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

01/09/04

**CERTIFIED MAIL**

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

04-48-02-0014
Marsulex, Inc.
Duane S Abbott
1400 Otter Creek Road
Oregon, OH 43616-1232

Dear Duane S Abbott:

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

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

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

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

If you have any questions, please contact Toledo Div of Environmental Services.

Sincerely,

Michael W. Ahern

Michael W. Ahern
Permit Issuance and Data Management Section
Division of Air Pollution Control

cc: Toledo Div of Environmental Services
File, DAPC PMU

State of Ohio Environmental Protection Agency

# FINAL TITLE V PERMIT

| Issue Date: **01/09/04** | Effective Date: **01/30/04** | Expiration Date: **01/30/09** |
|---|---|---|

This document constitutes issuance of a Title V permit for Facility ID: 04-48-02-0014 to:
Marsulex, Inc.
1400 Otter Creek Road
Oregon, OH 43616-1232

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

| | | |
|---|---|---|
| B001 (A-Plant Preheater)<br>Fuel Fired Heater | P001 (A-Plant)<br>Sulfuric Acid Regeneration | P002 (B-Plant)<br>Sulfuric Acid Regeneration |
| B002 (B-Plant Preheater)<br>Fuel Fired Heater | | |

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

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

Toledo Div of Environmental Services
348 South Erie Street
Toledo, OH 43602-1633
(419) 936-3015

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, i.e., in Section A.III of Part III of this Title V permit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

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

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

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

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

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

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

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

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

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

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

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

These written reports shall satisfy the requirements (in part) of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. OAC rule 3745-77-07(A)(3)(c) is not fully satisfied until the permittee addresses all other deviations of the federally enforceable requirements specified in the permit.

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

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

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

Written reports that identify all other deviations of the federally enforceable requirements contained in this permit, including the monitoring, record keeping, and reporting requirements, which are not reported in accordance with General Term and Condition A.1.c.ii above shall be submitted to the appropriate Ohio EPA District Office or local air agency by January 31 and July 31 of each year; and each report shall cover the previous six calendar months.

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

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

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

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

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

**2. Scheduled Maintenance**

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

**3. Risk Management Plans**

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

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

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

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

**4. Title IV Provisions**

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

**5. Severability Clause**

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

**6. General Requirements**

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

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

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

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

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

*(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. Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

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

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

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

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

**17. Compliance Method Requirements**

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

**18. Insignificant Activities**

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))*

**21. Permanent Shutdown of an Emissions Unit**

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

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

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

## B. *State Only Enforceable Section*

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

The permittee shall submit required reports in the following manner:

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

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

**2. Records Retention Requirements**

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

monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

**3. Inspections and Information Requests**

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

**4. Scheduled Maintenance/Malfunction Reporting**

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

**5. Permit Transfers**

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

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

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

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

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

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

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

# Part II - Specific Facility Terms and Conditions

## A. State and Federally Enforceable Section

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

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

T001 - Tank 200 Spent Acid Storage (PTI 04-819);
T002 - Tank 196 Spent Acid Storage (PTI 04-1022);
T003 - Tank 198 Spent Acid Storage (PTI 04-1022);
T004 - Tank 202 Spent Acid Storage (PTI 04-01164); and
T005 - Tank 204 Spent Acid Storage (PTI 04-01164).

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 the identified permit to install for the emissions unit.

## B. State Only Enforceable Section

**1.** The following insignificant emissions units located at this facility are exempt from permit requirements because they are not subject to any applicable requirements or because they meet the "de minimis" criteria established in OAC rule 3745-15-05:

Z022 - gasoline storage tank (OAC rule 3745-15-05);
Z029 - Tank 217 Off-spec H2SO4 storage (OAC rule 3745-15-05);
Z030 - Tank 206 H2SO4 storage (OAC rule 3745-15-05);
Z031 - Tank 208 H2SO4 storage (OAC rule 3745-15-05);
Z032 - Tank 209 Spent Acid Storage (OAC rule 3745-15-05);
Z033 - Tank 211 H2SO4 Storage (OAC rule 3745-15-05);
Z034 - Tank 212 Oleum Storage (OAC rule 3745-15-05);
Z035 - Tank 213 H2SO4 Storage (OAC rule 3745-15-05);
Z037 - Tank 215 H2SO4 Storage (OAC rule 3745-15-05);
Z038 - Tank 216 Fuel Oil Storage (OAC rule 3745-15-05);
Z039 - Tank 666 Fuel Oil Storage (OAC rule 3745-15-05)
Z040 - Sulfur tank (OAC rule 3745-15-05);
Z041 - Sulfur pit (OAC rule 3745-15-05);
Z042 - Tank 220 Dilute caustic storage (no applicable requirements);
Z043 - Tank 250 Caustic storage (no applicable requirements);
Z044 - Building heaters (OAC rule 3745-15-05); and
Z045 - Cooling towers (OAC rule 3745-15-05).

## Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: A-Plant Preheater (B001)
Activity Description: Fuel Fired Heater

### A. State and Federally Enforceable Section

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

**1.** The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| B001 - A-Plant pre-heater/ 19 million Btu/hr natural gas-fired heater | OAC rule 3745-31-05(A)(3) (PTI 04-1166) | 1.6 lbs/hr of carbon monoxide (CO)<br>7.0 tpy of CO<br><br>0.95 lb/hr of nitrogen oxides (NOx)<br>4.2 tpy of NOx<br><br>0.04 lb/hr of particulate emissions<br>0.16 tpy of particulate emissions<br><br>0.01 lb/hr of sulfur dioxide ($SO_2$)<br>0.05 tpy of $SO_2$<br><br>0.10 lb/hr of volatile organic compounds (VOC)<br>0.46 tpy of VOC<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B). |
| | OAC rule 3745-17-10(B) | See section A.I.2.a. |
| | OAC rule 3745-17-07(A) | Visible particulate emissions, from any stack, shall not exceed 20% |

| | |
|---|---|
| OAC rule 3745-23-06(B) | opacity as a 6-minute average, except as provided by the rule. |
| OAC rule 3745-21-08(B) | See section A.I.2.b. |
| OAC rule 3745-18-06(A) | See section A.I.2.c. |
| | See section A.I.2.d. |

## 2. Additional Terms and Conditions

**2.a** The particulate emission limitation established by this applicable rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

**2.b** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 04-1166.

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 04-1166.

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

**2.d** OAC rule 3745-18-06 does not establish an $SO_2$ emission limitation for this fuel burning equipment because this emissions unit only employs natural gas as fuel.

# II. Operational Restrictions

1. The permittee shall burn only natural gas as fuel in this emissions unit.

## III. Monitoring and/or Recordkeeping

1. 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 semi-annual 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 by January 30 and July 30 of each year and shall cover the previous 6 calendar months of operation.

## V. Testing Requirements

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

1.a Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance based upon performance testing in accordance with the methods and procedures specified in Method 9 of 40 CFR Part 60, Appendix A.

1.b Emission Limitation:

1.6 lbs/hr of CO

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through performance testing in accordance with the methods and procedures provided in Methods 1 through 4 and Method 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.c Emission Limitation:

7.0 tpy of CO

Applicable Compliance Method:

The annual emission limitation is the potential to emit and is based on the maximum fuel usage of 0.019 million cubic feet per hour multiplied by the AP-42 emission factor of 84 pounds of CO per million cubic feet of natural gas burned and by 8760 hours per year, and divided by 2000 lbs/ton.

