 31 of each year and shall address the information obtained during the previous calendar quarter.
4. After completing the emission tests required in section A.V and completing the engineering study required in section A.II.3, the permittee shall submit quarterly deviation (excursion) reports that identify all exceedences of the total combined power input limitations specified in sections A.II.1 and A.II.2.
5. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c. of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - 1.a Emission Limitation:

0.124 pound of particulate emissions per mmBtu of actual heat input, based on the total combined heat input from boilers B005 and B007

Applicable Compliance Method:

Compliance shall be determined in accordance with methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and in OAC rule 3745-17-03(B)(9).

V. Testing Requirements (continued)

1.b Emission Limitation:

2.50 pounds of sulfur dioxide per mmBtu of actual heat input, as a rolling, 30-day average

Applicable Compliance Method:

Compliance shall be based upon a rolling, 30-day average of the daily sulfur dioxide emission rates, in accordance with the USEPA's policy entitled "Enforcement Policy for Sulfur Dioxide Emission Limitations in Ohio" and dated February 11, 1980 (45 FR 9101). The daily and rolling 30-day sulfur dioxide emission rates shall be determined and reported in accordance with the applicable requirements of sections A.III.1, A.III.2 and A.IV.1 of this permit. The permittee may be required to perform sulfur dioxide emission tests if warranted by the U.S. EPA's enforcement policy. In such cases, the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6 shall be employed.

1.c Emission Limitation:

2.25 pounds of sulfur dioxide per mmBtu of actual heat input for B005 and B007, combined, as a rolling, 30-day average, when #2 fuel oil is fired in B009

Applicable Compliance Method:

Compliance shall be based upon a rolling, 30-day average of the daily sulfur dioxide emission rates, in accordance with the USEPA's policy entitled "Enforcement Policy for Sulfur Dioxide Emission Limitations in Ohio" and dated February 11, 1980 (45 FR 9101). The daily and rolling 30-day sulfur dioxide emission rates shall be determined and reported in accordance with the applicable requirements of sections A.III.1, A.III.2 and A.IV.1 of this permit. The permittee may be required to perform sulfur dioxide emission tests if warranted by the U.S. EPA's enforcement policy. In such cases, the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6 shall be employed.

1.d Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

1.e Emission Limitation:

1215 lbs/hr of sulfur dioxide emissions from B005, B007, and B009, combined, when B009 is fired with #2 fuel oil

Applicable Compliance Method:

Compliance shall be demonstrated based upon records required by section A.III.1 or A.III.2. If required, compliance shall be determined based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

V. Testing Requirements (continued)

- 2.a** Particulate emission testing shall be conducted twice during the term of this permit. Once within 180 days of the effective date of this permit and once during the last year of the permit.

The tests 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 dates, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Director's refusal to accept the results of the emission tests.

Personnel from the appropriate Ohio EPA District Office shall be permitted to witness the tests, 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 tests shall be signed by the persons responsible for the tests and submitted to the appropriate Ohio EPA District Office within 30 days following completion of the tests. The appropriate Ohio EPA District Office may allow additional time for the submittal of the written report, where warranted, upon written request from the permittee.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
247 mmBtu/hr coal fired boiler controlled with multiclone and two electrostatic precipitators in series	OAC rule 3745-18-90(C)	See B.I.2.a below.

2. Additional Terms and Conditions

- 2.a The emission limitation required by this rule is equivalent to the emission limitation specified in 40 CFR 52.1881(b)(29)(i). See section A.I.1.

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: Gas/Oil Fired Reformer (Methane Reformer) (B008)
Activity Description: Reformer H-9140 located by G-2 unit used for hydrogen production

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
natural gas/#2 fuel oil-fired methane reformer	OAC rule 3745-31-05(A)(3) (PTI 06-686)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-17-07(A)(1), 3745-17-11, 3745-21-08, 3745-23-06, and 40 CFR 52.1881(b)(29)(i).
	OAC rule 3745-17-11	no mass emission rate due to zero process weight rate
	40 CFR 52.1881(b)(29)(i)	2.50 pounds of sulfur dioxide per mmBtu of actual heat input
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-21-08(B)	See section A.I.2.a below.
	OAC rule 3745-23-06(B)	See section A.I.2.b below.

2. Additional Terms and Conditions

- 2.a The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 06-686.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 06-686.

II. Operational Restrictions

1. Excluding the residue gas recycled within the emissions unit, the permittee shall burn only natural gas or #2 fuel oil in this emissions unit.
2. The quality of #2 fuel oil burned in this emissions unit shall meet a sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation specified in section A.I.1 above.

III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than residue gas, natural gas or #2 fuel oil in this emissions unit, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall perform weekly checks, when the emissions unit is in operation and burning #2 fuel oil and when the weather conditions allow, for visible particulate emissions from the stack serving this emissions unit. The presence or absence of visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of the visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
3. On an annual basis, the permittee shall obtain and maintain records of a certification from each oil supplier that indicates whether or not each shipment of fuel oil delivered to the facility during the calendar year met the ASTM specifications for #2 fuel oil. Due to the high allowable sulfur dioxide emission rate for this emissions unit, the permittee is not be required to perform additional monitoring or record keeping, besides the annual certifications, to demonstrate compliance with the allowable emission rate for sulfur dioxide.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack 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.
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than residual gas, natural gas and/or #2 fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

V. Testing Requirements

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

1.a Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

V. Testing Requirements (continued)

1.b Emission Limitation:

2.50 pounds of sulfur dioxide per mmBtu of actual heat input

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Boiler F-1003 (B009)

Activity Description: Natural gas/No. 2 fuel oil fired boiler, rated heat input capacity 211.4 MMBtu/hr

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
211.4 mmBtu natural gas/#2 fuel oil-fired boiler	OAC rule 3745-31-05(A)(3) (PTI 06-825)	0.30 pound of nitrogen oxides emissions per mmBtu of actual heat input
		1215 lbs/hr of sulfur dioxide emissions from B005, B007, and B009, combined, when B009 is fired with #2 fuel oil
		See section A.1.2.a below.
		0.513 pound of sulfur dioxide emissions per mmBtu of actual heat input when B009 is fired with #2 fuel oil
		102 lbs/hr of sulfur dioxide when B009 is fired with #2 fuel oil
	OAC rule 3745-17-10(B)(1)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-17-10(B)(1), 3745-21-08(B), 3745-23-06(B) and 40 CFR 52.1881(b)(29)(i).
	OAC rule 3745-17-07(A)(1)	0.020 pound of particulate emissions per mmBtu of actual heat input
		Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-18-06(D)	This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
	40 CFR 52.1881(b)(29)(i)	2.5 pounds of sulfur dioxide emissions per mmBtu of actual heat input
	OAC rule 3745-21-08(B)	See section A.I.2.b below.
	OAC rule 3745-23-06(B)	See section A.I.2.c below.

2. Additional Terms and Conditions

- 2.a** When B009 is fired with #2 fuel oil, this rule sets the sulfur dioxide emission limitation from B005 and B007, combined, at 2.25 lbs/mmBtu as a rolling, 30-day average.
- 2.b** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 06-825.

 On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.
- 2.c** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 06-825.
- 2.d** The quality of the #2 fuel oil burned in this emissions unit shall meet a sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation specified in section A.I.1 above.

II. Operational Restrictions

- 1.** The permittee shall burn only natural gas or #2 fuel oil in this emissions unit.
- 2.** The quality of the #2 fuel oil burned in this emissions unit shall meet a sulfur content that is sufficient to comply with the allowable sulfur dioxide emission limitation specified in section A.I.1 above.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain records of the oil burned in this emissions unit in accordance with either Alternative 1 or Alternative 2 described below.

- a. Alternative 1:

For each shipment of oil received for burning in this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and 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). (The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).) A shipment may be comprised of multiple tank truck loads from the same supplier's batch, and the quality of the oil for those loads may be represented by a single batch analysis from the supplier.

- b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emissions unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit. A representative grab sample of oil does not need to be collected on days when this emissions unit is only operated for the purpose of "test-firing." The permittee shall maintain records of the total quantity of oil burned each day, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu).

2. The permittee shall perform or require the supplier to perform the analyses for the sulfur content and heat content of the #2 fuel oil in accordance with ASTM methods D240, D4294, D6010, or equivalent methods as approved by the appropriate Ohio EPA District Office.
3. For each day during which the permittee fires #2 fuel oil in this emissions unit, the permittee shall maintain the following records:
 - a. the quantity and sulfur content of #2 fuel oil burned in the emissions unit;
 - b. the hours of operation when burning #2 fuel oil;
 - c. the calculated sulfur dioxide emission rate in lbs/day and lbs/hr (average), from this emissions unit;
 - d. the average daily and rolling, 30-day average heat input for B005 and B007, each, in mmBtu/day;
 - e. the average daily and rolling, 30-day average emission rate of sulfur dioxide from B005 and B007, each, in lbs/day;
 - f. the average daily and rolling, 30-day average emission rate of sulfur dioxide for B005 and B007, combined, in lbs/mmBtu, calculated by dividing the sum of the rolling, 30-day average emission rates of sulfur dioxide from B005 and B007, in lbs/day, by the sum of the rolling, 30-day average heat inputs for B005 and B007, in mmBtu/day; and
 - g. the average hourly emission rate of sulfur dioxide from B005, B007 and B009, combined, in lbs/hr, calculated by dividing the pounds of sulfur dioxide emitted from each emissions unit in a day by the number of hours the emissions unit operated during that day, and summing the results for all three emissions units.
4. For each day during which the permittee burns a fuel other than natural gas or #2 fuel oil in this emissions unit, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

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

5. The permittee shall perform weekly checks, when the emissions unit is in operation and burning #2 fuel oil and when the weather conditions allow, for any visible particulate emissions from the stack 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 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.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all of the following exceedences:
 - a. sulfur dioxide emission values in excess of the applicable rolling, 30-day average emission limitation of 2.25 lbs/mmBtu for B005 and B007, combined, when B009 is fired with #2 fuel oil;
 - b. sulfur dioxide emission values in excess of the applicable emission limitation of 1215 lbs/hr for B005, B007 and B009, combined, when B009 is fired with #2 fuel oil;
 - c. sulfur dioxide emission values for the shipments of fuel oil for B009 that are in excess of the applicable emission limitation of .513 lb/mmBtu; and
 - d. sulfur dioxide emission values in excess of the applicable emission limitation of 102 lbs/hr for B009.
2. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack 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.
3. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or #2 fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
4. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emissions limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods.

V. Testing Requirements (continued)

1.a Emission Limitation:

0.30 pound of nitrogen oxides per mmBtu of actual heat input

Applicable Compliance Method:

Compliance may be demonstrated by use of the AP-42, 5th Edition (Supplement B) emission factors: Table 1.4-1 for natural gas combustion, and Table 1.3-1 for #2 fuel oil combustion, as used in the following equations:

For natural gas:

$$E = (280 \text{ lb}/10^6 \text{ scf} * 0.201 \text{ } 10^6 \text{ scf/hr}) / ((1050 \text{ Btu/scf} * 201000 \text{ scf/hr}) * (\text{MM Btu}/10^6 \text{ Btu}))$$

For distillate oil:

$$E = ((24 \text{ lb}/10^3 \text{ gal} * 1.42 \text{ } 10^3 \text{ gal/hr}) / (1420 \text{ gal/hr} * 140000 \text{ Btu/gal})) * (10^6 \text{ Btu/MM Btu})$$

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 7.

1.b Emission Limitation:

1215 lbs/hr of sulfur dioxide emissions from B005, B007, and B009, combined, when B009 is fired with #2 fuel oil

Applicable Compliance Method:

Compliance shall be demonstrated based upon records required by section A.III for each emissions unit. If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

1.c Emission Limitation:

0.513 pound of sulfur dioxide per mmBtu of actual heat input when firing with #2 fuel oil

Applicable Compliance Method:

When firing fuel oil, compliance with the allowable sulfur dioxide emission limitation shall be demonstrated by documenting that the sulfur content of each shipment of oil received during a calendar month meets the limitation. If required, compliance shall be demonstrated using the procedures specified in 40 CFR Part 60, Appendix A, Method 6.

