



State of Ohio Environmental Protection Agency

Street Address:

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

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

Mailing Address:

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

03/27/02

CERTIFIED MAIL

RE: Draft Title V Chapter 3745-77 permit

06-84-01-0011
KRATON Polymers U.S. LLC
Kimberly Mommessin
PO Box 235
Belpre, OH 45714-0235

Dear Kimberly Mommessin:

You are hereby notified that the Ohio Environmental Protection Agency has prepared the enclosed draft of the Title V permit for the facility referenced above. The purpose of this draft is to solicit public comments. A public notice concerning the draft will appear in the Ohio EPA Weekly Review and the major newspaper in the county where the facility is located. Comments and/or a request for a public hearing from the public and any affected parties will be accepted by Southeast District Office within 30 days of the date of publication in the newspaper. You will be notified in writing if a public hearing is scheduled.

A decision on processing the Title V permit will be made after consideration of written public comments and oral testimony (if a public hearing is conducted). After the comment period, you will be provided with a Preliminary Proposed Title V permit and an opportunity to comment prior to the Proposed Title V permit submittal to USEPA.

If you have any questions or comments concerning this draft Title V permit, please contact Southeast District Office.

Very truly yours,

Thomas G. Rigo, Manager
Field Operations and Permit Section
Division of Air Pollution Control

cc: USEPA (electronically submitted)
File, DAPC PMU
Southeast District Office
Pennsylvania
West Virginia



State of Ohio Environmental Protection Agency

DRAFT TITLE V PERMIT

Issue Date: 03/27/02

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), P009 (Riverwater Pump), P010 (K-1 Process Unit), etc.

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.

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

- i. Reports of any required monitoring and/or 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. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and record keeping requirements specified in this permit, (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. These quarterly 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 of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations except malfunctions, which shall be reported in accordance with OAC rule 3745-15-06. 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. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.) See B.6 below if no deviations occurred during the quarter.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii))

- iii. Written reports, which 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. 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 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, i.e., upset condition, 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. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports submitted pursuant to OAC rule 3745-15-06 shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of deviations caused by malfunctions or upset conditions.

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 the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

(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; and
- 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 (a) 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, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

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. Requirements A.2 through A.5 apply to 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;
T055 - Styrene Tank T-921;

2. Operational Restrictions

2.a [63.166]

Standards: sampling connection systems.

i. Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system.

ii. Each closed-purge, closed-loop, or closed-vent system required by section A.2.a.i 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 40 CFR 63.172; or

(4) collect, store, and transport the purged process fluid to a system or facility identified in paragraph (b)(4)(i), (ii) or (iii) of 40 CFR 63.166.

iii. In-situ sampling systems and sampling systems without purges are exempt from the requirements of sections A.2.a.i and A.2.a.ii.

2.b [63.165]

Standards: pressure relief devices in gas/vapor service.

i. 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 section A.2.b.ii, as measured by the method specified in section A.5.a.

ii. 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 specified in section A.2.d.

iii. 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 in accordance with section A.5.a.

iv. 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 40 CFR 63.172, is exempt from the requirements of sections A.2.b.i through A.2.b.iii.

v. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of sections A.2.b.i through A.2.b.iii.

A. State and Federally Enforcable Section (continued)

2.c [63.167]

Standards: open-ended valves or lines.

i. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 63.162(b) and sections A.2.c.iv and A.2.c.v. 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.

ii. 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.

iii. 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 section A.2.c.i at all other times.

iv. 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 section A.2.c.i through A.2.c.iii.

v. Open-ended valves or lines containing materials which would autocatalytically polymerize or, would present an explosion hazard, serious overpressure hazard, or other safety hazard if capped or equipped with a double block and bleed system as specified in sections A.2.c.i through A.2.c.iii are exempt from the requirements of sections A.2.c.i through A.2.c.iii.

2.d [63.171]

Standards: delay of repair.

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

ii. 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.

iii. Delay of repair for valves and connectors is also allowed if:

(1) the permittee 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 40 CFR 63.172.

iv. Delay of repair for pumps is also allowed if:

(1) repair requires replacing the existing seal design with a new system that the permittee has determined, in accordance with 40 CFR 63.176(d), will provide better performance or meets the requirements of 40 CFR 63.163(e), 40 CFR 63.163(f) or 40 CFR 63.163(g); and

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

v. 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.

3. Monitoring and Record Keeping Requirements

A. State and Federally Enforcable Section (continued)

3.a [63.162]

Standards: general requirements for leak detection and repair program.

i. Each piece of equipment in this process unit that is subject to the leak detection and repair program requirements of this permit shall be identified such that it can be distinguished readily from equipment that is not subject to the leak detection and repair program requirements. 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.

ii. Equipment that is in vacuum service is excluded from leak detection monitoring requirements.

iii. When each leak is detected as specified in this permit, 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 and no leak has been detected during the follow-up monitoring;

(3) the identification on a connector may be removed after it has been monitored within the first 3 months after being returned to organic hazardous air pollutants service and no leak has been detected; and

(4) the identification which has been placed on equipment determined to have a leak, except for a valve or connector that is subject to the requirements of section A.3.a.iii.(3), may be removed after it is repaired.

3.b [63.163]

Standards: pumps in light liquid service.

i. The permittee shall monitor each pump monthly to detect leaks by the method specified in section A.5.a.

ii. The instrument reading that defines a leak is 5,000 parts per million or greater for pumps handling polymerizing monomers.

iii. 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.

iv. 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 A.2.d.

v. 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:

(1) tightening of packing gland nuts; and

(2) ensuring that the seal flush is operating at design pressure and temperature.

A. State and Federally Enforcable Section (continued)

vi. Percent leaking pumps shall be determined by the following equation:

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

where:

%PL = percent leaking pumps;

PL = number of pumps found leaking as determined through the monthly monitoring required in sections A.3.b.i through A.3.b.iii;

PT = total pumps in organic HAP service, including those that are exempt; and

PS = number of pumps leaking within 1 month of start-up during the current monitoring period.

vii. Any pump that is designated as unsafe-to-monitor is exempt from the requirements of sections A.3.b.i through A.3.b.v if:

(1) the permittee determines that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with sections A.3.b.i through A.3.b.v; and

(2) the permittee 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.

3.c [63.168]

Standards: valves in gas/vapor service and in light liquid service.

i. The permittee shall monitor each valve in organic HAP service for leaks as outlined in sections A.3.c.ii through A.3.c.vii.

ii. The permittee shall monitor all valves subject to the leak detection and repair program to detect leaks by the method specified in section A.5.a.

iii. The instrument reading that defines a leak is an instrument reading of 500 parts per million or greater.

iv. At process units with 2 percent or greater leaking valves, calculated according to section A.3.c.viii, the permittee shall monitor each valve once per month.

v. At process units with less than 2 percent leaking valves, calculated according to section A.3.c.viii, the permittee shall monitor each valve once each quarter, except as provided in sections A.3.c.vi and A.3.c.vii.

vi. At process units with less than 1 percent leaking valves, calculated according to section A.3.c.viii, the permittee shall monitor each valve once every 2 quarters, except as provided in section A.3.c.vii.

vii. At process units with less than 0.5 percent leaking valves, calculated according to section A.3.c.viii, the permittee shall monitor each valve once every 4 quarters.