1.d Emission Limitation:

0.95 lb/hr of NOx

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through performance testing in accordance with the methods and procedures provided in Methods 1 through 4 and Method 7 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.e Emission Limitation:

4.2 tpy of NOx

Applicable Compliance Method:

The annual emission limitation is the potential to emit and is based on the maximum fuel usage of 0.019 million cubic feet per hour multiplied by the AP-42 emission factor of 50 pounds of NOx per million cubic feet of natural gas burned and by 8760 hours per year, and divided by 2000 lbs/ton.

1.f Emission Limitation:

0.04 lb/hr of particulate emissions

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through performance testing in accordance with the methods and procedures provided in Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.g Emission Limitation:

0.16 tpy of particulate emissions

Applicable Compliance Method:

The annual emission limitation is the potential to emit and is based on the maximum fuel usage of 0.019 million cubic feet per hour multiplied by the AP-42 emission factor of 1.9 pounds of particulates per million cubic feet of natural gas burned and by 8760 hours per year, and divided by 2000 lbs/ton.

1.h Emission Limitation:

0.01 lb/hr of $SO_2$

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through performance testing in accordance with the methods and procedures provided in Methods 1 through 4 and Method 6 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.i Emission Limitation:

0.05 tpy of $SO_2$

Applicable Compliance Method:

The annual emission limitation is the potential to emit and is based on the maximum fuel usage of 0.019 million cubic feet per hour multiplied by the AP-42 emission factor of 0.6 pound of $SO_2$ per million cubic feet of natural gas burned and by 8760 hours per year, and divided by 2000 lbs/ton.

1.j Emission Limitation:

0.10 lb/hr of VOC

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through performance testing in accordance with the methods and procedures provided in Methods 1 through 4 and Method 25 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.k Emission Limitation:

0.46 tpy of VOC

Applicable Compliance Method:

The annual emission limitation is the potential to emit and is based on the maximum fuel usage of 0.019 million cubic feet per hour multiplied by the AP-42 emission factor of 5.5 pounds of

VOC per million cubic feet of natural gas burned and by 8760 hours per year, and divided by 2000 lbs/ton.

## VI. Miscellaneous Requirements

None

**Emissions Unit:** **A-Plant Preheater (B001)**

## B. State Enforceable Section

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

**1.** The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| B001 - A-Plant pre-heater/ 19 million Btu/hr natural gas-fired heater | | |

**2. Additional Terms and Conditions**

None

## II. Operational Restrictions

None

## III. Monitoring and/or Recordkeeping

None

## IV. Reporting Requirements

1. If no deviations from the operational restriction under Part III section A.II occurred during a calendar quarter, then the permittee shall submit a quarterly report according to Part I section B.1.b which states that no deviations occurred during the calendar quarter.

## V. Testing Requirements

None

## VI. Miscellaneous Requirements

None

## Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: B-Plant Preheater (B002)
Activity Description: Fuel Fired Heater

### A. State and Federally Enforceable Section

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

**1.** The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| B002 - B-Plant pre-heater/ 16.5 million Btu/hr natural gas-fired heater | OAC rule 3745-31-05(A)(3) (PTI 04-1166) | 1.4 lbs/hr of carbon monoxide (CO)<br>6.1 tpy of CO<br><br>0.83 lb/hr of nitrogen oxides (NOx)<br>3.6 tpy of NOx<br><br>0.03 lb/hr of particulate emissions<br>0.14 tpy of particulate emissions<br><br>0.01 lb/hr of sulfur dioxide ($SO_2$)<br>0.04 tpy of $SO_2$<br><br>0.09 lb/hr of volatile organic compounds (VOC)<br>0.40 tpy of VOC<br><br>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B). |
| | OAC rule 3745-17-10(B) | See section A.I.2.a. |
| | OAC rule 3745-17-07(A) | Visible particulate emissions, from any stack, shall not exceed 20% |

| | |
|---|---|
| OAC rule 3745-23-06(B) | opacity as a 6-minute average, except as provided by the rule. |
| OAC rule 3745-21-08(B) | See section A.I.2.b. |
| OAC rule 3745-18-06(A) | See section A.I.2.c. |
| | See section A.I.2.d. |

## 2. Additional Terms and Conditions

**2.a** The particulate emission limitation established by this applicable rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

**2.b** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 04-1166.

**2.c** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 04-1166.

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

**2.d** OAC rule 3745-18-06 does not establish an $SO_2$ emission limitation for this fuel burning equipment because this emissions unit only employs natural gas as fuel.

## II. Operational Restrictions

1. The permittee shall burn only natural gas as fuel in this emissions unit.

## III. Monitoring and/or Recordkeeping

1. 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 semi-annual 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 by January 30 and July 30 of each year and shall cover the previous 6 calendar months of operation.

## V. Testing Requirements

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

1.a Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance based upon performance testing in accordance with the methods and procedures specified in Method 9 of 40 CFR Part 60, Appendix A.

1.b Emission Limitation:

1.4 lbs/hr of CO

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through performance testing in accordance with the methods and procedures provided in Methods 1 through 4 and Method 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.c Emission Limitation:

6.1 tpy of CO

Applicable Compliance Method:

The annual emission limitation is the potential to emit and is based on the maximum fuel usage of 0.019 million cubic feet per hour multiplied by the AP-42 emission factor of 84 pounds of CO per million cubic feet of natural gas burned and by 8760 hours per year, and divided by 2000 lbs/ton.

1.d Emission Limitation:

0.83 lb/hr of NOx

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through performance testing in accordance with the methods and procedures provided in Methods 1 through 4 and Method 7 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.e Emission Limitation:

3.6 tpy of NOx

Applicable Compliance Method:

The annual emission limitation is the potential to emit and is based on the maximum fuel usage of 0.019 million cubic feet per hour multiplied by the AP-42 emission factor of 50 pounds of NOx per million cubic feet of natural gas burned and by 8760 hours per year, and divided by 2000 lbs/ton.

1.f Emission Limitation:

0.03 lb/hr of particulate emissions

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through performance testing in accordance with the methods and procedures provided in Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.g Emission Limitation:

0.14 tpy of particulate emissions

Applicable Compliance Method:

The annual emission limitation is the potential to emit and is based on the maximum fuel usage of 0.019 million cubic feet per hour multiplied by the AP-42 emission factor of 1.9 pounds of particulates per million cubic feet of natural gas burned and by 8760 hours per year, and divided by 2000 lbs/ton.

1.h Emission Limitation:

0.01 lb/hr of $SO_2$

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through performance testing in accordance with the methods and procedures provided in Methods 1 through 4 and Method 6 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.i Emission Limitation:

0.04 tpy of $SO_2$

Applicable Compliance Method:

The annual emission limitation is the potential to emit and is based on the maximum fuel usage of 0.019 million cubic feet per hour multiplied by the AP-42 emission factor of 0.6 pound of $SO_2$ per million cubic feet of natural gas burned and by 8760 hours per year, and divided by 2000 lbs/ton.