1.d Emission Limitation:

2.5 pounds of sulfur dioxide per mmBtu of actual heat input when not firing with #2 fuel oil

Applicable Compliance Method:

Compliance may be demonstrated by use of the AP-42, 5th Edition (Supplement B) emission factor, Table 1.4-2 for natural gas combustion, as used in the following equation:

$$E = (0.6 \text{ lb}/10^6 \text{ scf} * 0.201 \text{ } 10^6 \text{ scf/hr}) / ((1050 \text{ Btu/scf} * 201000 \text{ scf/hr}) * (\text{MM Btu}/10^6 \text{ Btu}))$$

If required, compliance shall be demonstrated using the procedures specified in 40 CFR Part 60, Appendix A, Method 6.

V. Testing Requirements (continued)

1.e Emission Limitation:

102 lbs/hr of sulfur dioxide when #2 fuel oil is fired in B009

Applicable Compliance Method:

When firing fuel oil, compliance with the allowable sulfur dioxide emission limitation shall be demonstrated by the record keeping requirements of section A.III.3. If required, compliance shall be determined in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

1.f Emission Limitation:

0.020 pound of particulate emissions per mmBtu of actual heat input

Applicable Compliance Method:

Compliance may be demonstrated by use of the AP-42, 5th Edition (Supplement B) emission factors: Table 1.4-2 for natural gas combustion and Table 1.3-1 for #2 fuel oil combustion, as used in the following equations:

For natural gas:

$$E = (1.9 \text{ lb}/10^6 \text{ scf} * 0.201 \text{ } 10^6 \text{ scf/hr}) / ((1050 \text{ Btu/scf} * 201000 \text{ scf/hr}) * (\text{MM Btu}/10^6 \text{ Btu}))$$

For #2 fuel oil:

$$E = ((2 \text{ lb}/10^3 \text{ gal} * 1.42 \text{ } 10^3 \text{ gal/hr}) / (1420 \text{ gal/hr} * 140000 \text{ Btu/gal})) * (10^6 \text{ Btu/MM Btu})$$

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and in OAC rule 3745-17-03(B)(9).

1.g Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: K-1 Railcar Loading Facility (F003)
Activity Description: Railcar loading facility for dusted thermoplastic elastomers.

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
K-1 railcar loading facility	OAC rule 3745-31-05(A)(3) (PTI 06-06072)	no visible emissions from the K-1 railcar loading facility
	OAC rule 3745-17-07	7.0 tpy of particulate emissions This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05.
	OAC rule 3745-17-08	This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05.

2. Additional Terms and Conditions

- The permittee shall employ best available control measures on the K-1 railcar loading station for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee shall operate the emissions unit in such a manner that there are no visible emissions. Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

- The permittee shall perform daily checks, while the equipment is in operation, for any visible emissions of fugitive dust from the emissions unit. A record of the necessary and completed corrective actions resulting from the daily checks shall be maintained by the permittee.
- 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 from continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

IV. Reporting Requirements

1. The permittee shall submit quarterly reports which identify each day the observations required under the monitoring section of this permit were not performed and each day that any corrective measures required to be taken pursuant to the monitoring section of this permit were not performed.

V. Testing Requirements

1. Compliance with the emissions limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods.

1.a Emission Limitation:

no visible emissions

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

1.b Emission Limitation:

7.0 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated by using a one time calculation of the emission unit's potential to emit as follows:

$$3.13 \text{ lbs/hr uncontrolled} * 0.50 * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 7.0 \text{ tpy}$$

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Wastewater Treat (F005)

Activity Description: Wastewater treatment and collection system for the entire plant

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
wastewater treatment plant	none	none

2. Additional Terms and Conditions

- 2.a This emissions unit was installed in 1962.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: G-1 Process Unit (P004)
Activity Description: Thermoplastic Elastomer Production Unit

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
G-1 process unit (elastomeric polymer production unit), "wet end" of process controlled with a flare; dry material handling equipped with: two integral cyclones for product separation and two integral baghouses for material separation	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-17-11	total of 10.9 lbs/hr of particulate emissions from all emission points associated with this emissions unit (based upon Table I because the UMRE for Figure II is less than 10 lbs/hr)
	40 CFR Part 63, Subpart I	See section A.1.2.a below.

2. Additional Terms and Conditions

- 2.a Refer to Part II - Specific Facility Terms and Conditions of this permit for the requirements of 40 CFR Part 63, Subpart I "National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks." Equipment in 1,3-butadiene and styrene service in this emissions unit is subject to the leak detection and repair requirements of 40 CFR part 63, subpart I.
- 2.b Particulate emissions from transfer of dry materials shall be routed to a cyclone, fabric filter, or equivalent device.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. 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 all 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.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from any stack 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.
2. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c. of the General Terms and Conditions of this permit.

V. Testing Requirements

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

1.a Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

1.b Emission Limitation:

total of 10.9 lbs/hr of particulate emissions from all emission points associated with this emissions unit

Applicable Compliance Method:

If required, compliance shall be determined in accordance with methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and in OAC rule 3745-17-03(B)(9).

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Compounding Unit (P005)

Activity Description: Compounding Unit to blend polymers to produce finished products

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
specialty polymer compounding unit with four baghouses for particulate control, two demisters for control of oil mist, six product receivers/filter (one followed by a secondary filter) and one cyclone integral to material handling	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-17-11	total of 14.4 lbs/hr of particulate emissions (based upon Table I because it is more restrictive than Figure II)

2. Additional Terms and Conditions

- 2.a Particulate emissions from transfer of dry materials shall be routed through a fabric filter, cyclone, or equivalent device.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for visible particulate emissions from the stacks serving this emissions unit. The presence or absence of visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of the visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (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.

V. Testing Requirements

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

- 1.a Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

- 1.b Emission Limitation:

total of 14.4 lbs/hr of particulate emissions

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and OAC rule 3745-17-03(B)(9).

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: K-3 Process Unit (P006)
Activity Description: Thermoplastic Elastomer Production Unit

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
K-3 process unit (elastomeric polymer production unit), "wet end" controlled with a flare; product rundown silos equipped with carbon adsorption unit (a.k.a. VAPU) for OC control; two dryer vents plus a push-pull conveyor system vent with no OC controls; dry material handling equipped with: ten integral baghouses for product separation, two followed by a cartridge-type filter, and five baghouse control devices	OAC rule 3745-31-05(A)(3) (PTI 06-291)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-17-07, 3745-17-11, and 3745-21-07.
	OAC rule 3745-17-11	total of 6.0 lbs/hr of particulate emissions from all emission points associated with this emissions unit (based upon Figure II)
	OAC rule 3745-21-07(G)(2)	All organic material emissions shall be reduced by at least 85%. See section A.I.2.c below.
	OAC rule 3745-21-07(G)(6)	See section A.I.2.b below.
	OAC rule 3745-21-07(J)(2)	The permittee shall not emit organic materials from a waste gas flare system unless such materials are burned by a smokeless flare, or equally effective control equipment as approved by the Director.
	40 CFR Part 63, Subpart I	See section A.I.2.a below.
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

2. Additional Terms and Conditions

- 2.a Refer to Part II - Specific Facility Terms and Conditions of this permit for the requirements of 40 CFR Part 63, Subpart I "National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks." Equipment in 1,3-butadiene and styrene service in this emissions unit is subject to the leak detection and repair requirements of 40 CFR part 63, subpart I.
- 2.b Where emissions of organic materials are controlled by a flare or by a catalytic oxidizer, the control device shall achieve a minimum of 90% control efficiency.
- 2.c Particulate emissions from transfer of dry materials shall be routed to a fabric filter or equivalent device.
- 2.d All organic compound emissions from the feed preparation, polymerization and finishing steps (excluding the pellet dryers and the push-pull conveyor system) of elastomeric polymer production for this emissions units shall be vented to a flare.

Organic compound emissions from the rundown silo being filled and the rundown silo previously filled for this emissions unit shall be vented to the carbon adsorber during the time the silo is being filled from the production line.

- 2.e Monitoring and recording devices 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.
- 2.f For purposes of ensuring ongoing compliance with the 85% overall control efficiency, the permittee shall comply with the following hourly emission rates for the 60-line dryer, the 70-line dryer, the push-pull conveyor vent, and the carbon adsorption unit, combined:
 - i. 25 lbs OC/hr, as an hourly average over each operating day; and
 - ii. 5 lbs OC/hr, as an hourly average over each calendar year.

(These hourly emission rates have been specified in prior permits to operate issued for this emission unit to insure compliance with OAC rule 3745-32-07(G)(2).)

II. Operational Restrictions

- 1. The flare shall be operated at all times when emissions may be vented to it.
- 2. The flare shall be operated with a pilot flame present at all times.
- 3. The flare shall be used only when the net heating value of the gas being combusted is 300 Btu/scf or greater.
- 4. The flare shall meet one of the following criteria:
 - a. the flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or
 - b. the flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or
 - c. the flare shall be designed and operated with an exit velocity less than the velocity, V_{max} (see section A.V.2.b), but less than 400 ft/sec.

III. Monitoring and/or Record Keeping Requirements

1. 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 stacks serving this emissions unit including 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.

If, during any weekly check, 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.

2. The permittee shall operate and maintain a device (including, but not limited to, a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of the flare pilot flame. All monitoring equipment shall be calibrated, maintained, and operated according to the manufacturer's specifications.
3. The permittee shall keep up-to-date records of the following information:
 - a. flare design (i.e., steam-assisted, air-assisted, or non-assisted); and
 - b. all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during any compliance determinations.
4. The permittee shall record the following information each day:
 - a. all periods during which the flare was not operating and emissions were vented to it;
 - b. all periods during which there was no pilot flame; and
 - c. the operating times for the flare and the continuous monitoring equipment for flame presence.
5. The permittee shall properly operate and maintain a total hydrocarbon monitor (THC) to continuously monitor and record hydrocarbon stack emissions from the VAPU. The monitoring and recording devices shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals with any modifications deemed appropriate by the permittee.
6. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the total hydrocarbon (THC) monitor. The plan shall address periodic gas calibration of the hydrocarbon analyzer, gas flow measurement, critical spare parts, and maintenance procedures. The plan shall be consistent with manufacturer's recommendations and any modification deemed necessary by the permittee. The quality assurance/quality control plan and a logbook dedicated to the THC must be kept on site and available for inspection during regular business hours.

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

7. Excluding periods of THC downtime or failure, the daily average hydrocarbon mass emission rate "Hday" of the exhaust gases following the carbon adsorption unit, for any calendar day when the emissions unit is in operation, shall not be more than the value, "Hmax," established during the most recent performance test that demonstrated the emissions unit was in compliance. "Hmax" shall be determined by the following equation:

$$H_{max} = 25.0 \times H_{test}/E_{test}$$

where:

Htest = average mass emission rate recorded from the THC during the performance test, lb/hr,

Etest = average emission rate measured during the performance test, lb/hr, and

25.0 = maximum allowable mass emission rate, in lbs/hr, as a daily average.

8. The permittee shall maintain daily records of the following information for this emissions unit:
- the total hours of operation;
 - the total daily OC emissions from the carbon adsorption unit, in pounds;
 - the average hourly OC emissions from the carbon adsorption unit, in pounds per hour (b/a); and
 - the total average hourly OC emissions from the carbon adsorption unit, the 60-line dryer, the 70-line dryer, and the push-pull conveyor, combined, in pounds per hour (i.e., (c) + (0.87* for the 60-line dryer) + (0.56* for the 70-line dryer) + (0.44* for the push-pull conveyor)).

* This hourly emission rate is based upon extensive monitoring performed by the permittee. This value may be revised based upon the results of the emission testing and with the written approval of the Ohio EPA, Southeast District Office.