A. State and Federally Enforcable Section (continued)

viii. The percent of leaking valves at a process unit shall be determined by the following equation:

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

where:

%VL = percent leaking valves;

VL = number of valves found leaking excluding nonrepairables as provided in section A.3.c.x;

VT = total valves monitored, in a monitoring period excluding valves monitored as required by section A.3.c.xiv; and

VC = optional credit for removed valves = $0.67 \times$ net number (i.e., total removed - total added) of valves in organic HAP service removed from process unit after July 24, 1995, and after the date of initial start-up for new emissions units. If credits are not taken, then VC = 0.

ix. For use in determining monitoring frequency, as specified in sections A.3.c.iv through A.3.c.vii, 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.

x. Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with section A.3.c.xii. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of 1 percent of the total number of valves in organic HAP service at a process unit may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

xi. If the number of nonrepairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process unit, the number of nonrepairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves.

xii. When a leak in any valve 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 A.2.d.

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

A. State and Federally Enforcable Section (continued)

xiv. When a leak is repaired, the valve shall be monitored at least once within the first 3 months after its repair.

xv. Any valve that meets the following criteria may be designated as unsafe-to-monitor and is exempt from the requirements of sections A.3.c.ii through A.3.c.xiv:

(1) the permittee determines that the valve is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with sections A.3.c.ii through A.3.c.vii; and

(2) the permittee 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.

xvi. Any valve that meets the following criteria may be designated difficult-to-monitor and is exempt from the requirements of sections A.3.c.ii through A.3.c.vii:

(1) the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or it is not accessible at any time in a safe manner;

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

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

3.d [63.174]

Standards: connectors in gas/vapor service and in light liquid service.

i. The permittee shall monitor all connectors in gas/vapor and light liquid service, except as provided in sections A.3.d.x through A.3.d.xii.

ii. The connectors shall be monitored to detect leaks by the method specified in section A.5.a.

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

iv. The permittee shall monitor all connectors at the frequencies specified below, except as provided in sections A.3.d.x through A.3.d.xii.

(1) If the percent leaking connectors in the process unit was 0.5 percent or greater during the last required annual or biennial monitoring period, the permittee shall monitor the connectors once per year.

(2) If the percent leaking connectors was less than 0.5 percent during the last required monitoring period, the permittee shall monitor the connectors once every 2 years. The permittee may comply with this requirement 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.

(3) If the permittee 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 permittee may monitor the connectors one time every 4 years. The permittee 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.

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

A. State and Federally Enforcable Section (continued)

v. Except as provided in section A.3.d.vi, each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks within the first 3 months after being returned to organic HAP service. If the follow-up monitoring detects a leak, it shall be repaired according to the provisions of section A.3.d.viii, unless it is determined to be nonrepairable, in which case it is counted as a nonrepairable for the purposes of section A.3.d.xvi.

vi. As an alternative to the requirements in section A.3.d.v, the permittee may choose to calculate percent leaking connectors for the monitoring periods described in section A.3.d.iv, by setting the nonrepairable component, CAN, in the equation in section A.3.d.xvii, to zero for all monitoring periods.

vii. The permittee may switch alternatives described in sections A.3.d.v and A.3.d.vi at the end of any monitoring period, provided that it is reported in the semiannual required by section A.4.c. After reporting a switch to the new alternative, initial monitoring shall be conducted within 12 months.

viii. 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 sections A.3.d.xi and A.2.d. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

ix. If a leak is detected, the connector shall be monitored for leaks within the first 3 months after its repair.

x. Any connector that meets the following criteria may be designated as an unsafe-to-monitor connector, exempt from the requirements of section A.3.d.i:

(1) the permittee determines that the connector is unsafe-to-monitor because personnel would be exposed to an immediate danger as a result of complying with sections A.3.d.i through A.3.d.ix; and

(2) the permittee 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.

xi. Any connector that meets the following criteria may be designated as an unsafe-to-repair connector, exempt from the requirements of sections A.3.d.i and A.3.d.viii:

(1) the permittee determines that repair personnel would be exposed to an immediate danger as a consequence of complying with section A.3.d.viii; and

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

A. State and Federally Enforcable Section (continued)

xii. Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the requirements of sections A.3.d.i and A.3.d.ix and from the record keeping requirements of section A.3 and the reporting requirements of section A.4.c. An inaccessible connector is one that is:

- (1) buried;
- (2) insulated in a manner that prevents access to the connector by a monitor probe;
- (3) obstructed by equipment or piping that prevents access to the connector by a monitor probe;
- (4) 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;
- (5) 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
- (6) 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.)

xiii. If any inaccessible or ceramic or ceramic-lined connector is observed to be leaking by visual, audible, olfactory, or other means, 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 A.3.d.xi.

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

xv. For use in determining the monitoring frequency, as specified in section A.3.d.iv, the percent leaking connectors shall be calculated as specified in sections A.3.d.xvi and A.3.d.xvii.

xvi. For the first monitoring period, use the following equation:

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

where:

%CL = percent leaking connectors;

CL = number of connectors measured at 500 parts per million or greater, by the method specified in section A.5.a;

Ct = total number of monitored connectors in the process unit; and

CC = optional credit for removed connectors = $0.67 \times$ net number (i.e., total removed - total added) of connectors in organic HAP service removed from the process unit after July 24, 1995, and after the date of initial start-up for new process units. If credits are not taken, then CC = 0.

A. State and Federally Enforcable Section (continued)

xvii. For subsequent monitoring periods, the permittee shall use the following equation:

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

where:

%CL = percent leaking connectors;

CL = number of connectors, including nonrepairables, measured at 500 parts per million or greater, by the method specified in section A.5.a;

CAN = number of allowable nonrepairable connectors, as determined by monitoring required in sections A.3.d.iv through A.3.d.vii, not to exceed 2 percent of the total connector population, Ct;

Ct = total number of monitored connectors, including nonrepairables, in the process unit; and

CC = optional credit for removed connectors = 0.67 x net number (i.e., total removed - total added) of connectors in organic HAP service removed from the process unit after July 24, 1995, and after the date of initial start-up for new process units. If credits are not taken, then CC = 0.

xviii. If the permittee eliminates a connector subject to monitoring under section A.3.d.i, the permittee may receive credit for elimination of the connector, as described in section A.3.d.xvi, provided the requirements below are met:

- (1) the connector was welded after April 24, 1994;
- (2) the integrity of the weld is demonstrated by testing in accordance with the procedures in section A.5.a or by testing using X-ray, acoustic monitoring, hydrotesting, or other applicable method;
- (3) welds created after October 24, 1994 are monitored or tested within 3 months of being welded; and
- (4) 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 permit.

3.e [63.181(a)]

The permittee may comply with the record keeping requirements for all process units subject to the leak detection and repair program requirements of this permit 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 section A.III 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.

A. State and Federally Enforcable Section (continued)

3.f [63.181(b)]

The following information pertaining to all equipment in each process unit subject to the leak detection monitoring requirements of this permit shall be recorded.