1.j Emission Limitation:

0.09 lb/hr of VOC

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance through performance testing in accordance with the methods and procedures provided in Methods 1 through 4 and Method 25 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.k Emission Limitation:

0.40 tpy of VOC

Applicable Compliance Method:

The annual emission limitation is the potential to emit and is based on the maximum fuel usage of 0.019 million cubic feet per hour multiplied by the AP-42 emission factor of 5.5 pounds of VOC per million cubic feet of natural gas burned and by 8760 hours per year, and divided by 2000 lbs/ton.

## VI. Miscellaneous Requirements

None

**Emissions Unit:** **B-Plant Preheater (B002)**

## B. State Enforceable Section

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

**1.** The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| B002 - B-Plant pre-heater/ 16.5 million Btu/hr natural gas-fired heater | | |

**2. Additional Terms and Conditions**

None

## II. Operational Restrictions

None

## III. Monitoring and/or Recordkeeping

None

## IV. Reporting Requirements

1. If no deviations from the operational restriction under Part III section A.II occurred during a calendar quarter, then the permittee shall submit a quarterly report according to Part I section B.1.b which states that no deviations occurred during the calendar quarter.

## V. Testing Requirements

None

## VI. Miscellaneous Requirements

None

## Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: A-Plant (P001)
Activity Description: Sulfuric Acid Regeneration

### A. State and Federally Enforceable Section

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

**1.** The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P001 - Sulfuric Acid Regeneration: A-plant | OAC rule 3745-31-05(A)(3) (PTI 04-00923) | 102.7 lbs/hr of sulfur dioxide ($SO_2$)<br>2,465 lbs/day of $SO_2$<br>450 tons of $SO_2$ per rolling, 365-day period<br><br>3.60 lbs/hr of sulfuric acid mist<br>15.8 tpy of sulfuric acid mist<br><br>0.82 lb/hr of carbon monoxide (CO)<br>3.59 tpy of CO<br><br>3.85 lbs/hr of nitrogen oxides (NOx)<br>16.5 tpy of NOx<br><br>See sections A.I.2.a and A.I.2.d. |
| | OAC rule 3745-18-54(X) | See section A.I.2.b. |
| | OAC rule 3745-23-06(B) | See section A.I.2.c. |
| | 40 CFR Part 60, Subpart H | See section A.I.2.e. |
| | OAC rule 3745-21-08(B) | See section A.I.2.f. |
| | OAC rule 3745-17-07(A) | See section A.I.2.b. |

| | |
|---|---|
| OAC rule 3745-17-11 | See section A.I.2.g. |

## 2. Additional Terms and Conditions

**2.a** The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B) and OAC rule 3745-23-06(B).

**2.b** The emission limitation specified by this rule is less stringent than the emission limitation specified by 40 CFR Part 60, Subpart H.

**2.c** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 04-00923.

**2.d** The hourly and annual emission limitations for CO and NOx are based on the potential to emit for this emissions unit at maximum capacity for 8,760 hours per year; therefore, monitoring, record keeping and reporting are not necessary to demonstrate compliance with these limits.

**2.e** [40 CFR 60.8(c), 60.11(c), 60.82, and 60.83]
At all times except for periods of startup, shutdown, and malfunction, the permittee shall not cause to be discharged into the atmosphere any gases which:

i. contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lb per ton), the production being expressed as 100 percent H2SO4;

ii. contain acid mist, expressed as H2SO4, in excess of 0.075 kg per metric ton of acid produced (0.15 lb/ton), the production being expressed as 100 percent H2SO4; and

iii. exhibit 10 percent opacity or greater.

[40 CFR 60.8(c)]
Emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction shall not be considered a violation of the applicable emission limit.

[40 CFR 60.11(d)]
At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected emissions unit including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used shall be based on information available to the Director which may include, but is not limited to, monitoring results,

opacity observations, review of operating and maintenance procedures, and inspection of the source.

**2.f** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 04-00923.

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

**2.g** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). Particulate emissions from this emissions unit are emitted in the form of sulfuric acid mist.

**2.h** The following definitions shall apply to the terms and conditions of this emissions unit.

i. [40 CFR 60.2]
"Startup" means the setting in operation of the unit and associated equipment for any purpose.

Startup of the dry side ends when converters reach and maintain for a period of six continuous hours normal operating temperatures, defined as a minimum of 780EF into the first and third catalyst beds. Startup of the wet side begins when sulfur bearing feeds are introduced to the regen furnace, and ends twelve hours thereafter.

ii. [40 CFR 60.2]
"Shutdown" means the cessation of operation of the unit and associated equipment for any purpose.

Shutdown of the dry side begins when sulfur feed is taken off the sulfur furnace and sulfur bearing feeds exclusive of fuel oil are taken off the regen furnace. Shutdown of the wet side begins when sulfur bearing feeds exclusive of fuel oil are taken off the regen furnace and ends six hours thereafter.

iii. [40 CFR 60.2]
"Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused by poor maintenance or careless operation are not malfunctions.

iv. "Dry side" means that portion of the unit that includes all processing equipment beginning with the drying tower and continuing through the stack.

v. "Wet side" means that portion of the unit that includes all processing equipment preceding the drying tower.

## II. Operational Restrictions

None

## III. Monitoring and/or Recordkeeping

1. Until certification of the $SO_2$ CEMS required by section A.III.4, the permittee shall maintain and operate the modified continuous bubbler system (CBS) to record and report $SO_2$ emissions data from this emissions unit in accordance with the May 5, 1987 approved State Implementation Plan revision. The modified CBS shall comply with the requirements specified in 40 CFR Part 51, Appendix P. The modified CBS shall record $SO_2$ emissions in pounds per hour, pounds per day, tons per year, and pounds of $SO_2$ per ton of 100% of sulfuric acid produced. The pounds per hour emission measurements shall be based on 3-hour block averages. There are 8 block averages per day.

2. A flow monitor shall be maintained and operated for this emissions unit to allow for monitoring $SO_2$ emissions in units of pounds per hour, pounds per day, and tons per year. This continuous flow monitoring equipment shall comply with the requirements specified in 40 CFR Part 60.

3. The permittee shall continue to implement a quality assurance/quality control program. All maintenance on any portion of the continuous emissions monitoring system shall be documented in a logbook dedicated to the monitoring system.

4. [40 CFR 60.84(a)]
Within 50 days of the effective date of this permit, the permittee shall order the equipment necessary to comply with the continuous monitoring system requirements of 40 CFR 60.84 and 40 CFR 60.13. Within 90 days of delivery of the equipment ordered to comply with the continuous monitoring system requirements of 40 CFR 60.84 and 40 CFR 60.13, the permittee shall:

   a. Install, calibrate and maintain a continuous monitoring system for the measurement of sulfur dioxide that complies with 40 CFR 60.84 and 40 CFR 60.13. The continuous monitoring system shall also include a flow monitor as required by PTI 04-00923. The combination of the $SO_2$ continuous monitoring system and flow monitor will be identified in this permit as the $SO_2$ Continuous Emission Rate Monitoring System (CERMS). The CERMS shall monitor $SO_2$ emissions in units of pounds per ton of 100% acid produced, pounds per hour, pounds per day, and tons per rolling, 365-day period.

   b. Conduct certification tests of the $SO_2$ CERMS pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 6.