9. The permittee shall maintain annual records of the following information for this emissions unit:
- the total hours of operation (i.e., the sum of the daily values from A.III.8.a above);
 - the total OC emissions from the carbon adsorption unit, in pounds (i.e, the sum of the daily values from section A.III.8.b above);
 - the average hourly OC emissions from the carbon adsorption unit, in pounds per hour (i.e., b/a); and
 - the total average hourly OC emissions from the carbon adsorption unit, the 60-line dryer, the 70-line dryer, and the push-pull conveyor, combined, in pounds per hour (i.e., (c) + (0.87* for the 60-line dryer) + (0.56* for the 70-line dryer) + (0.44* for the push-pull conveyor)).

* This hourly emission rate is based upon extensive monitoring performed by the permittee. This value may be revised based upon the results of the emission testing and with the written approval of the Ohio EPA, Southeast District Office.

IV. Reporting Requirements

1. 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)

2. 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.
3. The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation. These summaries shall be submitted on the same time schedule as the deviation reports.
4. 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.
5. The permittee shall submit deviation (excursion) reports that identify all exceedences of the 5 lbs/hr annual average VOC emission limitation and/or the 25 lbs/hr daily average VOC emission limitation.
6. The deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - 1.a Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).
 - 1.b Emission Limitation:

6.0 lbs/hr of particulate emissions

Applicable Compliance Method:

If required, compliance shall be determined in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5, and in OAC rule 3745-17-03(B)(9).
 - 1.c Emission Limitation:

no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours

Applicable Compliance Method:

Compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22.

V. Testing Requirements (continued)

1.d Emission Limitation:

organic material discharge shall be reduced by at least 85%

Applicable Compliance Method:

If required, the test methods which must be employed to demonstrate compliance with this emission limitation are specified in section A.V.3.

2. Compliance with the operational restrictions in section A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

2.a Operational Restriction:

The flare shall be used only with the net heating value of the gas being combusted at 300 Btu/scf or greater.

Applicable Compliance Method:

The net heating value of the gas being combusted in the flare shall be calculated using the following equation:

$$HT = K [\text{sum of } (C_i) \times (H_i), \text{ for } i = 1 \text{ to } n]$$

where:

HT = net heating value of the sample, in MJ/scm [n.b., 1 MJ/scm = 26.81 Btu/scf]; where the net enthalpy per mole of off-gas is based on combustion at 25 degrees Celsius and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 degrees Celsius;

K = constant = 1.740×10^{-7} (1/ppm)(g-mole/scm)(MJ/kcal) [where the standard temperature for (g-mole/scm) is 20 degrees Celsius];

C_i = concentration of sample component "i" in ppmv on a wet basis, as measured for organics by 40 CFR Part 60, Appendix A, Method 18 and measured for hydrogen and carbon monoxide by ASTM method D1946-77 or D1946-90;

H_i = net heat of combustion of sample component "i," in kcal/g-mole, at 25 degrees Celsius and 760 mm Hg [The heats of combustion may be determined using ASTM Method D2382-76, D2382-88 or D4809-95 if published values are not available or cannot be calculated.]; and

n = number of sample components.

V. Testing Requirements (continued)

2.b Operational Restriction:

the flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or

the flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or

the flare shall be designed and operated with an exit velocity less than the velocity, V_{max} , but less than 400 ft/sec.

Applicable Compliance Method:

The actual exit velocity of the flare shall be determined by dividing the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by the methods and procedures in 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D, by the unobstructed (free) cross-sectional area of the flare tip.

The maximum permitted velocity, V_{max} , shall be determined using the following equation:

$$\text{Log } 10(V_{max}) = (HT + 28.8)/31.7$$

where:

V_{max} = maximum permitted velocity, in m/sec;

HT = the net heating value determined in accordance with section A.V.2.a;

28.8 = a constant; and

31.7 = a constant.

3. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- 3.a The emission testing shall be conducted within 365 days after the effective date of this permit and within six months of the expiration date of this permit.
 - 3.b The emission testing shall be conducted to demonstrate compliance with the overall control efficiency for organic material emissions.
 - 3.c USEPA Methods 1 - 4, and 25 or 25A, or other approved USEPA test methods, shall be used to determine the mass emission rates of OC and VOC. 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 or the approved alternative test protocol (e.g., the mass balance protocol approved on 10/25/95). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

V. Testing Requirements (continued)

- 3.d** The emission tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office.

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA District Office's refusal to accept the results of the emission tests.

Personnel from the appropriate Ohio EPA District Office shall be permitted to witness the tests, 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 tests shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office within 30 days following completion of the tests. 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.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: G-2 Process Unit (P007)
Activity Description: Thermoplastic Elastomer Production Unit

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
G-2 process unit (elastomeric polymer production unit), "wet end" controlled with a flare; cyclone finishing dryer controlled with a catalytic oxidizer; dry material handling equipped with: two integral cyclones for product separation; three integral baghouses for product separation, each followed by a cartridge-type filter for particulate control; and two baghouse control devices	OAC rule 3745-31-05(A)(3) (PTI 06-3707)	0.4 lb/hr of particulate emissions 1.8 tpy of particulate emissions
		9 lbs/hr of VOC, as a daily average 39 tpy of VOC
		0.7 lb/hr of nitrogen oxides 3 tpy of nitrogen oxides
		14.7 lbs/hr of carbon monoxide 64 tpy of carbon monoxide
		167 lbs/yr of Cr+3
		The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07 and 3745-21-07.
		The requirements of this rule include the development and implementation of a VOC Leak Detection and Repair program. See section A.1.2.f below.
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-17-11	This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)(2)	All organic material emissions shall be reduced by at least 85%.
	OAC rule 3745-21-07(G)(6)	See section A.1.2.b below.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
	OAC rule 3745-21-07(J)(2)	The permittee shall not emit organic materials from a waste gas flare system unless such materials are burned by smokeless flares, or equally effective control equipment as approved by the Director.
	40 CFR Part 63, Subpart I	See section A.1.2.a below.

2. Additional Terms and Conditions

- 2.a** Refer to Part II - Specific Facility Terms and Conditions of this permit for the requirements of 40 CFR Part 63, Subpart I "National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks." Equipment in 1,3-butadiene and styrene service in this emissions unit is subject to the leak detection and repair requirements of 40 CFR part 63, subpart I.
- 2.b** Where emissions of organic materials are controlled by a flare or by a catalytic oxidizer, the control device shall achieve a minimum of 90% control efficiency.
- 2.c** Particulate emissions from handling and transfer of dry materials shall be routed to a cyclone, fabric filter, or equivalent device.
- 2.d** All organic compound emissions from the tank farm associated with the emissions unit, and the feed preparation, polymerization, blending and hydrowashing steps of elastomeric polymer production for this emissions unit shall be vented to a flare.
- All organic compound emissions from the cyclone process dryers in this emissions unit shall be vented to a catalytic oxidizer. Cyclone process coolers vent directly to the atmosphere.
- 2.e** Monitoring and recording devices 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.
- 2.f** The permittee shall conduct a VOC Leak Detection and Repair program for this emissions unit in accordance with the revised plan submitted to Ohio EPA on September 24, 2002. This program may be revised with the written approval of the Ohio EPA, Southeast District Office.

II. Operational Restrictions

1. The flare shall be operated at all times when emissions may be vented to it.
2. The flare shall be operated with a pilot flame present at all times.
3. The flare shall be used only when the net heating value of the gas being combusted is 300 Btu/scf or greater.
4. The flare shall meet one of the following criteria:
 - a. the flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or
 - b. the flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or
 - c. the flare shall be designed and operated with an exit velocity less than the velocity, V_{max} (see section A.V.2.b), but less than 400 ft/sec.

III. Monitoring and/or Record Keeping Requirements

1. 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 stacks serving this emissions unit including 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.

If, during any weekly check, 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.

2. The permittee shall operate and maintain a device (including, but not limited to, a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of the flare pilot flame. All monitoring equipment shall be calibrated, maintained, and operated according to the manufacturer's specifications.
3. The permittee shall keep up-to-date records of the following information:
 - a. flare design (i.e., steam-assisted, air-assisted, or non-assisted); and
 - b. all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during any compliance determinations.
4. The permittee shall record the following information each day:
 - a. all periods during which the flare was not operating and emissions were vented to it;
 - b. all periods during which there was no pilot flame; and
 - c. the operating times for the flare and the continuous monitoring equipment for flame presence.
5. The permittee shall properly operate and maintain a total hydrocarbon monitor (THC) to continuously monitor and record hydrocarbon stack emissions from the catalytic oxidizer. The monitoring and recording devices shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals with any modifications deemed appropriate by the permittee.
6. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the total hydrocarbon (THC) monitor. The plan shall address periodic gas calibration of the hydrocarbon analyzer, calibration of the gas flow measuring device, critical spare parts, and maintenance procedures. The plan shall be consistent with manufacturer's recommendations and any modification deemed necessary by the permittee. The quality assurance/quality control plan and a logbook dedicated to the THC must be kept on site and available for inspection during regular business hours.

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

7. Excluding periods of THC downtime or failure, the daily average hydrocarbon mass emission rate "H_{day}" of the exhaust gases following the catalytic oxidizer, for any calendar day when the cyclone process dryers are in operation, shall not be more than the value, "H_{max}," established during the most recent performance test that demonstrated the emissions unit was in compliance. "H_{max}" shall be determined by the following equation:

$$H_{max} = 9 \times H_{test}/E_{test}$$

where:

H_{test} = average mass emission rate recorded from the THC during the performance test, lb/hr,

E_{test} = average emission rate measured during the performance test, lb/hr, and

9 = maximum allowable mass emission rate, lb/hr as a daily average.

8. The permittee shall record the following information each day:
- all calendar days, when the cyclone process dryers are in operation, during which the relative hydrocarbon mass emission rate of the exhaust gases downstream of the catalyst bed exceeded "H_{max}";
 - all periods of time that the THC was malfunctioning; and
 - the hydrocarbon emission as a daily average, in lbs/hr.
9. A monitoring log shall be maintained in accordance with the requirements of the VOC LDAR plan specified in section A.1.2.f of these terms and conditions. The monitoring log shall be retained for a minimum of two years after the date on which the record was made or the report using the monitoring record was prepared. A copy of the monitoring log shall be made available to the Director or an authorized representative of the Director, upon verbal or written request, at any reasonable time.

IV. Reporting Requirements

- 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 for each such deviation.
- 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 Ohio EPA Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
- The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation. These summaries shall be submitted on the same time schedule as the deviation reports.
- 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.
- The permittee shall submit deviation (excursion) reports that identify all exceedences of the 9 lbs/hr annual average VOC emission limitation.
- The deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

IV. Reporting Requirements (continued)

7. As part of the VOC Leak Detection and Repair Program specified in section A.I.2.f of these terms and conditions, the permittee shall submit semiannual written reports to Ohio EPA that give the total number of components which were found leaking during the previous six months but which were not repaired within fifteen days and identifies all leaking components which cannot be repaired until the next process unit turnaround. These reports shall be submitted to the Ohio EPA Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
8. Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install #06-3707, issued on March 31, 1993: sections A.IV.1, A.IV.2, A.IV.3, A.IV.4, A.IV.5, A.IV.6 and A.IV.7. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - 1.a Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).
 - 1.b Emission Limitation:

0.4 lb/hr of particulate emissions

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and in OAC rule 3745-17-03(B)(9).
 - 1.c Emission Limitation:

1.8 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.
 - 1.d Emission Limitation:

9 lbs/hr of VOC, as a daily average

Applicable Compliance Method:

Compliance shall be determined by the monitoring and record keeping as described in sections A.II and A.III.

V. Testing Requirements (continued)

1.e Emission Limitation:

39 tpy of VOC

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the possible annual hours of operation (8760) and dividing by 2000 lbs/ton.

1.f Emission Limitation:

0.7 lb/hr of nitrogen oxides

Applicable Compliance Method:

If required, compliance shall be determined in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 7.

1.g Emission Limitation:

3 tpy of nitrogen oxides

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.h Emission Limitation:

14.7 lbs/hr of carbon monoxide

Applicable Compliance Method:

If required, compliance shall be determined in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 10.