- i. A list of identification numbers for equipment (except connectors that are inaccessible, designated as unsafe-to-monitor, or designated as unsafe-to-repair, and instrumentation systems) subject to the leak detection and monitoring requirements of this permit. Connectors need not be individually identified if all connectors in a designated area or length of pipe are identified as a group, and the number of connectors is indicated.
- ii. A schedule by process unit for monitoring valves and connectors in gas/vapor service subject to the leak detection and monitoring requirements of this permit.
- iii. Physical tagging of the equipment to indicate that it is in organic HAP service is not required. Equipment subject to the leak detection and monitoring requirements of this permit may be identified on a plant site plan, in log entries, or by other appropriate methods.
- iv. A list of identification numbers for pressure relief devices in gas/vapor service that are subject to the leak detection and monitoring requirements of this permit.
- v. A list of identification numbers for pressure relief devices equipped with rupture disks subject to the leak detection and monitoring requirements of this permit.
- vi. Identification of instrumentation systems subject to the leak detection and monitoring requirements of this permit. Individual components in an instrumentation system need not be identified.
- vii. Identification of screwed connectors subject to the leak detection and monitoring requirements of this permit. Identification can be by area or grouping if the total number within each group or area is recorded.
- viii. The following information pertaining to all valves designated as unsafe-to-monitor according to section A.3.c.xv or difficult-to-monitor according to section A.3.c.xvi, and connectors designated as unsafe-to-monitor according to section A.3.d.x or unsafe-to-repair according to section A.3.d.xi or inaccessible according to section A.3.d.xii shall be recorded:
 - (1) identification of equipment designated as unsafe-to-monitor, difficult-to-monitor, or unsafe-to-inspect and the plan for monitoring or inspecting this equipment;
 - (2) a list of identification numbers for the equipment that is designated difficult-to-monitor, an explanation of why the equipment is designated difficult-to-monitor, and the planned schedule for monitoring this equipment; and
 - (3) a list of identification numbers for connectors that are designated unsafe-to-repair and an explanation why the connector is designated unsafe-to-repair.
- ix. A list of valves removed from and added to the process unit, according to the percent leaking valves calculation performed according to section A.3.c.viii, if the net credits for removed valves is expected to be used.

A. State and Federally Enforcable Section (continued)

3.g [63.181(d)]

When each leak is detected in equipment subject to the leak detection and monitoring requirements of this permit, the following information shall be recorded and kept for 2 years:

- i. the instrument and the equipment identification number and the operator name, initials, or identification number;
- ii. the date the leak was detected and the date of first attempt to repair the leak;
- iii. the date of successful repair of the leak;
- iv. maximum instrument reading measured in accordance with section A.5.a after it is successfully repaired or determined to be nonrepairable;
- v. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. (The permittee 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 for the emissions unit or may be part of a separate document that is maintained at the plant site. In such case, reasons for delay of repair may be documented by citing the relevant sections of the written procedure. If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.);
- vi. dates of process unit shutdowns that occur while the equipment is unrepaired;
- vii. identification, either by list, location (area or grouping), or tagging of connectors that have been opened or have otherwise had the seal broken since the last monitoring period;
- viii. the date and results of follow-up monitoring as required by this permit (If identification of disturbed connectors is made by location, then all connectors within the designated location shall be monitored.); and
- ix. copies of the periodic reports required by this permit, if records are not maintained on a computerized database capable of generating summary reports from the records.

3.h The permittee shall maintain a VOC log book which lists the identification of each piece of equipment subject to the leak detection program. The log book shall be kept in a readily accessible location and shall list the following information:

- i. the date of each process unit startup and leak test; and
- ii. either of the following for the above dates:
 - (1) "all tests negative, no leaks detected," or
 - (2) if leaking equipment identified, the following:
 - (a) an identification of the leaking equipment;
 - (b) a summary of the repairs made or attempted along with the dates; and
 - (c) the results and dates of the follow-up leak tests.

4. Reporting Requirements

4.a [63.182(d)(1)]

The permittee shall submit reports to the appropriate Ohio EPA District Office or local air agency containing the information in section A.4.b every 6 months.

A. State and Federally Enforcable Section (continued)

4.b [63.182(d)(2)]

For each process unit subject to the leak detection and monitoring requirements of this permit, the following report summary shall be prepared for each monitoring period during the 6-month period:

- i. the number of valves for which leaks were detected, the percent leaking valves, and the total number of valves monitored;
- ii. the number of valves for which leaks were not repaired, identifying the number of those that are determined nonrepairable;
- iii. the number of connectors for which leaks were detected, the percent of connectors leaking, and the total number of connectors monitored;
- iv. the number of connectors for which leaks were not repaired, identifying the number of those that were determined to be nonrepairable;
- v. the number of pumps for which leaks were detected, the percent leakers, and the total number of pumps monitored;
- vi. the number of pumps for which leaks were not repaired;
- vii. the facts that explain any delay of repairs and, where appropriate, why a process unit shut-down was technically infeasible;
- viii. the results of all monitoring of each pressure relief device in gas/vapor service conducted within the semiannual reporting period;
- ix. if applicable, notification of a change in connector monitoring alternatives; and
- x. any revisions to items reported in the previous Notification of Compliance Status report, required by 40 CFR 63.182(a)(2).

4.c The permittee shall submit semiannual reports to the appropriate Ohio EPA District Office or local air agency that summarize the following information for this program during the preceding 6-month period:

- i. the number of process unit start-ups and the number of leak tests;
- ii. an identification of each leak test that indicated a leak and an identification of the number of flanges, valves, and pressure relief devices that were leaking; and
- iii. any changes to the quantity or equipment identification for the equipment listed in section III.A.1.2.a for each emissions unit, that are any pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, flange, connector, closed-vent system, and any other device or system in VOC service within this process unit.

The reports shall be submitted by January 31 and July 31 of each year and shall cover the previous 6 calendar months.

5. Testing Requirements

A. State and Federally Enforcable Section (continued)

5.a [63.180(b)]

Monitoring shall comply with Method 21 of 40 CFR Part 60, Appendix A.

i. Except as provided for in section A.5.a.ii, 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 components that are not organic HAP's or VOC's, the average stream response factor may be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

ii. If no instrument is available at the plant site that will meet the performance criteria specified in section A.5.a.i, 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 above.

iii. The detection instrument shall be calibrated before use, on each day of its use, by the procedures specified in Method 21 of 40 CFR Part 60, Appendix A.

iv. Calibration gases shall be:

(1) zero air (less than 10 parts per million of hydrocarbon in air); and

(2) a mixture of methane and air at a concentration of approximately, but less than, 5,000 parts per million for pumps in polymerizing monomer service; and 500 parts per million for all other equipment, except as provided in section A.5.a.iv.(3).

(3) 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, 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 permittee need not calibrate the scales that will not be used during that day's monitoring.

v. 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.

5.b [63.180(c)]

When a pressure relief device, a compressor designated to operate less than 500 parts per million above background, or a closed-vent system is monitored for compliance, or when equipment subject to a leak definition of 500 ppm is monitored for leaks, the monitoring shall comply with the following requirements:

i. the requirements of section A.5.a shall apply;

ii. the background level shall be determined, as set forth in Method 21 of 40 CFR Part 60, Appendix A;

iii. 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; and

iv. 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.