Prior to the installation of the $SO_2$ CERMS, the permittee shall submit information detailing the proposed location of the sampling site(s) in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 6 for approval by the Ohio EPA, Central Office.

5. The permittee shall operate and maintain equipment required by section A.III.4 to continuously monitor and record $SO_2$ emissions from this emissions unit in units of the applicable standard(s): pounds per ton of 100% acid produced as a rolling, 3-hour average, pounds per hour as a 3-hour average, pounds per day, and tons per rolling, 365-day period.

The permittee shall maintain records of all data obtained by the $SO_2$ CERMS including, but not limited to, parts per million $SO_2$ on an instantaneous (1-minute) basis, emissions of $SO_2$ in units of the applicable standard in the appropriate averaging period (pounds per ton of 100% acid produced as a rolling 3-hour average, pounds per hour as a 3-hour average, pounds per day, and tons per rolling, 365-day period), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

5.a [40 CFR 60.84(a)]
The pollutant gas used to prepare calibration gas mixtures under Performance Specification 2 and for calibration checks under 40 CFR 60.13(d), shall be $SO_2$. Method 8 shall be used for conducting monitoring system performance evaluations under 40 CFR 60.13(c) except that only the $SO_2$ portion of the Method 8 results shall be used. The span value shall be set at 1000 ppm of $SO_2$.

5.b [40 CFR 60.84(b)]
The permittee shall establish a conversion factor for the purpose of converting monitoring data into units of pounds per ton. The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of $SO_2$ entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each 8-hour period as follows:

$$CF = k[(1.000-0.015r)/(r-s)]$$

where:

CF = conversion factor (kg/ton per ppm, lb/ton per ppm);

k = constant derived from material balance (for determining CF in metric units, k = 0.0653, for determining CF in English units, k = 0.1306);

r = percentage of $SO_2$ by volume entering the gas converter (appropriate corrections must be made for air injection plants subject to the Administrator of U.S. EPA's approval); and

s = percentage of $SO_2$ by volume in the emissions to the atmosphere determined by the continuous monitoring system required under section A.III.4.a.

5.c [40 CFR 60.84(c)]
The permittee shall record all conversion factors and values under section A.III.5.b from which they were computed (i.e., CF, r, and s).

5.d [40 CFR 60.84(d)]
Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen may use the following continuous emission monitoring approach and calculation procedures in determining $SO_2$ emission rates in terms of the standard. This procedure is not required, but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. Continuous emission monitoring systems for measuring $SO_2$, $O_2$, and $CO_2$ (if required) and flow rate (required by PTI 04-00923) shall be installed, calibrated, maintained, and operated by the permittee and subjected to the certification procedures in Performance Specifications 6. The calibration procedure and span value for the $SO_2$ monitor shall be as specified in section A.III.5.a. The span value for $CO_2$ (if required) shall be 10 percent and for $O_2$ shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the $SO_2$ emission rate as follows:

$Es = (CsS) / [0.265-(0.126\%O_2)-(A\ \%CO_2)]$

where:

Es = emission rate of $SO_2$, kg/metric ton (lb/ton) of 100 percent of H2SO4 produced;

Cs = concentration of $SO_2$, kg/dscm (lb/dscf);

S = acid production rate factor, 368 dscm/metric ton (11,800 dscf/ton) of 100 percent H2SO4 produced;

$\%O_2$ = oxygen concentration, percent dry basis;

A = auxiliary fuel factor, as follows;

A = 0.00 for no fuel;
A = 0.0226 for methane;
A = 0.0217 for natural gas;
A = 0.0196 for propane;
A = 0.0172 for No. 2 oil;
A = 0.0161 for No. 6 oil;
A = 0.0148 for coal;
A = 0.0126 for coke; and

$\%CO_2$ = carbon dioxide concentration, percent dry basis.

NOTE: It is necessary in some cases to convert measured concentration units to other units for these calculations:

Use the following table for such conversions:

| From | To | Multiply by |
|---|---|---|
| g/scm | kg/scm | 0.001 |
| mg/scm | kg/scm | 0.000001 |
| ppm($SO_2$) | kg/scm | 0.00000266 |
| ppm($SO_2$) | lb/scf | 0.000000166 |

6. Each $SO_2$ monitoring system which meets the requirements of 40 CFR Part 60.13 and has been certified by the Ohio EPA, Central Office must be included in a Quality Assurance/Quality Control Plan.

   Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous $SO_2$ monitoring system designed to ensure continuous valid and representative readings of $SO_2$. 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 $SO_2$ monitoring system must be kept on site and available for inspection during regular office hours.

7. 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 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.

8. [40 CFR 60.7(b)]
   The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected emissions unit, any malfunction of the air pollution control equipment, or any periods during which a continuous monitoring system or monitoring device is inoperative.

## IV. Reporting Requirements

1. The reporting requirements of section A.IV.1 apply until the $SO_2$ CERMS required by section A.III.4.a is certified as required by section A.III.4.b. For the purposes of reporting excess emissions, the permittee shall report all daily exceedances of the pounds per day emission limitation based on an arithmetic average of the eight (8) three (3)-hour "block" averages for each calendar day. The permittee shall report all exceedances of the 4 pounds of $SO_2$ emitted per ton of 100 percent sulfuric acid produced. Also, the permittee shall report all exceedances of the 102.7 pounds of $SO_2$ per hour, 2465 pounds of $SO_2$ per day, and 450 tons of $SO_2$ per rolling,

365-day period limitations. The report shall include specific identification of each period of excess emissions that occurred during startups, shutdowns and malfunctions of the affected emissions unit.

2. Excess Emission Reports required by section A.IV.1 shall be submitted to the Toledo Division of Environmental Services (TDOES) on a quarterly basis. The reports shall be submitted by January 31, April 30, July 31 and October 30 of each year and shall cover the data obtained during the previous calendar quarter.

3. Personnel from the TDOES shall be notified 30 days prior to initiation of the applicable $SO_2$ CERMS certification tests required by section A.III.4 and shall be permitted to examine equipment and witness the certification tests. In accordance with OAC rule 3745-15-04, all copies of the test results shall be submitted to the TDOES within 30 days after the test is completed. Copies of the test results shall be sent to the TDOES and the Ohio EPA, Central Office. Certification of the $SO_2$ CERMS shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 6.

4. After certification of the $SO_2$ CERMS required by section A.III.4, the permittee shall, pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), submit reports within 30 days following the end of each calendar quarter to the TDOES documenting the date, commencement and completion times, duration magnitude, reason (if known), and corrective actions taken (if any), of all instances of $SO_2$ values in excess of the applicable limits: pounds per ton of 100% acid produced as a rolling, 3-hour average, pounds per hour as a 3-hour average, pounds per day, and tons per rolling, 365-day period.