1.i Emission Limitation:

64 tpy of carbon monoxide

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the possible annual hours of operation (8760) and dividing by 2000 lbs/ton.

1.j Emission Limitation:

no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours

Applicable Compliance Method:

Compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22.

V. Testing Requirements (continued)

1.k Emission Limitation:

organic material discharge shall be reduced by at least 85%

Applicable Compliance Method:

If required, the test methods to be employed to demonstrate compliance with this emission limitation are specified in section A.V.3.

2. Compliance with the operational restrictions in section A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

2.a Operational Restriction:

The flare shall be used only with the net heating value of the gas being combusted at 300 Btu/scf or greater.

Applicable Compliance Method:

The net heating value of the gas being combusted in the flare shall be calculated using the following equation:

$$HT = K [\text{sum of } (C_i) \times (H_i), \text{ for } i = 1 \text{ to } n]$$

where:

HT = net heating value of the sample, in MJ/scm [n.b., 1 MJ/scm = 26.81 Btu/scf]; where the net enthalpy per mole of off-gas is based on combustion at 25 degrees Celsius and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 degrees Celsius;

K = constant = 1.740×10^{-7} (1/ppm)(g-mole/scm)(MJ/kcal) [where the standard temperature for (g-mole/scm) is 20 degrees Celsius];

C_i = concentration of sample component "i" in ppmv on a wet basis, as measured for organics by 40 CFR Part 60, Appendix A, Method 18 and measured for hydrogen and carbon monoxide by ASTM method D1946-77 or D1946-90;

H_i = net heat of combustion of sample component "i," in kcal/g-mole, at 25 degrees Celsius and 760 mm Hg [The heats of combustion may be determined using ASTM Method D2382-76, D2382-88 or D4809-95 if published values are not available or cannot be calculated.]; and

n = number of sample components.

V. Testing Requirements (continued)

2.b Operational Restriction:

the flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or

the flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or

the flare shall be designed and operated with an exit velocity less than the velocity, V_{max} , but less than 400 ft/sec.

Applicable Compliance Method:

The actual exit velocity of the flare shall be determined by dividing the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by the methods and procedures in 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D, by the unobstructed (free) cross-sectional area of the flare tip.

The maximum permitted velocity, V_{max} , shall be determined using the following equation:

$$\text{Log } 10(V_{max}) = (HT + 28.8)/31.7$$

where:

V_{max} = maximum permitted velocity, in m/sec;

HT = the net heating value determined in accordance with section A.V.2.a;

28.8 = a constant; and

31.7 = a constant.

3. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - 3.a The emission testing shall be conducted within 180 days after the effective date of this permit and within six months of the expiration date of this permit.
 - 3.b The emission testing shall be conducted to demonstrate compliance with the mass emission rate of 9 lbs/hr of VOC and the 90% destruction efficiency for OC for the catalytic oxidizer.
 - 3.c USEPA Methods 1 - 4, and 25 or 25A, or other approved USEPA test methods, shall be used to determine the mass emission rates of OC and VOC. 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 or the approved alternative test protocol (e.g., the mass balance protocol approved on 10/25/95). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

V. Testing Requirements (continued)

- 3.d** The emission tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office.

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA District Office's refusal to accept the results of the emission tests.

Personnel from the appropriate Ohio EPA District Office shall be permitted to witness the tests, 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 tests shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office within 30 days following completion of the tests. 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.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Riverwater Pump (P009)

Activity Description: Natural gas-fired emergency pump that provides river water to the plant, rated capacity 475 hp

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>	
475 hp natural gas / propane - fired backup driver river water pump	OAC rule 3745-31-05(A)(3) (PTI 06-5033)	0.2 lb/hr of particulate emissions 0.2 tpy of particulate emissions	
		0.002 lb/hr of sulfur dioxide 0.002 tpy of sulfur dioxide	
		1.0 lb/hr of VOC 1.0 tpy of VOC	
		4.2 lbs/hr of nitrogen oxides 4.2 tpy of nitrogen oxides	
		2.1 lbs/hr of carbon monoxide 2.1 tpy of carbon monoxide	
		The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-21-08 and 3745-23-06.	
		OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
		OAC rule 3745-17-11(B)(5)(a)	This emission limitation specified in this rule is less stringent than that established pursuant to OAC rule 3745-31-05(A)(3).
		40 CFR 52.1881(b)(29)(i)	This emission limitation established by this rule is less stringent than that established pursuant to OAC rule 3745-31-05(A)(3).
		OAC rule 3745-21-08(B)	See section A.I.2.a below.
OAC rule 3745-23-06(B)	See section A.I.2.a below.		

**Operations, Property,
and/or Equipment**

**Applicable Rules/
Requirements**

**Applicable Emissions
Limitations/Control
Measures**

OAC rule 3745-18-06(G)

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 permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 13-079.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

1. The maximum annual operating hours for this emissions unit shall not exceed 2,000 hours, based upon a rolling, 12-month summation.
2. The permittee shall burn only natural gas or propane as fuel in this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following information:
 - a. the hours of operation for this emissions unit;
 - b. the rolling, 12-month summation of the hours of operation.
2. For each day during which the permittee burns a fuel other than natural gas or propane, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hours limitation.
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or propane was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

V. Testing Requirements

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

V. Testing Requirements (continued)

1.a Emission Limitation:

0.2 lb/hr of particulate emissions

Applicable Compliance Method:

Compliance may be demonstrated based upon a calculation of the potential to emit using the following equation:

$$E = EF \times HP \times (1.0 \text{ lb}/454 \text{ g})$$

$$E = (0.16 \text{ g}/\text{hp}\text{-hr}) \times (475 \text{ hp}) \times (1.0 \text{ lb}/454 \text{ g}) = 0.17 \text{ lb/hr}$$

where:

EF = the manufacturer's emission factor, in grams/horsepower-hour;

HP = the horsepower of the source; and

E = the hourly emissions.

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 5.

1.b Emission Limitation:

0.2 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.c Emission Limitation:

0.002 lb/hr of sulfur dioxide

Applicable Compliance Method:

Compliance may be demonstrated based upon a calculation of the potential to emit using the following equation:

$$E = EF \times HP \times (1.0 \text{ lb}/454 \text{ g})$$

$$E = (0.002 \text{ g}/\text{hp}\text{-hr}) \times (475 \text{ hp}) \times (1.0 \text{ lb}/454 \text{ g}) = 0.002 \text{ lb/hr}$$

where:

EF = the manufacturer's emission factor, in grams/horsepower-hour;

HP = the horsepower of the source; and

E = the hourly emissions.

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

V. Testing Requirements (continued)

1.d Emission Limitation:

0.002 tpy of sulfur dioxide

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.e Emission Limitation:

1.0 lb/hr of VOC

Applicable Compliance Method:

Compliance may be demonstrated based upon a calculation of the potential to emit using the following equation:

$$E = EF \times HP \times (1.0 \text{ lb}/454 \text{ g})$$

$$E = (1.0 \text{ g}/\text{hp}\text{-hr}) \times (475 \text{ hp}) \times (1.0 \text{ lb}/454 \text{ g}) = 1.0 \text{ lb/hr}$$

where:

EF = the manufacturer's emission factor, in grams/horsepower-hour;

HP = the horsepower of the source; and

E = the hourly emissions.

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 25.

1.f Emission Limitation:

1.0 tpy of VOC

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

V. Testing Requirements (continued)

1.g Emission Limitation:

4.2 lbs/hr of nitrogen oxides

Applicable Compliance Method:

Compliance may be demonstrated based upon a calculation of the potential to emit using the following equation:

$$E = EF \times HP \times (1.0 \text{ lb}/454 \text{ g})$$

$$E = (4.0 \text{ g}/\text{hp}\cdot\text{hr}) \times (475 \text{ hp}) \times (1.0 \text{ lb}/454 \text{ g}) = 4.18 \text{ lb}/\text{hr}$$

where:

EF = the manufacturer's emission factor, in grams/horsepower-hour;

HP = the horsepower of the source; and

E = the hourly emissions.

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 7.

1.h Emission Limitation:

4.2 tpy of nitrogen oxides

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.i Emission Limitation:

2.1 lbs/hr of carbon monoxide

Applicable Compliance Method:

Compliance may be demonstrated based upon a calculation of the potential to emit using the following equation:

$$E = EF \times HP \times (1.0 \text{ lb}/454 \text{ g})$$

$$E = (2.0 \text{ g}/\text{hp}\cdot\text{hr}) \times (475 \text{ hp}) \times (1.0 \text{ lb}/454 \text{ g}) = 2.1 \text{ lbs}/\text{hr}$$

where:

EF = the manufacturer's emission factor, in grams/horsepower-hour;

HP = the horsepower of the source; and

E = the hourly emissions.

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 10.

V. Testing Requirements (continued)

1.j Emission Limitation:

2.1 tpy of carbon monoxide

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.k Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: K-1 Process Unit (P010)

Activity Description: This is the rebuild of the K-1 unit which was originally constructed in 1962 and listed with OEPA as source number P003

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
K-1 process unit (elastomeric polymer production unit), "wet end" controlled with a flare; polymer finishing controlled with a catalytic oxidizer; dry material handling equipped with one integral baghouse for product separation and one baghouse control device.	OAC rule 3745-31-05(A)(3) (PTI 06-4280)	<p>Annual average emissions shall not exceed:</p> <p>9 lbs/hr of VOC 3.2 lbs/hr of particulate emissions</p> <p>The peak emission rates on any given day shall not exceed:</p> <p>22 lbs/hr of VOC, as an average over the day 5.7 lbs/hr of particulate emissions</p> <p>Total annual emissions shall not exceed:</p> <p>39.4 tons of point source VOC's 82 tons of fugitive VOC's 14 tons of particulate emissions (includes 1,020 lbs/yr of Cr+3 and 7.5 x 10E-3 lbs/yr Cr+6) 10 tons of NOx 87 tons of CO</p> <p>See section A.I.2.e below.</p> <p>The requirements of this rule include the development and implementation of a VOC Leak Detection and Repair program. See section A.I.2.f below.</p> <p>The requirements of this rule include compliance with the requirements of OAC rules 3745-17-07, 3745-17-11, 3745-21-07, and 40 CFR Part 63, Subpart I.</p>

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
	OAC rule 3745-17-11	This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-07(G)(2)	All organic material emissions shall be reduced by at least 85%.
	OAC rule 3745-21-07(G)(6)	See section A.1.2.b below.
	OAC rule 3745-21-07(J)(2)	The permittee shall not emit organic materials from a waste gas flare system unless such materials are burned by smokeless flares, or equally effective control equipment as approved by the Director.
	40 CFR Part 63, Subpart I	See sections A.1.2.a below.
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

2. Additional Terms and Conditions

- 2.a** Refer to Part II - Specific Facility Terms and Conditions of this permit for the requirements of 40 CFR Part 63, Subpart I "National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks." Equipment in 1,3-butadiene and styrene service in this emissions unit is subject to the leak detection and repair requirements of 40 CFR part 63, subpart I.
- 2.b** Where emissions of organic materials are controlled by a flare or catalytic oxidizer, the control device shall achieve a minimum of 90% control efficiency.
- 2.c** All particulate emissions from the transfer of materials from the coagulation and finishing sections of this emissions unit shall be vented to the baghouses.
- 2.d** All organic compound emissions from the feed preparation, polymerization, cement blending, coagulation and finishing steps of elastomeric polymer production for this emissions unit shall be vented to a flare or a catalytic oxidizer.
- 2.e** Monitoring and recording devices 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.
- 2.f** The permittee shall conduct a VOC Leak Detection and Repair program in accordance with the revised plan submitted to Ohio EPA on September 24, 2002. This program may be revised with the written approval of the Ohio EPA, Southeast District Office.

II. Operational Restrictions

- 1.** The flare shall be operated at all times when emissions may be vented to it.
- 2.** The flare shall be operated with a pilot flame present at all times.
- 3.** The flare shall be used only when the net heating value of the gas being combusted is 300 Btu/scf or greater.