A. State and Federally Enforcable Section (continued)

5.c [63.180(d)]
Equipment in organic HAP service.

i. 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 the permittee 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.

ii. The permittee may use good engineering judgment rather than the procedures in section A.5.c.i to determine that the percent organic HAP content does not exceed 5 percent, by weight. However, when the permittee and the Director do not agree on whether a piece of equipment is not in organic HAP service, the procedures in section A.5.c.i shall be used to resolve the disagreement.

Conversely, the permittee may determine that the organic HAP content of the process fluid does not exceed 5 percent, by weight (e.g., accounting for 98 percent of the content and showing that organic HAP is less than 3 percent).

iii. If the permittee determines the piece of equipment is in organic HAP service, the determination can be revised after following the procedures in section A.5.c.i, or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service.

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

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 controlled with a multiclone and an electrostatic precipitator	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
	40 CFR 52.1881(b)(29)(i)	See section A.1.2.a below.
	OAC rule 3745-17-07(A)(1)	2.50 pounds of sulfur dioxide per mmBtu of actual heat input, when coal is used to fuel this emissions unit, as a rolling, 30-day average
	OAC rule 3745-17-10(C)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
		0.12 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. The average total combined power input (in kilowatts) to all fields of the ESP, for any 3-hour block of time when the emissions unit is in operation, shall be no less than 90 percent of the total combined power input, as a 3-hour average, during the most recent emissions test that demonstrated the emission unit was in compliance with the particulate emission limitation.

The permittee shall operate the ESP during any operation of this emission unit, 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 6. 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.
- 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 one day.
- 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.

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

- 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 Isotherm Bomb 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 monitor and record the following on an hourly basis during any operation of the ESP:
- a. the secondary voltage, in kilovolts, and the secondary current, in amps, for each transformer rectifier (TR) set in the ESP;
 - b. the power input (in kilowatts) of each TR set for each hour (calculated by multiplying the secondary (voltage in kilovolts) by the secondary current (in amps) for each TR set); and
 - c. the total power input to the ESP for each hour (add together the power inputs for the TR sets operating during the hour).
- 4.** The permittee shall record the following information for each day:
- a. all 3-hour blocks of time during which the average total combined power input to the ESP, when the emissions unit was in operation, was less than 90 percent of the total combined power input, as a 3-hour average, during the most recent emissions test that demonstrated the emissions unit was in compliance with the particulate emission limitation; and
 - b. the duration of any downtime for the ESP monitoring equipment for secondary voltage and current specified above, 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.
- 5.** 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.
- 6.** 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.

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. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report.

2. The permittee shall submit 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 emissions unit exhaust gases exceeded the temperature levels specified in OAC rule 3745-17-07(A)(3)(a)(i) and (b)(i); and
 - b. all 3-hour blocks of time during which the average total combined power input to all fields of the ESP does not comply with the operational restriction specified in section A.II of this permit.

The deviation reports shall be submitted in accordance with the General Terms and Conditions of this permit.

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.

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

V. Testing Requirements

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

- 1.a Emission Limitation:

0.12 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)

Particulate emission testing shall be conducted twice during the term of this permit. Once during the second year of the permit and once during the last year of the permit.

The tests shall be conducted while both emissions units are operating at or near their maximum capacities.

The permittee shall record the primary and secondary voltage, in kilovolts, and current, in amps, for each transformer set in the ESP during each emission test.

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.

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.

V. Testing Requirements (continued)

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.

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 electrostatic precipitator	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 controlled with a multiclone and an electrostatic precipitator	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
	40 CFR 52.1881(b)(29)(i)	See section A.1.2.a below.
	OAC rule 3745-17-07(A)(1)	2.50 pounds of sulfur dioxide per mmBtu of actual heat input, when coal is used to fuel this emissions unit, as a rolling, 30-day average
	OAC rule 3745-17-10(C)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
		0.12 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. The average total combined power input (in kilowatts) to all fields of the ESP, for any 3-hour block of time when the emissions unit is in operation, shall be no less than 90 percent of the total combined power input, as a 3-hour average, during the most recent emissions test that demonstrated the emission unit was in compliance with the particulate emission limitation.

The permittee shall operate the ESP during any operation of this emission unit, 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 6. 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.
- 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 one day.
- 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.

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

- 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 Isothermal Bomb 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 monitor and record the following on an hourly basis during any operation of the ESP:
- the secondary voltage, in kilovolts, and the secondary current, in amps, for each transformer rectifier (TR) set in the ESP;
 - the power input (in kilowatts) of each TR set for each hour (calculated by multiplying the secondary (voltage in kilovolts) by the secondary current (in amps) for each TR set); and
 - the total power input to the ESP for each hour (add together the power inputs for the TR sets operating during the hour).
- 4.** The permittee shall record the following information for each day:
- all 3-hour blocks of time during which the average total combined power input to the ESP, when the emissions unit was in operation, was less than 90 percent of the total combined power input, as a 3-hour average, during the most recent emissions test that demonstrated the emissions unit was in compliance with the particulate emission limitation; and
 - the duration of any downtime for the ESP monitoring equipment for secondary voltage and current specified above, 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.
- 5.** 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.
- 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
 - 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.
- 6.** 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.

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. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report.

2. The permittee shall submit 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 emissions unit exhaust gases exceeded the temperature levels specified in OAC rule 3745-17-07(A)(3)(a)(i) and (b)(i); and
 - b. all 3-hour blocks of time during which the average total combined power input to all fields of the ESP does not comply with the operational restriction specified in section A.II of this permit.

The deviation reports shall be submitted in accordance with the General Terms and Conditions of this permit.

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.

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

V. Testing Requirements

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

- 1.a Emission Limitation:

0.12 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)

Particulate emission testing shall be conducted twice during the term of this permit. Once during the second year of the permit and once during the last year of the permit.

The tests shall be conducted while both emissions units are operating at or near their maximum capacities.

The permittee shall record the primary and secondary voltage, in kilovolts, and current, in amps, for each transformer set in the ESP during each emission test.

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.

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.

V. Testing Requirements (continued)

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.

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 electrostatic precipitator	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), 3745-17-10(B)(1), OAC rule 3745-18-06, and 40 CFR 52.1881(b)(29)(i).
	OAC rule 3745-17-10(B)(1)	0.020 pound of particulate emissions per mmBtu of actual heat input
	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 3745-18-06	When firing with #2 fuel oil the maximum emissions of sulfur dioxide shall not exceed 1.6 pounds per mmBtu actual heat input.

2. Additional Terms and Conditions

None

II. Operational Restrictions

- The permittee shall burn only natural gas or #2 fuel oil in this emissions unit.
- 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

- 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)

2. The permittee shall perform daily checks, when the emissions unit is in operation 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. 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).

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 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.
3. The permittee shall notify the appropriate Ohio EPA District Office in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon the calculated sulfur dioxide emission rates from section A.III above. The notification shall include a copy of such record and shall be sent to the appropriate Ohio EPA District Office within 45 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:

V. Testing Requirements (continued)

1.a Emission Limitation:

0.020 pound of particulate emissions per mmBtu of actual heat input

Applicable Compliance Method:

If required, compliance shall be demonstrated 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).