   The permittee shall submit reports within 30 days following the end of each calendar quarter to the TDOES documenting any continuous $SO_2$ monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The report shall include specific identification of each period of excess emissions that occurred during startups, shutdowns and malfunctions of the affected emissions unit. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

   If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

5. After certification of the $SO_2$ CERMS required by section A.III.4, the permittee shall submit quarterly Data Assessment Reports to the TDOES containing the information outlined in Section

7 of 40 CFR Part 60, Appendix F. These reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

6. The permittee shall submit quarterly written reports that:

   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 by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

## 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:

102.7 lbs/hr of $SO_2$

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in section A.III. Performance testing on February 5, 1998 using Methods 1 through 4 and 8 of 40 CFR Part 60, Appendix A resulted in an emission rate of 95.7 lbs/hr of $SO_2$. If required, compliance shall be demonstrated by Methods 1 through 4 and Method 8 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.b Emission Limitation:

2,465 lbs/day of $SO_2$

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in section A.III.

1.c Emission Limitation:

450 tons of $SO_2$ per rolling, 365-day period

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in section A.III.

1.d Emission Limitation:

3.60 lbs/hr of sulfuric acid mist

Applicable Compliance Method:

Performance testing on February 5, 1998 using Methods 1 through 4 and Method 8 of 40 CFR Part 60, Appendix A resulted in emissions of 2.58 lbs/hr of sulfuric acid mist. If required, compliance shall be demonstrated by Methods 1 through 4 and Method 8 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.e Emission Limitation:

15.8 tpy of sulfuric acid mist

Applicable Compliance Method:

The annual sulfuric acid mist emission limitation was developed by multiplying the hourly allowable emission limitation of 3.60 lbs/hr by a maximum operating schedule of 8760 hours/year, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

1.f Emission Limitation:

4 pounds of $SO_2$ per ton of 100% sulfuric acid produced

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing methods and procedures specified in section A.V.2.

1.g Emission Limitation:

0.82 lb/hr of CO

Applicable Compliance Method:

If required, compliance shall be demonstrated by Methods 1 through 4 and Method 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.h Emission Limitation:

3.59 tpy of CO

Applicable Compliance Method:

The annual CO emission limitation was developed by multiplying the hourly allowable emission limitation of 0.82 lb/hr by a maximum operating schedule of 8760 hours/year, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

1.i Emission Limitation:

3.85 lbs/hr of NOx

Applicable Compliance Method:

If required, compliance shall be demonstrated by Methods 1 through 4 and Method 7 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.j Emission Limitation:

16.5 tpy of NOx

Applicable Compliance Method:

The annual NOx emission limitation was developed by multiplying the hourly allowable emission limitation of 3.85 lbs/hr by a maximum operating schedule of 8760 hours/year, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

1.k Emission Limitation:

0.075 kg per metric ton of 100 percent sulfuric acid produced (0.15 lb per ton)

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing methods and procedures specified in section A.V.2.

1.l Emission Limitation:

10 percent opacity

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing methods and procedures specified in section A.V.2 and the procedures of 40 CFR 60.11.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

   a. The emission testing shall be conducted within 6 months of permit issuance, approximately 2.5 years after permit issuance, and within 6 months prior to permit expiration.

   b. The emission testing shall be conducted to demonstrate compliance with the opacity restriction, and the allowable hourly and pound per ton mass emission rates for $SO_2$ and sulfuric acid mist.

   c. The following test methods shall be employed to demonstrate compliance with the allowable emission rates: for opacity, Method 9 of 40 CFR Part 60, Appendix A; and for $SO_2$ and sulfuric acid mist, Methods 1 through 4 and Method 8 and the procedures identified under 40 CFR 60.85 as specified below. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

   d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the TDOES.

   e. [40 CFR 60.85(a)]
   In conducting the performance tests required in 40 CFR 60.8, the permittee shall use as reference methods and procedures the test methods in Appendix A of 40 CFR Part 60 or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in section A.V.2.g.

   f. [40 CFR 60.85(b)]
   The permittee shall determine compliance with the $SO_2$, acid mist, and visible emission standards in 40 CFR 40 CFR 60.82 and 60.83 as follows:

      i. [40 CFR 60.85(b)(1)]
      The emission rate (E) of acid mist or $SO_2$ shall be computed for each run using the following equation:

      E = (CQsd) / (PK)

      where:

      E = emission rate of acid mist or $SO_2$ kg/metric ton (lb/ton) of 100 percent H2SO4 produced;

      C = concentration of acid mist or $SO_2$, g/dscm (lb/dscf);

      Qsd = volumetric flow rate of the effluent gas, dscm/hr (dscf/hr);

P = production rate of 100 percent H2SO4, metric ton/hr (ton/hr); and

K = conversion factor, 1000 g/kg (1.0 lb/lb).

ii. [40 CFR 60.85(b)(2)]
Method 8 shall be used to determine the acid mist and $SO_2$ concentrations (C's) and the volumetric flow rate (Qsd) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 1.15 dscm (40.6 dscf).

iii. [40 CFR 60.85(b)(3)]
Suitable methods shall be used to determine the production rate (P) of 100 percent H2SO4 for each run. Material balance over the production system shall be used to confirm the production rate.

iv. [40 CFR 60.85(b)(4)]
Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

g. [40 CFR 60.85(c)]
The permittee may use the following as alternatives to the reference methods and procedures specified in this section:

i. [40 CFR 60.85(c)(1)]
If the permittee processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen, the following procedure may be used instead of determining the volumetric flow rate and production rate:

(a) [40 CFR 60.85(c)(1)(i)]
The integrated technique of Method 3, of 40 CFR Part 60, Appendix A is used to determine the O2 concentration and, if required, CO2 concentration.

(b) [40 CFR 60.85(c)(1)(ii)]
The $SO_2$ or acid mist emission rate is calculated as described in 40 CFR 60.84(d), substituting the acid mist concentration for Cs as appropriate.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the TDOES. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the TDOES's refusal to accept the results of the emission test(s).

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

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

3. The following Relative Accuracy Test Audit (RATA) requirements apply until the $SO_2$ CERMS required by section A.III.4 is certified.

   The permittee shall perform a relative accuracy test audit on the continuous $SO_2$ monitoring system in accordance with the following requirements:

   a. The RATA shall be conducted once every four calendar quarters.

   b. The following test method shall be used: the modified continuous bubbler method as approved by Ohio EPA on October 9, 1986 for the modified CBS and Performance Specification 6 of 40 CFR Part 60, Appendix B for the flow monitor.

   c. The flow RATA shall be conducted while the emissions unit is operating at more than 50% of normal load.

   Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the TDOES. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the TDOES's refusal to accept the results of the emission test(s).

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

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

4. After installation of the $SO_2$ CERMS required by section A.III.4.a, the permittee shall comply with the Quality Assurance Requirements of 40 CFR Part 60, Appendix F.

   a. The permittee shall develop and implement a quality control program as outlined under section 3 of 40 CFR Part 60, Appendix F.

   b. The permittee shall perform daily calibration drift assessments as required by section 4 of 40 CFR Part 60, Appendix F.

c. The $SO_2$ CERMS shall be audited once per calendar quarter according to section 5 of 40 CFR Part 60, Appendix F. CERMS data accuracy shall be calculated according to section 6 of 40 CFR Part 60, Appendix F.

5. [40 CFR 60.8(c)]
Operations during periods of startup, shutdown and malfunction shall not constitute representative conditions for the purpose of a performance test.

## VI. Miscellaneous Requirements

1. The permittee must apply for and obtain a permit to install from the Ohio EPA before increasing production above levels listed in the permit to install application for PTI 04-00923 or before making any further modifications to this emissions unit.