II. Operational Restrictions (continued)

4. The flare shall meet one of the following criteria:
 - a. the flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or
 - b. the flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or
 - c. the flare shall be designed and operated with an exit velocity less than the velocity, V_{max} (see section A.V.2.b), but less than 400 ft/sec.

III. Monitoring and/or Record Keeping Requirements

1. 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 stacks serving this emissions unit including 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.

If, during any weekly check, 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.

2. The permittee shall operate and maintain a device (including, but not limited to, a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of the flare pilot flame. All monitoring equipment shall be calibrated, maintained, and operated according to the manufacturer's specifications.
3. The permittee shall keep up-to-date records of the following information:
 - a. flare design (i.e., steam-assisted, air-assisted, or non-assisted); and
 - b. all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during any compliance determinations.
4. The permittee shall record the following information each day:
 - a. all periods during which the flare was not operating and emissions were vented to it;
 - b. all periods during which there was no pilot flame; and
 - c. the operating times for the flare and the continuous monitoring equipment for flame presence.
5. The permittee shall operate a total hydrocarbon continuous analyzer system (THC) to monitor hydrocarbon emissions from the catalytic oxidizer in accordance with the Quality Assurance/Quality Control (QA/QC) plan required by the terms and conditions of PTI 06-4280 and approved by Ohio EPA.

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

6. Excluding periods of THC downtime or failure, the daily average hydrocarbon mass emission rate "Hday" of the exhaust gases following the catalytic oxidizer, for any calendar day when the polymer coagulation/drying step is in operation, shall not be more than the value, "Hmax," established during the most recent performance test that demonstrated the emissions unit was in compliance. "Hmax" shall be determined by the following equation:

$$H_{max} = 22 \times H_{test}/E_{test}$$

where:

Htest = average mass emission rate recorded from the THC during the performance test, lb/hr,

Etest = average emission rate measured during the performance test, lb/hr, and

22 = maximum allowable mass emission rate, lb/hr as a daily average.

7. The permittee shall record the following information each day:
- the value for Hmax, in lbs/hr;
 - the total VOC emissions, in lbs/day, based upon the data from the THC;
 - the total hours of operation;
 - the average daily VOC emission rate, Hday, in lbs/hr (i.e., (b)/(c)); and
 - all periods of time the THC was malfunctioning.
8. The permittee shall maintain monthly records of the following information:
- the total VOC emissions in pounds;
 - the total hours of operation;
 - the rolling, 12-month summation of the total VOC emission, in pounds;
 - the rolling, 12-month summation of the total hours of operation; and
 - the rolling, 12-month, average VOC emission rate, in lbs/hr (i.e., c/d).
9. A monitoring log shall be maintained in accordance with the requirements of the VOC LDAR plan specified in section A.1.2.f of these terms and conditions. The monitoring log shall be retained for a minimum of two years after the date on which the record was made or the report using the monitoring record was prepared. A copy of the monitoring log shall be made available to the Director or an authorized representative of the Director, upon verbal or written request, at any reasonable time.

IV. Reporting Requirements

- 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.
- 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 Ohio EPA Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

IV. Reporting Requirements (continued)

3. The permittee shall submit quarterly summaries which include a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation. These summaries shall be submitted on the same time schedule as the deviation reports.
4. 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.
5. The permittee shall submit deviation (excursion) reports that identify all exceedences of the 9 lbs/hr annual average VOC emission limitation and/or the 22 lbs/hr daily average VOC emission limitation.
6. The permittee shall submit deviation (excursion) reports that identify all exceedences of the point source VOC emission limitation of 39.4 tons/year, as a rolling, 12-month summation.
7. The deviation (excursion) reports shall be submitted in accordance with section A.1.c. of the General Terms and Conditions of this permit.
8. As part of the VOC Leak Detection and Repair Program specified in section A.1.2.f of these terms and conditions, the permittee shall submit semiannual written reports to Ohio EPA that give the total number of components which were found leaking during the previous six months but which were not repaired within fifteen days and identifies all leaking components which cannot be repaired until the next process unit turnaround. These reports shall be submitted to the Ohio EPA Southeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
9. 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 #06-4280, issued on January 25, 1995: sections A.IV.1, A.IV.2, A.IV.3, A.IV.4, A.IV.5, A.IV.6, 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.

V. Testing Requirements

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

- 1.a Emission Limitation:

annual average emissions shall not exceed 9 lbs/hr of VOC

Applicable Compliance Method:

Compliance shall be determined by the monitoring and record keeping as described in section A.III.6 above.

V. Testing Requirements (continued)

1.b Emission Limitation:

annual average emissions shall not exceed 3.2 lb/hr of particulate emissions

Applicable Compliance Method:

Compliance shall be determined by summing the average annual particulate emission rates for the two baghouses and the catalytic oxidizer.

For the catalytic oxidizer, the particulate emission rate (lb/hr) shall be determined by multiplying the manufacturer-provided emission factor of 0.2 lb per hour per 1E6 scf times the design flow rate of the catalytic oxidizer (30,000scf/min) and times 60 min/hr.

$$PE = (0.2 \text{ lb PE}/1E6 \text{ scf}) \times (30,000 \text{ scf}/\text{min}) \times (60 \text{ min}/\text{hr}) = 0.36 \text{ lb}/\text{hr}$$

For the two baghouses, the most recent test result data (in lb/hr) shall be used. If test data are not available, the maximum design, PE rate of 1.05 lb/hr shall be used.

1.c Emission Limitation:

22 lbs/hr of VOC, as an average over the day

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 18, 25 or 25A, or other USEPA-approved test method.

1.d Emission Limitation:

peak emission rate of particulate emissions shall not exceed 5.7 lbs/hr on any given day

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

1.e Emission Limitation:

annual emissions shall not exceed 39.4 tons of point source VOC's

Applicable Compliance Method:

Compliance shall be determined based upon the monitoring and record keeping described in section A.III.6.

V. Testing Requirements (continued)

1.f Emission Limitation:

annual emissions shall not exceed 82 tons of fugitive VOC's

Applicable Compliance Method:

Compliance with the LDAR program required in section A.I.2.f shall ensure compliance with this emission limitation.

If required, the permittee shall demonstrate compliance with this emission limitation through calculations using site-specific information on component count, leak rate, etc., as provided in the following documents:

- i. "Protocol for Equipment Leak Emission Estimates," EPA 453/R-93-026 June 1993; and
- ii. "1995 Protocol for Equipment Leak Estimates," EPA 453/R-95-017 November 1995.

1.g Emission Limitation:

annual emissions shall not exceed 14 tons of particulate emissions, which includes 1,020 lbs/yr of Cr+3 and 7.5 x 10E-3 lb/yr of Cr+6

Applicable Compliance Method:

This emission limitation for particulate emissions was developed by multiplying the allowable hourly emission rate (3.2 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

Compliance with the chromium emission limitations shall be demonstrated by the following equations, based upon catalyst manufacturer-provided information stating that the catalyst consists of 0.1 weight fraction Cr₂O₃, of which 1 to 10 ppm, by weight, are CrO₃:

$$(0.36 \text{ lb/hr PE from catalytic oxidizer}) \times (8760 \text{ hrs/yr}) \times (0.1 \text{ wt. fraction Cr}_2\text{O}_3) \times (104 \text{ lb Cr+3}/152 \text{ lb Cr}_2\text{O}_3) = 216 \text{ lb Cr+3/yr}$$

$$(0.36 \text{ lb/hr PE from catalytic oxidizer}) \times (8760 \text{ hrs/yr}) \times (1\text{E-}06 \text{ wt. fraction CrO}_3) \times (52 \text{ lb Cr+6}/100 \text{ lb CrO}_3) = 1.64\text{E-}03 \text{ lb Cr+6/yr}$$

V. Testing Requirements (continued)

1.h Emission Limitation:

annual emissions shall not exceed 10 tons of NO_x

Applicable Compliance Method:

Compliance shall be determined based upon a one time calculation of potential to emit as follows:

The manufacturer's data indicates that the NO_x concentration out of the oxidizer is 10 ppm by volume.

Air flow out of the catalytic oxidizer is 30,000 acfm.

To get from acfm to cubic meters (m³) per minute:

$$30,000 \text{ acfm} * (0.028317 \text{ m}^3/\text{minute}) = 849.5 \text{ m}^3/\text{minute}.$$

To get from 10 ppm NO_x to grams/m³ of NO_x:

$$10 \text{ ppm NO}_x \text{ (gas phase)} = 10 \text{ ml NO}_x/\text{m}^3.$$

Molecular weight of NO_x (as NO₂) is 46.

Therefore:

$$((10 \text{ ml NO}_x/\text{m}^3) * (46 \text{ g NO}_x/\text{mole})) / (24,250 \text{ ml NO}_x/\text{mol NO}_x) = 0.0188 \text{ g NO}_x/\text{m}^3$$

and

$$(0.0188 \text{ g NO}_x/\text{m}^3 * 849 \text{ m}^3/\text{min} * 60 \text{ min/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb}) / 454 \text{ g/lb} = 9.24 \text{ TPY}$$

1.i Emission Limitation:

annual emissions shall not exceed 87 tons of CO

Applicable Compliance Method:

Compliance shall be determined based upon a one time calculation of potential to emit as follows:

$$\text{CO(out)} = \text{CO(in)} * (1 - \text{Efficiency})$$

$$\text{CO(in)} = \text{VOC(in) Avg. (lbs)} * (6 \text{ mol CO/mol VOC}) * (28 \text{ lbs/mol CO}) * (\text{mol VOC[as cyclohexane]}/84 \text{ lbs})$$

$$\text{CO(in)} = 188 \text{ lb/hr} * (6 * 28) / 84 = 376 \text{ lb/hr CO(in)}$$

$$\text{CO(out)} = 376 \text{ lb CO(in)} * (1 - 0.947) = 19.8 \text{ lb/hr}$$

$$\text{CO(out)} = 19.8 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} = 86.7 \text{ TPY}$$

where:

CO(in) is the carbon monoxide that could be produced if all VOC's were converted to CO (theoretical value);

CO(out) is the actual amount of CO measured at the stack exhaust; and

efficiency is the minimum destruction efficiency of the catalytic oxidizer.

V. Testing Requirements (continued)

1.j Emission Limitation:

organic material discharge shall be reduced by at least 85%

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 25 or 25A, and 18, and in 40 CFR Part 51, Appendix M, Method 204.

1.k Emission Limitation:

No visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22.

1.l Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

2. Compliance with the operational restrictions in section A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

V. Testing Requirements (continued)

2.a Operational Restriction:

The flare shall be used only with the net heating value of the gas being combusted at 300 Btu/scf or greater.

Applicable Compliance Method:

The net heating value of the gas being combusted in the flare shall be calculated using the following equation:

$$HT = K [\text{sum of } (C_i) \times (H_i), \text{ for } i = 1 \text{ to } n]$$

where:

HT = net heating value of the sample, in MJ/scm [n.b., 1 MJ/scm = 26.81 Btu/scf]; where the net enthalpy per mole of off-gas is based on combustion at 25 degrees Celsius and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 degrees Celsius;

K = constant = 1.740×10^{-7} (1/ppm)(g-mole/scm)(MJ/kcal) [where the standard temperature for (g-mole/scm) is 20 degrees Celsius];

C_i = concentration of sample component "i" in ppmv on a wet basis, as measured for organics by 40 CFR Part 60, Appendix A, Method 18 and measured for hydrogen and carbon monoxide by ASTM method D1946-77 or D1946-90;

H_i = net heat of combustion of sample component "i," in kcal/g-mole, at 25 degrees Celsius and 760 mm Hg [The heats of combustion may be determined using ASTM Method D2382-76, D2382-88 or D4809-95 if published values are not available or cannot be calculated.]; and

n = number of sample components.

V. Testing Requirements (continued)

2.b Operational Restriction:

The flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or

the flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or

the flare shall be designed and operated with an exit velocity less than the velocity, V_{max} , but less than 400 ft/sec.