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.

1.c 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.d Emission Limitation

1.6 lbs of SO₂/mmBtu when firing #2 fuel oil

Applicable Compliance Method

If required, compliance shall be demonstrated based upon 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).

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>
natural gas/#2 fuel oil-fired methane reformer	OAC rule 3745-18-90(C)	The requirements of this rule are less stringent than that required by the emissions limitations in section A.I.1.

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
		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 3745-17-10(B)(1)	0.020 pound of particulate emissions 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 3745-18-06(D)	This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05.	
40 CFR 52.1881(b)(29)(i)	2.5 pounds of sulfur dioxide emissions per mmBtu of actual heat input	

<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)	See section A.I.2.b below.
	OAC rule 3745-23-06(B)	See section A.I.2.b 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" for control of carbon monoxide emissions and "latest available control techniques and operating practices" for nitrogen oxide emissions required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively, 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.c 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.

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

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 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 emissions each 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 natural gas, the permittee shall maintain a record of the quantity of natural gas burned, the calculated sulfur dioxide emission rate in lbs/hr and lb/mmBtu [calculated in accordance with the formula specified in OAC rule 3745-18-04(F)], and the hours of operation when burning natural gas.
5. The permittee shall calculate the total daily emission of sulfur dioxide from this emissions unit in lbs/day. When natural gas and #2 fuel oil are burned during the same day the total sulfur dioxide emission rate shall be determined by summing the sulfur dioxide emissions emitted from each fuel.
6. The permittee shall maintain records of the calculated sulfur dioxide emission rate, in pounds per hour [calculated in accordance with the formula specified in OAC rule 3745-18-04(F)(2)], for utilization of #2 fuel oil and natural gas in this emissions unit.
7. 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.
8. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the 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;
 - 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.ii 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:

0.30 pound of nitrogen oxides per mmBtu of actual heat input

Applicable Compliance Method:

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.

V. Testing Requirements (continued)

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:

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

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:

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:

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>
---	---	--

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>
process unit G-1 (equipped with a flare for the control of organic material emissions, and one cyclone, one multiclone and two baghouses for the control of particulate emissions)	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
	40 CFR Part 63, Subpart I	See section A.I.2 below.
	40 CFR 63.11(b)(4)	no visible emissions from the flare except for periods not to exceed a total of 5 minutes during any 2 consecutive hours

2. Additional Terms and Conditions

- 2.a The components of this emissions unit that are subject to 40 CFR Part 63, Subpart I, as of the effective date of this permit, are listed below for general reference purposes.

Equipment Description	Quantity
pumps in light liquid service	1
sampling connection systems	1
open-ended lines or valves	69
valves in gas and light liquid service	151
connectors in gas and light liquid service	103

- 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."
- 2.c All the particulate emissions from this emissions unit shall be vented to the particulate control equipment.

II. Operational Restrictions

- 1.a The flare shall be operated at all times when emissions may be vented to it.

II. Operational Restrictions (continued)

- 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, V_{max} (see section A.V.2.b), but less than 400 ft/sec.
2. The pressure drop across each baghouse shall be maintained within the range of 2 to 4 inches of water while the emissions unit is in operation.

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, 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.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 30 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

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 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.
4. 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.
5. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The permittee shall record the pressure drop across each baghouse on a daily basis.

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 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 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.
3. The permittee shall submit quarterly 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.
4. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drop across each baghouse did not comply with the range specified in section A.II.2.
5. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the 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).
 - 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:

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). The permittee shall record the pressure drops across the baghouses during any compliance test.
 - 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. The observation period is 2 hours and shall be used according to 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.

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.

Facility Name: **KRATON Polymers U.S. LLC**
Facility ID: **06-84-01-0011**
Emissions Unit: **G-1 Process Unit (P004)**

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>
---	---	--

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>
compound specialty polymer unit (BCU) controlled with 7 baghouses	OAC rule 3745-17-07(A)(1) OAC rule 3745-17-11	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule. total of 14.4 lbs/hr of particulate emissions

2. Additional Terms and Conditions

- 2.a All particulate emissions from this emissions unit shall be vented to a baghouse.

II. Operational Restrictions

1. The pressure drop across each baghouse shall be maintained within the range of 2 to 4 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation 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.
2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The permittee shall record the pressure drop across each baghouse on a daily basis.

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 all periods of time during which the pressure drop across each baghouse did not comply with the range specified in section A.II.2.
3. The deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 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).

1.b Emission Limitation:

total of 14.4 lbs/hr of particulate emissions

Applicable Compliance Method:

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

1. Within 30 days after issuance of this permit, the permittee shall submit a complete permit to install application for this emissions unit. The application shall be submitted to the Ohio EPA Southeast District Office.

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>
---	---	--

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 (synthetic rubber specialty polymer process unit - organic material emissions controlled with a flare and a carbon adsorber, particulate emissions controlled with 16 baghouses)	OAC rule 3745-31-05(A)(3) (PTI 06-291)	The requirements of this rule include compliance with the requirements of OAC rules 3745-17-07, 3745-17-11, 3745-21-07, 40 CFR 63.11(b)(4), and 40 CFR Part 63, Subpart I.
	OAC rule 3745-17-11	total of 33.0 lbs/hr of particulate emissions from all emission points associated with this emissions unit
	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.I.2.c 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.I.2.a and A.I.2.b below.
	40 CFR 63.11(b)(4)	no visible emissions from the flare except for periods not to exceed a total of 5 minutes during any 2 consecutive hours
	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 The components of this emissions unit that are subject to 40 CFR Part 63, Subpart I, as of the effective date of this permit, are listed below for general reference purposes.

Equipment Description	Quantity
pumps in light liquid service	2
sampling connection systems	2
open-ended lines or valves	160
valves in gas and light liquid service	237
connectors in gas and light liquid service	208

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."

2.c All the emissions of organic materials shall be reduced by greater than 90% by:

- i. incineration through the flare for emissions from the polymerization operation; and
- ii. carbon adsorption for emissions from the drying and pelletizing operation.

2.d All particulate emissions shall be vented to the baghouses.

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.

2. The pressure drop across each baghouse shall be maintained within the range of 2 to 4 inches of water while the emissions unit is in operation.

3. The VOC concentration in the exhaust gases from the carbon adsorber, for any 3-hour block of time, shall not be more than 20 percent greater than the average concentration during the most recent performance test that demonstrated the emissions unit was in compliance.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving this emissions unit 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.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 30 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

- 2.a 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.
- 2.b The permittee shall record the following information each day:
 - i. all periods during which the flare was not operating and emissions were vented to it;
 - ii. all periods during which there was no pilot flame; and
 - iii. the operating times for the flare and the continuous monitoring equipment for flame presence.
- 2.c The permittee shall keep up-to-date records of the following information:
 - i. flare design (i.e., steam-assisted, air-assisted, or non-assisted); and
 - ii. all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during any compliance determinations.
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The permittee shall record the pressure drop across each baghouse on a daily basis.
4. The permittee shall operate and maintain a continuous VOC monitoring device and recorder which measures and records the VOC concentrations in the exhaust gases from the carbon adsorber when the emissions unit is in operation. The monitoring device and recorder shall be capable of satisfying the performance requirements specified in 40 CFR Part 60, Appendix B, Performance Specification 8 or Performance Specification 9.