## B. State Enforceable Section

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

**1.** The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P001 - Sulfuric Acid Regeneration: A-plant | | |

**2. Additional Terms and Conditions**

None

## II. Operational Restrictions

None

## III. Monitoring and/or Recordkeeping

None

## IV. Reporting Requirements

None

## V. Testing Requirements

None

## VI. Miscellaneous Requirements

1. Within 120 days of the effective date of this permit, the permittee shall submit to the TDOES a permit to install application requesting a modification to PTI 04-00923 to incorporate the requirements of 40 CFR Part 60, Subpart H.

## Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: B-Plant (P002)
Activity Description: Sulfuric Acid Regeneration

### A. State and Federally Enforceable Section

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

**1.** The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P002 - Sulfuric Acid Regeneration: B-plant | OAC rule 3745-31-05(A)(3) (PTI 04-00923) | 59.5 lbs/hr of sulfur dioxide ($SO_2$)<br>1,428 lbs/day of $SO_2$ 261 tons of $SO_2$ per rolling, 365-day period<br><br>2.10 lbs/hr of sulfuric acid mist<br>9.20 tpy of sulfuric acid mist<br><br>0.82 lb/hr of carbon monoxide (CO)<br>3.59 tpy of CO<br><br>2.42 lbs/hr of nitrogen oxides (NOx)<br>10.6 tpy of NOx<br><br>See sections A.I.2.a and A.I.2.d. |
| | OAC rule 3745-18-54(X) | See section A.I.2.b. |
| | OAC rule 3745-23-06(B) | See section A.I.2.c. |
| | 40 CFR Part 60, Subpart H | See section A.I.2.e. |
| | OAC rule 3745-21-08(B) | See section A.I.2.f. |
| | OAC rule 3745-17-07 | See section A.I.2.b. |
| | OAC rule 3745-17-11 | See section A.I.2.g. |

## 2. Additional Terms and Conditions

**2.a** The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B) and OAC rule 3745-23-06(B).

**2.b** The emission limitation specified by this rule is less stringent than the emission limitation specified by 40 CFR Part 60, Subpart H.

**2.c** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 04-00923.

**2.d** The hourly and annual emission limitations for CO and NOx are based on the potential to emit for this emissions unit at maximum capacity for 8,760 hours per year; therefore, monitoring, record keeping and reporting are not necessary to demonstrate compliance with these limits.

**2.e** [40 CFR 60.8(c), 60.11(c), 60.82, and 60.83]
At all times except for periods of startup, shutdown, and malfunction, the permittee shall not cause to be discharged into the atmosphere any gases which:

i. contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lb per ton), the production being expressed as 100 percent H2SO4;

ii. contain acid mist, expressed as H2SO4, in excess of 0.075 kg per metric ton of acid produced (0.15 lb/ton), the production being expressed as 100 percent H2SO4; and

iii. exhibit 10 percent opacity or greater.

[40 CFR 60.8(c)]
Emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction shall not be considered a violation of the applicable emission limit.

[40 CFR 60.11(d)]
At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected emissions unit including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used shall be based on information available to the Director which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

**2.f** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 04-00923.

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

**2.g** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). Particulate emissions from this emissions unit are emitted in the form of sulfuric acid mist.

**2.h** The following definitions shall apply to the terms and conditions of this emissions unit.

i. [40 CFR 60.2]
"Startup" means the setting in operation of the unit and associated equipment for any purpose.

Startup of the dry side ends when converters reach and maintain for a period of six continuous hours normal operating temperatures, defined as a minimum of 780EF into the first and third catalyst beds. Startup of the wet side begins when sulfur bearing feeds are introduced to the regen furnace, and ends twelve hours thereafter.

ii. [40 CFR 60.2]
"Shutdown" means the cessation of operation of the unit and associated equipment for any purpose.

Shutdown of the dry side begins when sulfur feed is taken off the sulfur furnace and sulfur bearing feeds exclusive of fuel oil are taken off the regen furnace. Shutdown of the wet side begins when sulfur bearing feeds exclusive of fuel oil are taken off the regen furnace and ends six hours thereafter.

iii. [40 CFR 60.2]
"Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused by poor maintenance or careless operation are not malfunctions.

iv. "Dry side" means that portion of the unit that includes all processing equipment beginning with the drying tower and continuing through the stack.

v. "Wet side" means that portion of the unit that includes all processing equipment preceding the drying tower.

## II. Operational Restrictions

None

## III. Monitoring and/or Recordkeeping

1. Until certification of the $SO_2$ MS required by section A.III.4, the permittee shall maintain and operate the modified continuous bubbler system (CBS) to record and report $SO_2$ emissions data from this emissions unit in accordance with the May 5, 1987 approved State Implementation Plan revision. The modified CBS shall comply with the requirements specified in 40 CFR Part 51, Appendix P. The modified CBS shall record $SO_2$ emissions in pounds per hour, pounds per day, tons per year, and pounds of $SO_2$ per ton of 100% of sulfuric acid produced. The pounds per hour emission measurements shall be based on 3-hour block averages. There are 8 block averages per day.

2. A flow monitor shall be maintained and operated for this emissions unit to allow for monitoring $SO_2$ emissions in units of pounds per hour, pounds per day, and tons per year. This continuous flow monitoring equipment shall comply with the requirements specified in 40 CFR Part 60.

3. The permittee shall continue to implement a quality assurance/quality control program. All maintenance on any portion of the continuous emissions monitoring system shall be documented in a logbook dedicated to the monitoring system.

4. [40 CFR 60.84(a)]
Within 50 days of the effective date of this permit, the permittee shall order the equipment necessary to comply with the continuous monitoring system requirements of 40 CFR 60.84 and 40 CFR 60.13. Within 90 days of delivery of the equipment ordered to comply with the continuous monitoring system requirements of 40 CFR 60.84 and 40 CFR 60.13, the permittee shall:

   a. Install, calibrate and maintain a continuous monitoring system for the measurement of sulfur dioxide that complies with 40 CFR 60.84 and 40 CFR 60.13. The continuous monitoring system shall also include a flow monitor as required by PTI 04-00923. The combination of the $SO_2$ continuous monitoring system and flow monitor will be identified in this permit as the $SO_2$ Continuous Emission Rate Monitoring System (CERMS). The CERMS shall monitor $SO_2$ emissions in units of pounds per ton of 100% acid produced, pounds per hour, pounds per day, and tons per rolling, 365-day period.

   b. Conduct certification tests of the $SO_2$ CERMS pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 6.

   Prior to the installation of the $SO_2$ CERMS, the permittee shall submit information detailing the proposed location of the sampling site(s) in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 6 for approval by the Ohio EPA, Central Office.

5. The permittee shall operate and maintain equipment required by section A.III.4 to continuously monitor and record $SO_2$ emissions from this emissions unit in units of the applicable standard(s): pounds per ton of 100% acid produced as a rolling, 3-hour average, pounds per hour as a 3-hour average, pounds per day, and tons per rolling, 365-day period.