Applicable Compliance Method:

The actual exit velocity of the flare shall be determined by dividing the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by the methods and procedures in 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D, by the unobstructed (free) cross-sectional area of the flare tip.

The maximum permitted velocity, V_{max} , shall be determined using the following equation:

$$\text{Log } 10(V_{max}) = (HT + 28.8)/31.7$$

where:

V_{max} = maximum permitted velocity, in m/sec;

HT = the net heating value determined in accordance with section A.V.2.a;

28.8 = a constant; and

31.7 = a constant.

3. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- 3.a The emission testing shall be conducted within 180 days after the effective date of this permit.
 - 3.b The emission testing shall be conducted to demonstrate compliance with the mass emission rate of 9 lbs/hr of VOC and the 90% destruction efficiency for OC for the catalytic oxidizer.
 - 3.c USEPA Methods 1 through 4, and 25 or 25A, or other approved USEPA test methods, shall be used to determine the mass emission rates of OC and VOC. 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 or the approved alternative test protocol (e.g., the mass balance protocol approved on 10/25/95). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

V. Testing Requirements (continued)

- 3.d** The emission tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office.

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA District Office's refusal to accept the results of the emission tests.

Personnel from the appropriate Ohio EPA District Office shall be permitted to witness the tests, 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 tests shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office within 30 days following completion of the tests. 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.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Emergency Generator (P011)

Activity Description: Diesel-fired emergency generator that provides backup electricity to the facility, rated capacity 210 hp.

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
210 hp (0.53 mmBtu/hr) diesel-fueled emergency generator	OAC rule 3745-31-05(A)(3) (PTI 06-4386)	0.09 lb/hr of particulate emissions
		0.02 tpy of particulate emissions
		0.79 lb/hr of sulfur dioxide
		0.15 tpy of sulfur dioxide
		0.15 lb/hr of VOC
		0.03 tpy of VOC
		7.94 lbs/hr of nitrogen oxides
		1.54 tpy of nitrogen oxides
		2.6 lbs/hr of carbon monoxide
		0.50 tpy of carbon monoxide
	OAC rule 3745-17-07(A)(1)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-11(B)(5)(a)	Visible emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-17-11(B)(5)(a)	This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05(A)(3).
	40 CFR 52.1881(b)(29)(i)	This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-18-06(G)	Exempt pursuant to OAC rule 3745-18-06(B).

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
	OAC rule 3745-21-08(B)	This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-23-06(B)	This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

None

II. Operational Restrictions

1. The maximum annual operating rate for this emissions unit shall not exceed 388 hours, based upon a rolling, 12-month summation.
2. The permittee shall burn only #2 fuel oil as fuel in this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following information:
 - a. the hours of operation for this emissions unit; and
 - b. the rolling, 12-month summation of hours of operation.
2. For each day during which the permittee burns a fuel other than #2 fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. On an annual basis, the permittee shall obtain and maintain records of a certification from each oil supplier that indicates whether or not each shipment of fuel oil delivered to the facility during the calendar year met the ASTM specifications for #2 fuel oil. Due to the high allowable sulfur dioxide emission rate for this emissions unit, the permittee is not be required to perform additional monitoring or record keeping, besides the annual certifications, to demonstrate compliance with the allowable emission rate for sulfur dioxide.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hours limitation in section A.II.1.
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than #2 fuel oil was burned as fuel in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

V. Testing Requirements

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

V. Testing Requirements (continued)

1.a Emission Limitation:

0.09 lb/hr of particulate emissions

Applicable Compliance Method:

Compliance may be demonstrated based upon the manufacturer's specification of 0.09 lb/hr of particulate emissions.

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 5.

1.b Emission limitation:

0.02 tpy of particulate emissions

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.c Emission Limitation:

0.79 lb/hr of sulfur dioxide

Applicable Compliance Method:

Compliance may be demonstrated based upon a calculation of the potential to emit using the following equation:

$$E = EF \times HP$$

$$E = (.00205 \text{ lb/hp-hr}) \times (210 \text{ hp}) = 0.43 \text{ lb/hr}$$

where:

EF = the emission factor for #2 fuel oil, in lb/horsepower-hour, from AP-42, Table 3.3-1;

HP = the horsepower of the source; and

E = the hourly emissions.

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

1.d Emission Limitation:

0.15 tpy sulfur dioxide

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

V. Testing Requirements (continued)

1.e Emission Limitation:

0.15 lb/hr of VOC

Applicable Compliance Method:

Compliance may be demonstrated based upon the manufacturer's specification of 0.15 lb/hr of organic compounds.

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 25.

1.f Emission Limitation:

0.03 tpy of VOC

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.g Emission Limitation:

7.94 lbs/hr of nitrogen oxides

Applicable Compliance Method:

Compliance may be demonstrated based upon a calculation of the potential to emit using the following equation:

$$E = EF \times HP$$

$$E = (0.031 \text{ lb/hp-hr}) \times (210 \text{ hp}) = 6.51 \text{ lb/hr}$$

where:

EF = the emission factor for #2 fuel oil, in lb/horsepower-hour, from AP-42, Table 3.3-1;

HP = the horsepower of the source; and

E = the hourly emissions.

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 7.

1.h Emission Limitation:

1.54 tpy of nitrogen oxides

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

V. Testing Requirements (continued)

1.i Emission Limitation:

2.6 lbs/hr of carbon monoxide

Applicable Compliance Method:

Compliance may be demonstrated based upon a calculation of the potential to emit using the following equation:

$$E = EF \times HP$$

$$E = (6.68 \text{ E-3 lb/hp-hr}) \times (210 \text{ hp}) = 1.4 \text{ lb/hr}$$

where:

EF = the emission factor for #2 fuel oil, in lb/horsepower-hour, from AP-42, Table 3.3-1;

HP = the horsepower of the source; and

E = the hourly emissions.

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 10.

1.j Emission Limitation:

0.50 tpy of carbon monoxide

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.k Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Firewater Pump (P012)

Activity Description: Diesel-fired emergency firewater pump, rated capacity 280 hp.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
280 hp (0.71 mmBtu/hr) diesel fuel-fired water pump	OAC rule 3745-31-05(A)(3) (PTI 06-4630)	8.68 lbs/hr of nitrogen oxides 1.87 lbs/hr of carbon monoxide The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-11(B)(5)(a) and 3745-17-07(A), and 40 CFR 51.1881(B)(29)(i).
	OAC rule 3745-17-11(B)(5)(a)	Particulate emissions shall not exceed 0.25 lb/mmBtu actual heat input. See A.I.2.a below.
	OAC rule 3745-17-07(A)(1)	Particulate emissions shall not exceed 0.310 lb/mmBtu actual heat input. See A.I.2.b below.
	40 CFR 52.1881(b)(29)(i)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule. 2.5 pounds of sulfur dioxide per mmBtu of actual heat input from any stack
	OAC rule 3745-18-06(G)	Exempt pursuant to OAC rule 3745-18-06(B).

2. Additional Terms and Conditions

- 2.a** The requirement to comply with this particulate emission limitation shall terminate on the date the U.S. EPA approves the 0.310 lb/mmBtu actual heat input emission limitation as a revision to the Ohio SIP for particulate matter.
- 2.b** The particulate emission limitation shall be effective and federally enforceable on the date the U.S. EPA approves this particulate emission limitation as a revision to the Ohio SIP for particulate matter.

II. Operational Restrictions

1. The operating hours for this emissions unit shall not exceed 3225 hours per 12-month period, based upon a rolling, 12-month summation.
2. The permittee shall burn only #2 fuel oil as fuel in this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following information:
 - a. the hours of operation for each month; and
 - b. the rolling, 12-month summation of hours of operation.
2. For each day during which the permittee burns a fuel other than #2 fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. On an annual basis, the permittee shall obtain and maintain records of a certification from each oil supplier that indicates whether or not each shipment of fuel oil delivered to the facility during the calendar year met the ASTM specifications for #2 fuel oil. Due to the high allowable sulfur dioxide emission rate for this emissions unit, the permittee is not be required to perform additional monitoring or record keeping, besides the annual certifications, to demonstrate compliance with the allowable emission rate for sulfur dioxide.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hours limitation.
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than #2 fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emissions limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

8.68 lbs/hr of nitrogen oxides

Applicable Compliance Method:

Compliance may be demonstrated based upon the emission factor of 0.031 lb/hp-hr of nitrogen oxides. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1, dated October 1996.

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 7.

V. Testing Requirements (continued)

1.b Emission Limitation:

1.87 lbs/hr of carbon monoxide

Applicable Compliance Method:

Compliance may be demonstrated based upon the emission factor of 0.00668 lb/hp-hr of carbon monoxide. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1, dated October 1996.

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 10.

1.c Emission Limitation:

Particulate emissions shall not exceed 0.25 lb/mmBtu actual heat input.

Applicable Compliance Method:

The permittee cannot demonstrate compliance with this emission limitation based upon the current emission factor contained in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1 (10/96). The Ohio EPA revised the emission limitation specified in the rule citation based upon the currently applicable emission factor. The revised rule was adopted by the Director of Ohio EPA in December of 1997, and it will be submitted to the U.S. EPA as a proposed revision to the Ohio SIP for particulate matter. When the SIP revision is approved by the U.S. EPA, the 0.25 lb/mmBtu actual heat input emission limitation will no longer be applicable, and the permittee will be able to demonstrate compliance with the new emission limitation (0.310 lb/mmBtu actual heat input) using the current emission factor.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

1.d Emission Limitation:

Particulate emissions shall not exceed 0.310 lb/mmBtu actual heat input.

Applicable Compliance Method:

Compliance may be based upon an emission factor of 0.31 lb/mmBtu. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1 (10/96).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and OAC rule 3745-17-03(B)(10).

1.e Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

Facility Name: **KRATON Polymers U.S. LLC**

Facility ID: **06-84-01-0011**

Emissions Unit: **Firewater Pump (P012)**

V. Testing Requirements (continued)

1.f Emission Limitation:

2.5 pounds of sulfur dioxide per mmBtu of actual heat input

Applicable Compliance Method:

Compliance shall be based upon the record keeping in A.III.

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Effluent Emergency Generator (P013)

Activity Description: Diesel-fired emergency generator that provides backup electricity to the wastewater treatment plant, rated capacity 310 hp.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
310 hp (0.79 mmBtu/hr) diesel-fuel fired emergency generator	OAC rule 3745-31-05(A)(3) (PTI 06-4706)	9.61 lbs/hr of nitrogen oxides 12.6 tpy of nitrogen oxides 2.07 lbs/hr of carbon monoxide 2.7 tpy of carbon monoxide
	OAC rule 3745-17-11(B)(5)(a)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-11(B)(5)(a), 3745-17-07(A), and 40 CFR 51.1881(B)(29)(i). Particulate emissions shall not exceed 0.25 lb/mmBtu actual heat input. See A.I.2.a below.
	OAC rule 3745-17-07(A)(1)	Particulate emissions shall not exceed 0.310 lb/mmBtu actual heat input. See A.I.2.b below. Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	40 CFR 52.1881(b)(29)(i)	2.50 pounds of sulfur dioxide per mmBtu actual heat input from any stack
	OAC rule 3745-18-06(G)	Exempt pursuant to OAC 3745-18-06(B).

2. Additional Terms and Conditions

- 2.a The requirement to comply with this particulate emission limitation shall terminate on the date the U.S. EPA approves the 0.310 lb/mmBtu actual heat input emission limitation as a revision to the Ohio SIP for particulate matter.

2. Additional Terms and Conditions (continued)

- 2.b** The particulate emission limitation shall be effective and federally enforceable on the date the U.S. EPA approves this particulate emission limitation as a revision to the Ohio SIP for particulate matter.