The permittee shall maintain records of all data obtained by the continuous VOC monitoring system including, but not limited to, parts per million VOC on an instantaneous (one-minute) and 3-hour average basis, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

The VOC monitoring device and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall maintain a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the emissions unit was in operation.

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

5. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous volatile organic compound monitoring system designed to ensure continuous valid and representative readings of volatile organic compound. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous volatile organic compound monitoring system must be kept on site and available for inspection during regular office hours.

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.
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 reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office documenting any continuous volatile organic compound monitoring system downtime 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 source 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.
4. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time (when the emissions unit was in operation) during which the average VOC concentration of the exhaust gases from the carbon adsorber exceeded the concentration limitation specified in section A.II.3.
5. 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.
6. The permittee shall submit deviation (excursion) reports that identify all periods of time during which the pressure drop across each baghouse did not comply with the range specified in section A.II.2.
7. 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 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.
8. The deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 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:

33.0 lbs/hr of particulate emissions

Applicable Compliance Method:

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

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. The observation period is 2 hours and shall be used according to Method 22.

1.d Emission Limitation:

organic material discharge shall be reduced by at least 85%

Applicable Compliance Method:

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 180 days after the effective date of this permit.
 - 3.b The emission testing shall be conducted to demonstrate compliance with the hourly emission limitation for particulate emissions and the overall control efficiency for organic material emissions.
 - 3.c The test methods to be employed to demonstrate compliance with the allowable mass emission rate for particulate emissions shall be 40 CFR Part 60, Appendix A, Methods 1 through 5 and in OAC rule 3745-17-03(B)(9).
 - 3.d The test methods which must be employed to demonstrate compliance with the capture efficiency and control efficiency for organic material are specified below. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with U.S. EPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.) 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.e** 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>
---	---	--

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 (thermoplastic elastomer production unit, controlled with a flare, a catalytic incinerator, a cyclone, multicyclone and 5 baghouses)	OAC rule 3745-31-05(A)(3) (PTI 06-3707)	0.4 lb/hr of particulate emissions 1.8 tpy of particulate emissions
		9.0 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
		The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07, 3745-21-07, 40 CFR 63.11(b)(4), and 40 CFR Part 63, Subpart I.
	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.c 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 and A.1.2.b below.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
	40 CFR 63.11(b)(4)	no visible emissions from the flare except for periods not to exceed a total of 5 minutes during an 2 consecutive hours

2. Additional Terms and Conditions

2.a The components of this emissions unit subject to 40 CFR Part 63, Subpart I, as of the effective date of this permit, are listed below for general reference purposes.

Equipment Description	Quantity
pumps in light liquid service	2
sampling connection systems	1
open-ended lines or valves	88
valves in gas and light liquid service	262
connectors in gas and light liquid service	376

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."

2.c All the emissions of organic materials shall be reduced by greater than 90% by:

- i. incineration through a flare; and
- ii. incineration through a catalytic incinerator.

2.d All particulate emissions shall be vented to the baghouses, cyclone or multiclone.

II. Operational Restrictions

1.a The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

1.b The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation at maximum operating conditions, shall not be less than 80% of the average temperature difference during the most recent emissions test that demonstrated the emissions unit was in compliance.

2.a The flare shall be operated at all times when emissions may be vented to it.

2.b The flare shall be operated with a pilot flame present at all times.

2.c The flare shall be used only when the net heating value of the gas being combusted is 300 Btu/scf or greater.

2.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.

3. The pressure drop across each baghouse shall be maintained within the range of 2 to 4 inches of water while the emissions unit is in operation.

II. Operational Restrictions (continued)

4. The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

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. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 30 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

2. The permittee shall operate and maintain continuous temperature monitors and recorders which measure and record the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
3. The permittee shall collect and record the following information each day:
 - a. all 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance;
 - b. all 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance; and
 - c. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
4. 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.
5. 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.

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

6. 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.
7. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The permittee shall record the pressure drop across each baghouse on a daily basis.
8. The permittee shall maintain records of the operating hours for this emissions unit for each month.
9. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous volatile organic compound monitoring system designed to ensure continuous valid and representative readings of volatile organic compound. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous volatile organic compound monitoring system must be kept on site and available for inspection during regular office hours.
10. The permittee shall maintain daily records of the operating hours for this emissions unit.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stacks serving 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 reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office documenting any continuous volatile organic compound monitoring system downtime 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 source 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.
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 deviation (excursion) reports that identify all 3-hour blocks of time when the emissions unit was in operation during which the average temperature of the exhaust gases immediately before the catalyst bed or the average temperature difference across the catalyst bed does not comply with the temperature limitations specified in sections A.II.1.a and A.II.1.b.
5. The permittee shall submit deviation (excursion) reports that identify all periods of time during which the pressure drop across each baghouse did not comply with the range specified in section A.II.3.
6. 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.
7. 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 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.
8. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the 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).

1.b Emission Limitation:

0.4 lb/hr of particulate emissions

Applicable Compliance Method:

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:

9.0 lbs/hr of VOC, as a daily average

Applicable Compliance Method:

Compliance shall be determined in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 25.

1.e Emission Limitation:

39 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.f Emission Limitation:

0.7 lb/hr of nitrogen oxides

Applicable Compliance Method:

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.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:

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 actual annual hours of operation 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. The observation period is 2 hours and shall be used according to Method 22.

1.k Emission Limitation:

organic material discharge shall be reduced by at least 85%

Applicable Compliance Method:

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:

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.

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.

V. Testing Requirements (continued)

- 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 overall control efficiency for organic material emissions.
 - 3.c** The test methods which must be employed to demonstrate compliance with the capture efficiency and control efficiency for organic material are specified below. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with U.S. EPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.) 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.
 - 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>
---	---	--

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-fired 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 rule 3745-17-07(A)(1).
	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 3745-18-06(A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

<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)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-23-06(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

None

II. Operational Restrictions

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 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, 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 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.ii 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:

$$E = EF \times HP \times (1.0 \text{ lb}/454 \text{ g})$$

$$E = (0.16 \text{ g}/\text{hp}\cdot\text{hr}) \times (475 \text{ hp}) \times (1.0 \text{ lb}/454 \text{ g}) = 0.17 \text{ lb}/\text{hr}$$

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 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:

$$E = EF \times HP \times (1.0 \text{ lb}/454 \text{ g})$$

$$E = (0.002 \text{ g}/\text{hp}\cdot\text{hr}) \times (475 \text{ hp}) \times (1.0 \text{ lb}/454 \text{ g}) = 0.002 \text{ lb}/\text{hr}$$

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 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 manufacturers 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 manufacturers 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 manufacturers 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:

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>
---	---	--

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 (synthetic rubber specialty polymer process unit, organic material emissions controlled with a flare and two catalytic incinerators, particulate emissions controlled with 2 baghouses)	OAC rule 3745-31-05(A)(3) (PTI 06-4280)	The requirements of this rule include compliance with the requirements of OAC rules 3745-17-07, 3745-17-11, 3745-21-07, 40 CFR 63.11(b)(4), and 40 CFR Part 63, Subpart I.
	OAC rule 3745-17-11	total of 27.9 lbs/hr of particulate emissions from all emission points associated with this emissions unit
	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.I.2.c 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.I.2.a and A.I.2.b below.
	40 CFR 63.11(b)(4)	no visible emissions from the flare except for periods not to exceed a total of 5 minutes during any 2 consecutive hours
	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** The components of this emissions unit that are subject to 40 CFR Part 63, Subpart I, as of the effective date of this permit, are listed below for general reference purposes.