The permittee shall maintain records of all data obtained by the $SO_2$ CERMS including, but not limited to, parts per million $SO_2$ on an instantaneous (one-minute) basis, emissions of $SO_2$ in units of the applicable standard in the appropriate averaging period (pounds per ton of 100% acid produced as a rolling 3-hour average, pounds per hour as a 3-hour average, pounds per day, and tons per rolling, 365-day period), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

5.a [40 CFR 60.84(a)]
The pollutant gas used to prepare calibration gas mixtures under Performance Specification 2 and for calibration checks under 40 CFR 60.13(d), shall be $SO_2$. Method 8 shall be used for conducting monitoring system performance evaluations under 40 CFR 60.13(c) except that only the $SO_2$ portion of $SO_2$ the Method 8 results shall be used. The span value shall be set at 1000 ppm of .

5.b [40 CFR 60.84(b)]
The permittee shall establish a conversion factor for the purpose of converting monitoring data into units of pounds per ton. The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of $SO_2$ entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each 8-hour period as follows:

$$CF=k[(1.000-0.015r)/(r-s)]$$

where:

CF = conversion factor (kg/ton per ppm, lb/ton per ppm);

k = constant derived from material balance (for determining CF in metric units, k=0.0653, for determining CF in English units, k=0.1306);

r = percentage of $SO_2$ by volume entering the gas converter (appropriate corrections must be made for air injection plants subject to the Administrator of U.S. EPA's approval); and

s = percentage of $SO_2$ by volume in the emissions to the atmosphere determined by the continuous monitoring system required under section A.III.4.a.

5.c [40 CFR 60.84(c)]
The permittee shall record all conversion factors and values under section A.III.5.b from which they were computed (i.e., CF, r, and s).

5.d [40 CFR 60.84(d)]

Alternatively, a source that processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen may use the following continuous emission monitoring approach and calculation procedures in determining $SO_2$ emission rates in terms of the standard. This procedure is not required, but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. Continuous emission monitoring systems for measuring $SO_2$, $O_2$, and $CO_2$ (if required) and flow rate (required by PTI 04-00923) shall be installed, calibrated, maintained, and operated by the permittee and subjected to the certification procedures in Performance Specification 6. The calibration procedure and span value for the $SO_2$ monitor shall be as specified in section A.III.5.a. The span value for $CO_2$ (if required) shall be 10 percent and for $O_2$ shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the $SO_2$ emission rate as follows:

$Es = (CsS) / [0.265-(0.126\%O_2)-(A\ \%CO_2)]$

where:

Es = emission rate of $SO_2$ kg/metric ton (lb/ton) of 100 percent of H2SO4 produced;

Cs = concentration of $SO_2$, kg/dscm (lb/dscf);

S = acid production rate factor, 368 dscm/metric ton (11,800 dscf/ton) of 100 percent H2SO4 produced;

$\%O_2$ = oxygen concentration, percent dry basis;

A=auxiliary fuel factor;

A = 0.00 for no fuel;
A = 0.0226 for methane;
A = 0.0217 for natural gas;
A = 0.0196 for propane;
A = 0.0172 for No. 2 oil;
A = 0.0161 for No. 6 oil;
A = 0.0148 for coal;
A = 0.0126 for coke; and

$\%CO_2$ = carbon dioxide concentration, percent dry basis.

NOTE: It is necessary in some cases to convert measured concentration units to other units for these calculations. Use the following table for such conversions:

| From | To | Multiply by |
|---|---|---|
| g/scm | kg/scm | 0.001 |
| mg/scm | kg/scm | 0.000001 |
| ppm($SO_2$) | kg/scm | 0.00000266 |
| ppm($SO_2$) | lb/scf | 0.000000166 |

6. Each $SO_2$ monitoring system which meets the requirements of 40 CFR Part 60.13 and has been certified by the Ohio EPA, Central Office must be included in a Quality Assurance/Quality Control Plan.

   Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the continuous $SO_2$ monitoring system designed to ensure continuous valid and representative readings of $SO_2$. 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 $SO_2$ monitoring system must be kept on site and available for inspection during regular office hours.

7. 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 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.

8. [40 CFR 60.7(b)]
   The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected emissions unit, any malfunction of the air pollution control equipment, or any periods during which a continuous monitoring system or monitoring device is inoperative.

## IV. Reporting Requirements

1. The reporting requirements of section A.IV.1 apply until the $SO_2$ CERMS required by section A.III.4.a is certified as required by section A.III.4.b. For the purposes of reporting excess emissions, the permittee shall report all daily exceedances of the pounds per day emission limitation based on an arithmetic average of the eight (8) three (3)-hour "block" averages for each calendar day. The permittee shall report all exceedances of the 4 pounds of $SO_2$ emitted per ton of 100 percent sulfuric acid produced. Also, the permittee shall report all exceedances of the 59.5 pounds of $SO_2$ per hour, 1,428 pounds of $SO_2$ per day, and 261 tons of $SO_2$ per rolling, 365-day period limitations. The report shall include specific identification of each period of excess emissions that occurred during startups, shutdowns and malfunctions of the affected emissions unit.

2. Excess Emission Reports required by section A.IV.1 shall be submitted to the Toledo Division of Environmental Services (TDOES) on a quarterly basis. The reports shall be submitted by January 31, April 30, July 31 and October 30 of each year and shall cover the data obtained during the previous calendar quarter.

3. Personnel from the TDOES shall be notified 30 days prior to initiation of the applicable $SO_2$ CERMS certification tests required by section A.III.4 and shall be permitted to examine equipment and witness the certification tests. In accordance with OAC rule 3745-15-04, all copies of the test results shall be submitted to the TDOES within 30 days after the test is completed. Copies of the test results shall be sent to the TDOES and the Ohio EPA, Central Office. Certification of the $SO_2$ CERMS shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 6.

4. After certification of the $SO_2$ CERMS required by section A.III.4, the permittee shall, pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), submit reports within 30 days following the end of each calendar quarter to the TDOES documenting the date, commencement and completion times, duration magnitude, reason (if known), and corrective actions taken (if any), of all instances of $SO_2$ values in excess of the applicable limits: pounds per ton of 100% acid produced as a rolling, 3-hour average, pounds per hour as a 3-hour average, pounds per day, and tons per rolling, 365-day period.

   The permittee shall submit reports within 30 days following the end of each calendar quarter to the TDOES documenting any continuous $SO_2$ monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The report shall include specific identification of each period of excess emissions that occurred during startups, shutdowns and malfunctions of the affected emissions unit. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

   If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

5. After certification of the $SO_2$ CERMS required by section A.III.4, the permittee shall submit quarterly Data Assessment Reports to the TDOES containing the information outlined in section 7 of 40 CFR Part 60, Appendix F. These reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

6. The permittee shall submit quarterly written reports that:

   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 by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

## 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:

59.5 lbs/hr of $SO_2$

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in section A.III. Performance testing on May 24, 2001 using Methods 1 through 4 and 8 of 40 CFR Part 60, Appendix A resulted in an emission rate of 37.91 lbs/hr of $SO_2$. If required, compliance shall be demonstrated by Methods 1 through 4 and Method 8 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.b Emission Limitation:

1,428 lbs/day of $SO_2$

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in section A.III.

1.c Emission Limitation:

261 tons of $SO_2$ per rolling, 365-day period

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in section A.III.