II. Operational Restrictions

1. The operating hours for this emissions unit shall not exceed 2622 hours per 12-month period, based upon a rolling, 12-month summation.
2. The permittee shall burn only #2 fuel oil as fuel in this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following information:
 - a. the hours of operation for each month; and
 - b. the rolling, 12-month summation of hours of operation.
2. For each day during which the permittee burns a fuel other than #2 fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. On an annual basis, the permittee shall obtain and maintain records of a certification from each oil supplier that indicates whether or not each shipment of fuel oil delivered to the facility during the calendar year met the ASTM specifications for #2 fuel oil. Due to the high allowable sulfur dioxide emission rate for this emissions unit, the permittee is not be required to perform additional monitoring or record keeping, besides the annual certifications, to demonstrate compliance with the allowable emission rate for sulfur dioxide.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hours limitation.
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than #2 fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emissions limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

9.61 lbs/hr of nitrogen oxides

Applicable Compliance Method:

Compliance may be demonstrated based upon the emission factor of 0.031 lb/hp-hr of nitrogen oxides. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1 (10/96).

If required, compliance shall be determined in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 7.

V. Testing Requirements (continued)

1.b Emission Limitation:

12.6 tpy of nitrogen oxides

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.c Emission Limitation:

2.07 lbs/hr of carbon monoxide

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission factor of 0.00668 lb/hp-hr of carbon monoxide. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1, dated October 1996.

If required, compliance shall be determined in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 10.

1.d Emission Limitation:

2.7 tpy of carbon monoxide

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.e Emission Limitation:

Particulate emissions shall not exceed 0.310 lb/mmBtu actual heat input.

Applicable Compliance Method:

Compliance may be based upon an emission factor of 0.31 lb/mmBtu. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1 (10/96).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and OAC rule 3745-17-03(B)(10).

1.f Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

V. Testing Requirements (continued)

1.g Emission Limitation:

2.5 pounds of sulfur dioxide per mmBtu of actual heat input

Applicable Compliance Method:

Compliance shall be based upon the record keeping in A.III.

If required, compliance shall be determined in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

1.h Emission Limitation:

Particulate emissions shall not exceed 0.25 lb/mmBtu actual heat input.

Applicable Compliance Method:

The permittee cannot demonstrate compliance with this emission limitation based upon the current emission factor contained in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1 (10/96). The Ohio EPA revised the emission limitation specified in the rule citation based upon the currently applicable emission factor. The revised rule was adopted by the Director of Ohio EPA in December of 1997, and it will be submitted to the U.S. EPA as a proposed revision to the Ohio SIP for particulate matter. When the SIP revision is approved by the U.S. EPA, the 0.25 lb/mmBtu actual heat input emission limitation will no longer be applicable, and the permittee will be able to demonstrate compliance with the new emission limitation (0.310 lb/mmBtu actual heat input) using the current emission factor.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Firewater Pump (P015)

Activity Description: Diesel-fired emergency firewater pump, rated capacity 280 hp.

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
280 hp (0.71 mmBtu/hr) diesel fuel-fired fire water pump	OAC rule 3745-31-05(A)(3) (PTI 06-4630)	8.68 lbs/hr of nitrogen oxides 28 tpy of nitrogen oxides 1.87 lbs/hr of carbon monoxide 6.2 tpy of carbon monoxide The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-11(B)(5)(a) and 3745-17-07(A), and 40 CFR 51.1881(B)(29)(i).
	OAC rule 3745-17-11(B)(5)(a)	Particulate emissions shall not exceed 0.25 lb/mmBtu actual heat input. See A.I.2.a below.
	OAC rule 3745-17-07(A)(1)	Particulate emissions shall not exceed 0.310 lb/mmBtu actual heat input. See A.I.2.b below. Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	40 CFR 52.1881(b)(29)(i)	2.5 pounds of sulfur dioxide per mmBtu of actual heat input
	OAC rule 3745-18-06(G)	Exempt pursuant to OAC 3745-18-06(B).

2. Additional Terms and Conditions

- The requirement to comply with this particulate emission limitation shall terminate on the date the U.S. EPA approves the 0.310 lb/mmBtu actual heat input emission limitation as a revision to the Ohio SIP for particulate matter.

2. Additional Terms and Conditions (continued)

- 2.b** The particulate emission limitation shall be effective and federally enforceable on the date the U.S. EPA approves this particulate emission limitation as a revision to the Ohio SIP for particulate matter.

II. Operational Restrictions

1. The operating hours for this emissions unit shall not exceed 3225 hours per 12-month period, based upon a rolling, 12-month summation.
2. The permittee shall burn only #2 fuel oil as fuel in this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following information:
 - a. the hours of operation for each month; and
 - b. the rolling, 12-month summation of hours of operation.
2. For each day during which the permittee burns a fuel other than #2 fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. On an annual basis, the permittee shall obtain and maintain records of a certification from each oil supplier that indicates whether or not each shipment of fuel oil delivered to the facility during the calendar year met the ASTM specifications for #2 fuel oil. Due to the high allowable sulfur dioxide emission rate for this emissions unit, the permittee is not be required to perform additional monitoring or record keeping, besides the annual certifications, to demonstrate compliance with the allowable emission rate for sulfur dioxide.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month operating hours limitation.
2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than #2 fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emissions limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

8.68 lbs/hr of nitrogen oxides

Applicable Compliance Method:

Compliance may be demonstrated based upon the emission factor of 0.031 lb/hp-hr of nitrogen oxides. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1, dated October 1996.

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 7.

V. Testing Requirements (continued)

1.b Emission Limitation:

28 tpy of nitrogen oxides

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.c Emission Limitation:

1.87 lbs/hr of carbon monoxide

Applicable Compliance Method:

Compliance may be demonstrated based upon the emission factor of 0.00668 lb/hp-hr of carbon monoxide. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1, dated October 1996.

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 10.

1.d Emission Limitation:

6.2 tpy of carbon monoxide

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the actual annual hours of operation and dividing by 2000 lbs/ton.

1.e Emission Limitation:

Particulate emissions shall not exceed 0.25 lb/mmBtu actual heat input.

Applicable Compliance Method:

The permittee cannot demonstrate compliance with this emission limitation based upon the current emission factor contained in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1 (10/96). The Ohio EPA revised the emission limitation specified in the rule citation based upon the currently applicable emission factor. The revised rule was adopted by the Director of Ohio EPA in December of 1997, and it will be submitted to the U.S. EPA as a proposed revision to the Ohio SIP for particulate matter. When the SIP revision is approved by the U.S. EPA, the 0.25 lb/mmBtu actual heat input emission limitation will no longer be applicable, and the permittee will be able to demonstrate compliance with the new emission limitation (0.310 lb/mmBtu actual heat input) using the current emission factor.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

V. Testing Requirements (continued)

1.f Emission Limitation:

Particulate emissions shall not exceed 0.310 lb/mmBtu actual heat input.

Applicable Compliance Method:

Compliance may be based upon an emission factor of 0.31 lb/mmBtu. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1 (10/96).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and OAC rule 3745-17-03(B)(10).

1.g Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

1.h Emission Limitation:

2.5 pounds of sulfur dioxide per mmBtu of actual heat input

Applicable Compliance Method:

Compliance shall be based upon the record keeping in A.III.

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Air Compressor (P017)

Activity Description: Diesel-fired backup air compressor, rated capacity 240 hp, Q-1401

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
240 hp (0.61 mmBtu/hr) diesel-fueled fired air compressor	OAC rule 3745-17-11(B)(5)(a)	Particulate emissions shall not exceed 0.25 lb/mmBtu actual heat input. See A.1.2.a below.
	OAC rule 3745-17-07(A)(1)	Particulate emissions shall not exceed 0.310 lb/mmBtu actual heat input. See A.1.2.b below. Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	40 CFR 51.1881(b)(29)(i)	2.5 pounds of sulfur dioxide per mmBtu of actual heat input from any stack
	OAC rule 3745-18-06(G)	Exempt pursuant to OAC rule 3745-18-06(B).

2. Additional Terms and Conditions

- 2.a The requirement to comply with this particulate emission limitation shall terminate on the date the U.S. EPA approves the 0.310 lb/mmBtu actual heat input emission limitation as a revision to the Ohio SIP for particulate matter.
- 2.b The particulate emission limitation shall be effective and federally enforceable on the date the U.S. EPA approves this particulate emission limitation as a revision to the Ohio SIP for particulate matter.

II. Operational Restrictions

1. The permittee shall burn only #2 fuel oil as fuel in this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. For each day during which the permittee burns a fuel other than #2 fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

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

2. On an annual basis, the permittee shall obtain and maintain records of a certification from each oil supplier that indicates whether or not each shipment of fuel oil delivered to the facility during the calendar year met the ASTM specifications for #2 fuel oil. Due to the high allowable sulfur dioxide emission rate for this emissions unit, the permittee is not required to perform additional monitoring or record keeping, besides the annual certifications, to demonstrate compliance with the allowable emission rate for sulfur dioxide.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than #2 fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emissions limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

Particulate emissions shall not exceed 0.25 lb/mmBtu actual heat input.

Applicable Compliance Method:

The permittee cannot demonstrate compliance with this emission limitation based upon the current emission factor contained in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1 (10/96). The Ohio EPA revised the emission limitation specified in the rule citation based upon the currently applicable emission factor. The revised rule was adopted by the Director of Ohio EPA in December of 1997, and it will be submitted to the U.S. EPA as a proposed revision to the Ohio SIP for particulate matter. When the SIP revision is approved by the U.S. EPA, the 0.25 lb/mmBtu actual heat input emission limitation will no longer be applicable, and the permittee will be able to demonstrate compliance with the new emission limitation (0.310 lb/mmBtu actual heat input) using the current emission factor.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

1.b Emission Limitation:

Particulate emissions shall not exceed 0.310 lb/mmBtu actual heat input.

Applicable Compliance Method:

Compliance may be based upon an emission factor of 0.31 lb/mmBtu. This emission factor is specified in the U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 3.3, Table 3.3-1 (10/96).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and OAC rule 3745-17-03(B)(10).

V. Testing Requirements (continued)

1.c Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and in OAC rule 3745-17-03(B)(1).

1.d Emission Limitation:

2.50 pounds of sulfur dioxide per mmBtu of actual heat input

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Belpre Naphtha Tank V-942 (T035)
Activity Description: 28,700 gallon Belpre naphtha tank V-942

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
28,700-gallon Belpre naphtha tank (V-942)	OAC rule 3745-21-09(L)(2)(a)	See section A.I.2.a.

2. Additional Terms and Conditions

- 2.a In accordance with OAC rule 3745-21-09(L)(2)(a), 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

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Butadiene Sphere V-945 (T036)
Activity Description: 1,050,000 gallon butadiene vessel (sphere) V-945

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
1,050,000-gallon butadiene sphere, V-945 (controlled with a flare)	OAC rule 3745-31-05(A)(3) (PTI 06-686)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rule 3745-21-07(D)(1).
	OAC rule 3745-21-07(D)(1)	See section A.1.2.a below.
	40 CFR Part 63, Subpart I	See section A.1.2.b below.

2. Additional Terms and Conditions

- 2.a All emissions from this pressure tank shall be vented to the flare.
- 2.b Refer to Part II - Specific Facility Terms and Conditions of this permit for the requirements of 40 CFR Part 63, Subpart I "National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks." Equipment in 1,3-butadiene and styrene service in this emissions unit is subject to the leak detection and repair requirements of 40 CFR part 63, subpart I.