Equipment Description	Quantity
pumps in light liquid service	2
pressure relief devices in gas/vapor service	3
sampling connection systems	237
open-ended lines or valves	37
valves in gas and light liquid service	224
connectors in gas and light liquid service	447

- 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."
- 2.c** All the emissions of organic materials shall be reduced by greater than 90% by:
- i. incineration through a flare; and
 - ii. incineration through a catalytic incinerator.
- 2.d** All particulate emissions shall be vented to the baghouses.

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, V_{max} (see section A.V.2.b), but less than 400 ft/sec.
- 2.** The pressure drop across each baghouse shall be maintained within the range of 2 to 4 inches of water while the emissions unit is in operation.
- 3.a** The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.
- 3.b** The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving this emissions unit 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.

At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 30 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

- 2.a 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.
- 2.b The permittee shall record the following information each day:
 - i. all periods during which the flare was not operating and emissions were vented to it;
 - ii. all periods during which there was no pilot flame; and
 - iii. the operating times for the flare and the continuous monitoring equipment for flame presence.
- 2.c The permittee shall keep up-to-date records of the following information:
 - i. flare design (i.e., steam-assisted, air-assisted, or non-assisted); and
 - ii. all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during any compliance determinations.
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The permittee shall record the pressure drop across each baghouse on a daily basis.
4. Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous volatile organic compound monitoring system designed to ensure continuous valid and representative readings of volatile organic compound. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous volatile organic compound monitoring system must be kept on site and available for inspection during regular office hours.
5. The permittee shall collect and record the following information for each day for the control equipment:
 - a. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the emissions unit was in operation;
 - b. all 3-hour blocks of time, when the emissions unit was in operation, during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature of the exhaust gases during the most recent performance test that demonstrated the emissions unit was in compliance; and
 - c. all 3-hour blocks of time, when the emissions unit was in operation, during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference during the most recent performance test that demonstrated the emissions unit was in compliance.

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.
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 deviation (excursion) reports that identify all periods of time during which the pressure drop across each baghouse did not comply with the range specified in section A.II.2.
5. 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 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.
6. The deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.
7. The permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time when the emissions unit was in operation during which the average temperature of the exhaust gases immediately before the catalyst bed or the average temperature difference across the catalyst bed does not comply with the temperature limitation specified in sections A.II.5.b and A.II.5.c.

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).
 - 1.b Emission Limitation:

27.9 lbs/hr of particulate emissions

Applicable Compliance Method:

The test methods which must be employed to demonstrate compliance with this emission limitation are specified in section A.V.3.
 - 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. The observation period is 2 hours and shall be used according to Method 22.

V. Testing Requirements (continued)

1.d Emission Limitation:

organic material discharge shall be reduced by at least 85%

Applicable Compliance Method:

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 180 days after the effective date of this permit.
 - 3.b The emission testing shall be conducted to demonstrate compliance with the hourly emission limitation for particulate emissions and the overall control efficiency for organic material emissions.
 - 3.c The test methods to be employed to demonstrate compliance with the allowable mass emission rate for particulate emissions shall be 40 CFR Part 60, Appendix A, Methods 1 through 5 and in OAC rule 3745-17-03(B)(9).
 - 3.d The test methods which must be employed to demonstrate compliance with the capture efficiency and control efficiency for organic material are specified below. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with U.S. EPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.) 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.e** 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>
---	---	--

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 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). 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(A)	This emission limitation is less stringent than that established pursuant to OAC rule 3745-31-05(A)(3).

<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.

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.ii 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:

0.09 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.

V. Testing Requirements (continued)

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, 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.

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.

V. Testing Requirements (continued)

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, 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, 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:

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>
---	---	--

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 diesel-fueled fire 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.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.2.b below.
	40 CFR 51.1881(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.
	OAC rule 3745-18-06(B)	2.5 pounds of sulfur dioxide per mmBtu of actual heat input This emission limitation is less stringent than that established pursuant to 40 CFR 51.1881(B)(29)(i).

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.
3. 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 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. 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).

4. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with ASTM methods D240, D4294, D6010, or equivalent methods as approved by the appropriate Ohio EPA District Office.
5. For each day during which the permittee burns #2 fuel oil, the permittee shall maintain a record of the quantity of #2 fuel oil burned, the calculated sulfur dioxide emission rate in lbs/day and lb/mmBtu, and the hours of operation when burning #2 fuel oil.

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.

IV. Reporting Requirements (continued)

3. The permittee shall notify the appropriate Ohio EPA District Office in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon the calculated sulfur dioxide emission rates from section A.III above. The notification shall include a copy of such record and shall be sent to the appropriate Ohio EPA District Office within 45 days after the deviation occurs.
4. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the 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.

- 1.b Emission Limitation:

1.87 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 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).

V. Testing Requirements (continued)

1.d Emission Limitation:

Particulate emissions shall not exceed 0.310 lb/mmBtu actual heat input.

Applicable Compliance Method:

Compliance shall 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:

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.f Emission Limitation:

2.5 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>
---	---	--

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

- 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 diesel-fueled fire water pump	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). 0.68 pound of particulate emissions per mmBtu 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.
	40 CFR 51.1881(b)(29)(i)	2.5 pounds of sulfur dioxide per mmBtu of actual heat input
	OAC rule 3745-18-06(B)	This emission limitation is less stringent than that established pursuant to 40 CFR 51.1881(B)(29)(i).

2. Additional Terms and Conditions

None

II. Operational Restrictions

- The operating hours for this emissions unit shall not exceed 2622 hours per 12-month period, based upon a rolling, 12-month summation.
- The permittee shall burn only #2 fuel oil as fuel in this emissions unit.
- 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 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. 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).

- b. Alternative 2:
4. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with ASTM methods D240, D4294, D6010, or equivalent methods as approved by the appropriate Ohio EPA District Office.
5. For each day during which the permittee burns #2 fuel oil, the permittee shall maintain a record of the quantity of #2 fuel oil burned, the calculated sulfur dioxide emission rate in lbs/day and lb/mmBtu, and the hours of operation when burning #2 fuel oil.

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 permittee shall notify the appropriate Ohio EPA District Office in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon the calculated sulfur dioxide emission rates from section A.III above. The notification shall include a copy of such record and shall be sent to the appropriate Ohio EPA District Office within 45 days after the deviation occurs.
4. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the 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:

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.