1.d Emission Limitation:

2.10 lbs/hr of sulfuric acid mist

Applicable Compliance Method:

Performance testing on February 5, 1998 using Methods 1 through 4 and Method 8 of 40 CFR Part 60, Appendix A resulted in emissions of 1.96 lbs/hr of sulfuric acid mist. If required, compliance shall be demonstrated by Methods 1 through 4 and Method 8 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.e Emission Limitation:

9.20 tpy of sulfuric acid mist

Applicable Compliance Method:

The annual sulfuric acid mist emission limitation was developed by multiplying the hourly allowable emission limitation of 2.10 lbs/hr by a maximum operating schedule of 8760 hours/year, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

1.f Emission Limitation:

4 pounds of $SO_2$ per ton of 100% sulfuric acid produced

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing methods and procedures specified in section A.V.2.

1.g Emission Limitation:

0.82 lb/hr of CO

Applicable Compliance Method:

If required, compliance shall be demonstrated by Methods 1 through 4 and Method 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.h Emission Limitation:

3.59 tpy of CO

Applicable Compliance Method:

The annual CO emission limitation was developed by multiplying the hourly allowable emission limitation of 0.82 lb/hr by a maximum operating schedule of 8760 hours/year, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

1.i Emission Limitation:

2.42 lbs/hr of NOx

Applicable Compliance Method:

If required, compliance shall be demonstrated by Methods 1 through 4 and Method 7 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

1.j Emission Limitation :

10.6 tpy of NOx

Applicable Compliance Method:

The annual NOx emission limitation was developed by multiplying the hourly allowable emission limitation of 2.42 lbs/hr by a maximum operating schedule of 8760 hours/year, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

1.k Emission Limitation:

0.075 kg per metric ton of 100 percent sulfuric acid produced (0.15 lb per ton)

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing methods and procedures specified in section A.V.2.

1.l Emission Limitation:

10 percent opacity

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing methods and procedures specified in section A.V.2 and the procedures of 40 CFR 60.11.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

   a. The emission testing shall be conducted within 6 months of permit issuance, approximately 2.5 years after permit issuance, and within 6 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the opacity restriction, and the allowable hourly and pound per ton mass emission rates for $SO_2$ and sulfuric acid mist.

c. The following test methods shall be employed to demonstrate compliance with the allowable emission rates: for opacity, Method 9 of 40 CFR Part 60, Appendix A; and for $SO_2$ and sulfuric acid mist, Methods 1 through 4 and Method 8 and the procedures identified under 40 CFR 60.85 as specified below. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the TDOES.

e. [40 CFR 60.85(a)]
In conducting the performance tests required in 40 CFR 60.8, the permittee shall use as reference methods and procedures the test methods in Appendix A of 40 CFR Part 60 or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in section A.V.2.g.

f. [40 CFR 60.85(b)]
The permittee shall determine compliance with the $SO_2$, acid mist, and visible emission standards in 40 CFR 40 CFR 60.82 and 60.83 as follows:

i. [40 CFR 60.85(b)(1)]
The emission rate (E) of acid mist or $SO_2$ shall be computed for each run using the following equation:

E = (CQsd) / (PK)

where:

E = emission rate of acid mist or $SO_2$ kg/metric ton (lb/ton) of 100 percent H2SO4 produced;

C = concentration of acid mist or $SO_2$, g/dscm (lb/dscf);

Qsd = volumetric flow rate of the effluent gas, dscm/hr (dscf/hr);

P = production rate of 100 percent H2SO4, metric ton/hr (ton/hr); and

K = conversion factor, 1000 g/kg (1.0 lb/lb).

ii. [40 CFR 60.85(b)(2)]
Method 8 shall be used to determine the acid mist and $SO_2$ concentrations (C's) and the volumetric flow rate (Qsd) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 1.15 dscm (40.6 dscf).

iii. [40 CFR 60.85(b)(3)]
Suitable methods shall be used to determine the production rate (P) of 100 percent H2SO4 for each run. Material balance over the production system shall be used to confirm the production rate.

iv. [40 CFR 60.85(b)(4)]
Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

g. [40 CFR 60.85(c)]
The permittee may use the following as alternatives to the reference methods and procedures specified in this section:

i. [40 CFR 60.85(c)(1)]
If the permittee processes elemental sulfur or an ore that contains elemental sulfur and uses air to supply oxygen, the following procedure may be used instead of determining the volumetric flow rate and production rate:

(a) [40 CFR 60.85(c)(1)(i)]
The integrated technique of Method 3, of 40 CFR Part 60, Appendix A is used to determine the $O_2$ concentration and, if required, $CO_2$ concentration.

(b) [40 CFR 60.85(c)(1)(ii)]
The $SO_2$ or acid mist emission rate is calculated as described in 40 CFR 60.84(d), substituting the acid mist concentration for Cs as appropriate.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the TDOES. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the TDOES's refusal to accept the results of the emission test(s).

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

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

3. The following Relative Accuracy Test Audit (RATA) requirements apply until the $SO_2$ CERMS required by section A.III.4 is certified.

The permittee shall perform a relative accuracy test audit on the continuous $SO_2$ monitoring system in accordance with the following requirements:

a. The RATA shall be conducted once every four calendar quarters.

b. The following test method shall be used: the modified continuous bubbler method as approved by Ohio EPA on October 9, 1986 for the modified CBS and Performance Specification 6 of 40 CFR Part 60, Appendix B for the flow monitor.

c. The flow RATA shall be conducted while the emissions unit is operating at more than 50% of normal load.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the TDOES. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the TDOES's refusal to accept the results of the emission test(s).

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

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

4. After installation of the $SO_2$ CERMS required by section A.III.4.a, the permittee shall comply with the Quality Assurance Requirements of 40 CFR Part 60, Appendix F.

a. The permittee shall develop and implement a quality control program as outlined under section 3 of 40 CFR Part 60, Appendix F.

b. The permittee shall perform daily calibration drift assessments as required by section 4 of 40 CFR Part 60, Appendix F.

c. The $SO_2$ CERMS shall be audited once per calendar quarter according to section 5 of 40 CFR Part 60, Appendix F. CERMS data accuracy shall be calculated according to section 6 of 40 CFR Part 60, Appendix F.

5. [40 CFR 60.8(c)]
Operations during periods of startup, shutdown and malfunction shall not constitute representative conditions for the purpose of a performance test.

## VI. Miscellaneous Requirements

1. The permittee must apply for and obtain a permit to install from the Ohio EPA before increasing production above levels listed in the permit to install application for PTI 04-00923 or before making any further modifications to this emissions unit.

**Emissions Unit: B-Plant (P002)**

## B. State Enforceable Section

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

**1.** The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| Operations, Property, and/or Equipment | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| P002 - Sulfuric Acid Regeneration: B-plant | | |

**2. Additional Terms and Conditions**

None

## II. Operational Restrictions

None

## III. Monitoring and/or Recordkeeping

None

## IV. Reporting Requirements

None

## V. Testing Requirements

None

## VI. Miscellaneous Requirements

1. Within 120 days of the effective date of this permit, the permittee shall submit to the TDOES a permit to install application requesting a modification to PTI 04-00923 to incorporate the requirements of 40 CFR Part 60, Subpart H.