II. Operational Restrictions

- 1.a The flare shall be operated at all times when emissions may be vented to it.
- 1.b The flare shall be operated with a pilot flame present at all times.
- 1.c The flare shall be used only when the net heating value of the gas being combusted is 300 Btu/scf or greater.
- 1.d The flare shall meet one of the following criteria:
 - i. the flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or
 - ii. the flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or
 - iii. the flare shall be designed and operated with an exit velocity less than the velocity, Vmax (see section A.V.2.b), but less than 400 ft/sec.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall operate and maintain a device (including, but not limited to, a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of the flare pilot flame. All monitoring equipment shall be calibrated, maintained, and operated according to the manufacturer's specifications, with any modifications deemed necessary by the permittee.
2. The permittee shall record the following information each day:
 - a. all periods during which the flare was not operating and emissions were vented to it;
 - b. all periods during which there was no pilot flame; and
 - c. the operating times for the flare and the continuous monitoring equipment for flame presence.
3. The permittee shall keep up-to-date records of the following information:
 - a. flare design (i.e., steam-assisted, air-assisted, or non-assisted); and
 - b. all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during any compliance determinations.
4. If, during filling of the storage vessel, 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 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.
2. 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 for each such deviation.
3. The deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - 1.a Emission Limitation:

no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours

Applicable Compliance Method:

Compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22.
2. Compliance with the operational restrictions in section A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

V. Testing Requirements (continued)

2.a Operational Restriction:

The flare shall be used only with the net heating value of the gas being combusted at 300 Btu/scf or greater.

Applicable Compliance Method:

The net heating value of the gas being combusted in the flare shall be calculated using the following equation:

$$HT = K [\text{sum of } (C_i) \times (H_i), \text{ for } i = 1 \text{ to } n]$$

where:

HT = net heating value of the sample, in MJ/scm [n.b., 1 MJ/scm = 26.81 Btu/scf]; where the net enthalpy per mole of off-gas is based on combustion at 25 degrees Celsius and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 degrees Celsius;

K = constant = 1.740×10^{-7} (1/ppm)(g-mole/scm)(MJ/kcal) [where the standard temperature for (g-mole/scm) is 20 degrees Celsius];

C_i = concentration of sample component "i" in ppmv on a wet basis, as measured for organics by 40 CFR Part 60, Appendix A, Method 18 and measured for hydrogen and carbon monoxide by ASTM method D1946-77 or D1946-90;

H_i = net heat of combustion of sample component "i," in kcal/g-mole, at 25 degrees Celsius and 760 mm Hg [The heats of combustion may be determined using ASTM Method D2382-76, D2382-88 or D4809-95 if published values are not available or cannot be calculated.]; and

n = number of sample components.

V. Testing Requirements (continued)

2.b Operational Restriction:

the flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or

the flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or

the flare shall be designed and operated with an exit velocity less than the velocity, V_{max} , but less than 400 ft/sec.

Applicable Compliance Method:

The actual exit velocity of the flare shall be determined by dividing the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by the methods and procedures in 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D, by the unobstructed (free) cross-sectional area of the flare tip.

The maximum permitted velocity, V_{max} , shall be determined using the following equation:

$$\text{Log } 10(V_{max}) = (HT + 28.8)/31.7$$

where:

V_{max} = maximum permitted velocity, in m/sec;

HT = the net heating value determined in accordance with section A.V.2.a;

28.8 = a constant; and

31.7 = a constant.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Styrene Tank T-920 (T054)
Activity Description: 895,000 gallon styrene tank T-920

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
895,000-gallon fixed roof styrene storage tank	OAC rule 3745-31-05(A)(3) (PTI 06-4194)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(L), 40 CFR Part 60, Subpart Kb, and 40 CFR Part 63, Subpart I. See sections A.I.2.a and A.II.2 below.
	OAC rule 3745-21-09(L)	See section A.II.1 below.
	40 CFR Part 63, Subpart I	See section A.I.2.b below.
	40 CFR Part 60, Subpart Kb	See section A.III.2 below.

2. Additional Terms and Conditions

- 2.a The styrene emission limitation for emissions units T054 and T055, combined, is 2.7 tpy.
- 2.b Refer to Part II - Specific Facility Terms and Conditions of this permit for the requirements of 40 CFR Part 63, Subpart I "National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks." Equipment in 1,3-butadiene and styrene service in this emissions unit is subject to the leak detection and repair requirements of 40 CFR part 63, subpart I.

II. Operational Restrictions

1. The permittee shall not place, store, or hold in this fixed roof tank any petroleum liquid which, as stored, has a true vapor pressure greater than 1.52 pounds per square inch absolute, unless such tank is designed or equipped in accordance with the requirements of paragraph (L)(1) of OAC rule 3745-21-09.
2. The permittee shall use a submerged fill pipe to transfer liquid into the tank.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain records of the following information:
 - a. the types of petroleum liquids stored in the tank; and
 - b. the maximum true vapor pressure (in pounds per square inch absolute), as stored, of each liquid that has a maximum true vapor pressure greater than 0.754 pound per square inch absolute.
2. The permittee shall keep readily accessible records, for the life of this emissions unit, showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel.

IV. Reporting Requirements

1. If the permittee places, stores, or holds in the fixed roof tank any petroleum liquid with a true vapor pressure 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 appropriate Ohio EPA District Office within 30 days of becoming aware of the occurrence.
2. [60.116b(d)]
If the permittee places, stores, or holds any liquid with a true vapor pressure greater than 0.754 pounds per square inch absolute in this emissions unit, the permittee shall notify the appropriate Ohio EPA District Office within 30 days of becoming aware of the occurrence and comply with the tank construction and operation requirements of 40 CFR 60.112b(a).

V. Testing Requirements

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

2.7 tpy of styrene from emissions units T054 and T055, combined

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in USEPA's "TANKS" program, version 4.0.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Styrene Tank T-921 (T055)
Activity Description: 895,000 gallon styrene tank T-921

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
895,000-gallon fixed roof styrene storage tank	OAC rule 3745-31-05(A)(3) (PTI 06-4194)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(L), 40 CFR Part 60, Subpart Kb, and 40 CFR Part 63, Subpart I. See sections A.I.2.a and A.II.2 below.
	OAC rule 3745-21-09(L)	See section A.II.1 below.
	40 CFR Part 63, Subpart I	See section A.I.2.b below.
	40 CFR Part 60, Subpart Kb	See section A.III.2 below.

2. Additional Terms and Conditions

- 2.a The styrene emission limitation for emissions units T054 and T055, combined, is 2.7 tpy.
- 2.b Refer to Part II - Specific Facility Terms and Conditions of this permit for the requirements of 40 CFR Part 63, Subpart I "National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks." Equipment in 1,3-butadiene and styrene service in this emissions unit is subject to the leak detection and repair requirements of 40 CFR part 63, subpart I.

II. Operational Restrictions

1. The permittee shall not place, store, or hold in this fixed roof tank any petroleum liquid which, as stored, has a true vapor pressure greater than 1.52 pounds per square inch absolute, unless such tank is designed or equipped in accordance with the requirements of paragraph (L)(1) of OAC rule 3745-21-09.
2. The permittee shall use a submerged fill pipe to transfer liquid into the tank.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain records of the following information:
 - a. the types of petroleum liquids stored in the tank; and
 - b. the maximum true vapor pressure (in pounds per square inch absolute), as stored, of each liquid that has a maximum true vapor pressure greater than 0.754 pound per square inch absolute.
2. The permittee shall keep readily accessible records, for the life of this emissions unit, showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel.

IV. Reporting Requirements

1. If the permittee places, stores, or holds in the fixed roof tank any petroleum liquid with a true vapor pressure 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 appropriate Ohio EPA District Office within 30 days of becoming aware of the occurrence.
2. [60.116b(d)]
If the permittee places, stores, or holds any liquid with a true vapor pressure greater than 0.754 pounds per square inch absolute in this emissions unit, the permittee shall notify the appropriate Ohio EPA District Office within 30 days of becoming aware of the occurrence and comply with the tank construction and operation requirements of 40 CFR 60.112b(a).

V. Testing Requirements

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

2.7 tpy of styrene from emissions units T054 and T055, combined

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with the methods and procedures specified in USEPA's "TANKS" program, version 4.0.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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: Butadiene Sphere V-936 (T057)
Activity Description: 1,050,000 gallon butadiene vessel V-936

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
1,050,000-gallon butadiene sphere, V-936 (controlled with a flare)	OAC rule 3745-31-05(A)(3) (PTI 06-291)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rule 3745-21-07(D)(1).
	40 CFR Part 63, Subpart I	See section A.1.2.b below.
	OAC rule 3745-21-07(D)(1)	See section A.1.2.a below.

2. Additional Terms and Conditions

- 2.a All emissions from this pressure tank shall be vented to the flare.
- 2.b Refer to Part II - Specific Facility Terms and Conditions of this permit for the requirements of 40 CFR Part 63, Subpart I "National Emission Standards for Organic Hazardous Air Pollutants for Certain Processes Subject to the Negotiated Regulation for Equipment Leaks." Equipment in 1,3-butadiene and styrene service in this emissions unit is subject to the leak detection and repair requirements of 40 CFR part 63, subpart I.

II. Operational Restrictions

- 1.a The flare shall be operated at all times when emissions may be vented to it.
- 1.b The flare shall be operated with a pilot flame present at all times.
- 1.c The flare shall be used only when the net heating value of the gas being combusted is 300 Btu/scf or greater.
- 1.d The flare shall meet one of the following criteria:
 - i. the flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or
 - ii. the flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or
 - iii. the flare shall be designed and operated with an exit velocity less than the velocity, Vmax (see section A.V.2.b), but less than 400 ft/sec.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall operate and maintain a device (including, but not limited to, a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of the flare pilot flame. All monitoring equipment shall be calibrated, maintained, and operated according to the manufacturer's specifications, with any modifications deemed necessary by the permittee.
2. The permittee shall record the following information each day:
 - a. all periods during which the flare was not operating and emissions were vented to it;
 - b. all periods during which there was no pilot flame; and
 - c. the operating times for the flare and the continuous monitoring equipment for flame presence.
3. The permittee shall keep up-to-date records of the following information:
 - a. flare design (i.e., steam-assisted, air-assisted, or non-assisted); and
 - b. all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during any compliance determinations.
4. If, during the filling of the tank, 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 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.
2. 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 for each such deviation.
3. The deviation (excursion) reports shall be submitted in accordance with section A.1.c of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - 1.a Emission Limitation:

no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours

Applicable Compliance Method:

Compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22.
2. Compliance with the operational restrictions in section A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

V. Testing Requirements (continued)

2.a Operational Restriction:

The flare shall be used only with the net heating value of the gas being combusted at 300 Btu/scf or greater.

Applicable Compliance Method:

The net heating value of the gas being combusted in the flare shall be calculated using the following equation:

$$HT = K [\text{sum of } (C_i) \times (H_i), \text{ for } i = 1 \text{ to } n]$$

where:

HT = net heating value of the sample, in MJ/scm [n.b., 1 MJ/scm = 26.81 Btu/scf]; where the net enthalpy per mole of off-gas is based on combustion at 25 degrees Celsius and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 degrees Celsius;

K = constant = 1.740×10^{-7} (1/ppm)(g-mole/scm)(MJ/kcal) [where the standard temperature for (g-mole/scm) is 20 degrees Celsius];

C_i = concentration of sample component "i" in ppmv on a wet basis, as measured for organics by 40 CFR Part 60, Appendix A, Method 18 and measured for hydrogen and carbon monoxide by ASTM method D1946-77 or D1946-90;

H_i = net heat of combustion of sample component "i," in kcal/g-mole, at 25 degrees Celsius and 760 mm Hg [The heats of combustion may be determined using ASTM Method D2382-76, D2382-88 or D4809-95 if published values are not available or cannot be calculated.]; and

n = number of sample components.

V. Testing Requirements (continued)

2.b Operational Restriction:

the flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or

the flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec, if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or

the flare shall be designed and operated with an exit velocity less than the velocity, V_{max} , but less than 400 ft/sec.

Applicable Compliance Method:

The actual exit velocity of the flare shall be determined by dividing the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by the methods and procedures in 40 CFR Part 60, Appendix A, Method 2, 2A, 2C or 2D, by the unobstructed (free) cross-sectional area of the flare tip.

The maximum permitted velocity, V_{max} , shall be determined using the following equation:

$$\text{Log } 10(V_{max}) = (HT + 28.8)/31.7$$

where:

V_{max} = maximum permitted velocity, in m/sec;

HT = the net heating value determined in accordance with section A.V.2.a;

28.8 = a constant; and

31.7 = a constant.

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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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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