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:

0.68 pound of particulate emissions per mmBtu 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 5 and OAC rule 3745-17-03(B)(10).

1.f 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.g Emission Limitation:

2.5 pounds of sulfur dioxide per mmBtu of actual heat input

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 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>
---	---	--

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

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 diesel-fueled 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
	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) and 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.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.2.b below.
	40 CFR 51.1881(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
	OAC rule 3745-18-06(B)	This emission limitation is less stringent than that established pursuant to 40 CFR 51.1881(B)(29)(i).

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.
3. 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 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. 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).

4. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with ASTM methods D240, D4294, D6010, or equivalent methods as approved by the appropriate Ohio EPA District Office.
5. For each day during which the permittee burns #2 fuel oil, the permittee shall maintain a record of the quantity of #2 fuel oil burned, the calculated sulfur dioxide emission rate in lbs/day and lb/mmBtu, and the hours of operation when burning #2 fuel oil.

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.

IV. Reporting Requirements (continued)

3. The permittee shall notify the appropriate Ohio EPA District Office in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon the calculated sulfur dioxide emission rates from section A.III above. The notification shall include a copy of such record and shall be sent to the appropriate Ohio EPA District Office within 45 days after the deviation occurs.
4. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the 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.

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 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 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.

V. Testing Requirements (continued)

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).

1.f Emission Limitation:

Particulate emissions shall not exceed 0.310 lb/mmBtu actual heat input.

Applicable Compliance Method:

Compliance shall 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:

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:

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>
---	---	--

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.1.2.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

1. Within 30 days after issuance of this permit, the permittee shall submit a complete permit to install application for this emissions unit. The application shall be submitted to the Ohio EPA Southeast District Office.

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>
---	---	--

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 06-6866)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rule 3745-21-07(D)(1), 40 CFR 63.11(b)(4) and 40 CFR Part 63, Subpart I.
	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.
	40 CFR 63.11(b)(4)	no visible emissions from the flare except for periods not to exceed a total of 5 minutes during any 2 consecutive hours

2. Additional Terms and Conditions

- 2.a All emissions from this pressure tank shall be vented to the flare.
- 2.b The components of this emissions unit subject to 40 CFR Part 63, Subpart I, as of the effective date of this permit, are listed below for general reference purposes.

Equipment Description	Quantity
pumps in light liquid service	3
pressure relief devices in gas/vapor service	5
open ended valves or lines	56
valves in gas/vapor and light liquid service	125
instrumentation system	5
connectors in gas/vapor and light liquid service	152

- 2.c 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."

II. Operational Restrictions

- 1.a The flare shall be operated at all times when emissions may be vented to it.

II. Operational Restrictions (continued)

- 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, 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 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.
- 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.** At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 30 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

IV. Reporting Requirements

- 1.** The permittee shall submit quarterly 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 30, April 30, July 30, and October 30 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.ii 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:

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. The observation period is 2 hours and shall be used according to 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:

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>
---	---	--

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.
	OAC rule 3745-21-09(L)	See sections A.I.2.a and A.II.2 below.
	40 CFR Part 63, Subpart I	exempt (See section A.II.1 below.)
	40 CFR Part 60, Subpart Kb	See section A.I.2.b below.
		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 The components of this emissions unit that are subject to 40 CFR Part 63, Subpart I, as of the effective date of this permit, are listed below for general reference purposes.

Equipment Description	Quantity
pumps in light liquid service	1
open ended valves and lines	14
valves in gas/vapor and light liquid service	38
instrumentation systems	6
connectors in gas/vapor and light liquid service	43

- 2.c 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."

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.

II. Operational Restrictions (continued)

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 dimension 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 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:

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 40 CFR Part 60, Appendix A, Method 25.

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>
---	---	--

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.
	OAC rule 3745-21-09(L)	See sections A.I.2.a and A.II.2 below.
	40 CFR Part 63, Subpart I	exempt (See section A.II.1 below.)
	40 CFR Part 60, Subpart Kb	See section A.I.2.b 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 The components of this emissions unit that are subject to 40 CFR Part 63, Subpart I, as of the effective date of this permit, are listed below for general reference purposes.

Equipment Description	Quantity
pumps in light liquid service	1
open ended valves and lines	13
valves in gas/vapor and light liquid service	37
instrumentation systems	5
connectors in gas/vapor and light liquid service	42

- 2.c 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."

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.

II. Operational Restrictions (continued)

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 dimension 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 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:

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 40 CFR Part 60, Appendix A, Method 25.

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>
---	---	--

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 (Z001)

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>
waste water 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>
---	---	--

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 (Z006)

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 diesel-fueled fire water pump	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.2.b below.
	40 CFR 51.1881(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.
	OAC rule 3745-18-06(B)	2.5 pounds of sulfur dioxide per mmBtu of actual heat input This emission limitation is less stringent than that established pursuant to 40 CFR 51.1881(B)(29)(i).

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.
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. 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. 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).

3. The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with ASTM methods D240, D4294, D6010, or equivalent methods as approved by the appropriate Ohio EPA District Office.
4. For each day during which the permittee burns #2 fuel oil, the permittee shall maintain a record of the quantity of #2 fuel oil burned, the calculated sulfur dioxide emission rate in lbs/day and lb/mmBtu, and the hours of operation when burning #2 fuel oil.

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 permittee shall notify the appropriate Ohio EPA District Office in writing of any record which shows a deviation of the allowable sulfur dioxide emission limitation based upon the calculated sulfur dioxide emission rates from section A.III above. The notification shall include a copy of such record and shall be sent to the appropriate Ohio EPA District Office within 45 days after the deviation occurs.
3. The quarterly deviation (excursion) reports shall be submitted in accordance with section A.1.c.ii of the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the 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:

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 shall 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.c 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.d Emission Limitation:

2.5 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>
---	---	--

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 (Z017)
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 3745-21-07(D)(1)	See section A.1.2.a below.
	40 CFR Part 63, Subpart I	See section A.1.2.b below.
	40 CFR 63.11(b)(4)	no visible emissions from the flare except for periods not to exceed a total of 5 minutes during any 2 consecutive hours

2. Additional Terms and Conditions

- 2.a All emissions from this pressure tank shall be vented to the flare.
- 2.b The components of this emissions unit subject to 40 CFR Part 63, Subpart I, as of the effective date of this permit, are listed below for general reference purposes.

Equipment Description	Quantity
pumps in light liquid service	2
pressure relief devices in gas/vapor service	4
open ended valves or lines	56
valves in gas/vapor and light liquid service	125
instrumentation system	5
connectors in gas/vapor and light liquid service	151

- 2.c 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."

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.

II. Operational Restrictions (continued)

- 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, 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 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.
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. At any time the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 30 minutes in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 22 and record the results in an operations log.

IV. Reporting Requirements

1. The permittee shall submit quarterly 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 30, April 30, July 30, and October 30 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.ii 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:

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. The observation period is 2 hours and shall be used according to 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:

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

1. Within 30 days after issuance of this permit, the permittee shall submit a complete permit to install application for this emissions unit. The application shall be submitted to the Ohio EPA Southeast District Office.

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>
---	---	--

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

THIS IS THE LAST PAGE OF THE PERMIT
