



Environmental
Protection Agency

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

12/13/2010

Certified Mail

Mr. Scott Tatro
Marsulex, Inc. -
1400 Otter Creek Road
Oregon, OH 43616-1232

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0448020014
Permit Number: P0106518
Permit Type: Administrative Modification
County: Lucas

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
Yes	CEMS
No	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director 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. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Kevin Boyce," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. 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, OH 43215

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 Compliance Assistance and Pollution Prevention at (614) 644-3469. If you have any questions regarding this permit, please contact the Toledo Department of Environmental Services. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA
TDES; Michigan; Indiana; Canada



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
Marsulex, Inc. -**

Facility ID: 0448020014
Permit Number: P0106518
Permit Type: Administrative Modification
Issued: 12/13/2010
Effective: 12/13/2010



Division of Air Pollution Control
Permit-to-Install
for
Marsulex, Inc. -

Table of Contents

Authorization 1
A. Standard Terms and Conditions 3
1. Federally Enforceable Standard Terms and Conditions 4
2. Severability Clause 4
3. General Requirements 4
4. Monitoring and Related Record Keeping and Reporting Requirements 5
5. Scheduled Maintenance/Malfunction Reporting 6
6. Compliance Requirements 6
7. Best Available Technology 7
8. Air Pollution Nuisance 7
9. Reporting Requirements 7
10. Applicability 8
11. Construction of New Sources(s) and Authorization to Install 8
12. Permit-To-Operate Application 9
13. Construction Compliance Certification 9
14. Public Disclosure 10
15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations 10
16. Fees 10
17. Permit Transfers 10
18. Risk Management Plans 10
19. Title IV Provisions 10
B. Facility-Wide Terms and Conditions 11
C. Emissions Unit Terms and Conditions 13
1. P001, A-Plant 14
2. P002, B-Plant 26

Authorization

Facility ID: 0448020014
Facility Description: sulfuric acid plant
Application Number(s): A0039752
Permit Number: P0106518
Permit Description: Administrative modification to correct CO limits
Permit Type: Administrative Modification
Permit Fee: \$400.00
Issue Date: 12/13/2010
Effective Date: 12/13/2010

This document constitutes issuance to:

Marsulex, Inc. -
1400 Otter Creek Road
Oregon, OH 43616-1232

of a Permit-to-Install for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604
(419)936-3015

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Chris Korleski
Director



Authorization (continued)

Permit Number: P0106518
Permit Description: Administrative modification to correct CO limits

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	P001
Company Equipment ID:	A-Plant
Superseded Permit Number:	04-00923
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P002
Company Equipment ID:	B-Plant
Superseded Permit Number:	04-00923
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
 - (1) Standard Term and Condition A.2.a), Severability Clause
 - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
 - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
 - (4) Standard Term and Condition A.9., Reporting Requirements
 - (5) Standard Term and Condition A.10., Applicability
 - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A.14., Public Disclosure
 - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A.16., Fees
 - (10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

- a) 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.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they 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 and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. 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 re-issuance, or modification.

- 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, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying 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.

4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Toledo Department of Environmental Services.

- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Toledo Department of Environmental Services. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
 - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Toledo Department of Environmental Services every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Toledo Department of Environmental Services in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

- a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.
- b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- c) 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:



- (1) 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.
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) 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.
- d) The permittee shall submit progress reports to the Toledo Department of Environmental Services 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:
- (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - (2) 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.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. 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.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Toledo Department of Environmental Services.

- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Toledo Department of Environmental Services. 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 (i.e., postmarked) quarterly, 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.)

10. Applicability

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

11. Construction of New Sources(s) and Authorization to Install

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit 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) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit 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). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

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

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

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

13. Construction Compliance Certification

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.

- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

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

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

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., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

18. Risk Management Plans

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

19. 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.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) None.
2. The following emissions units contained in this permit are subject to 40 CFR Part 60 Subpart H: P001 and P002. The complete NSPS and MACT requirements, including the MACT General Provisions may be accessed via the internet from the electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA district or local air agency.

C. Emissions Unit Terms and Conditions



1. P001, A-Plant

Operations, Property and/or Equipment Description:

Sulfuric Acid regeneration: A Plant with dual absorption and oxygen enrichment

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-00923 modified 10/20/2004)	Sulfur dioxide (SO ₂) emissions shall not exceed 102.7 lbs/hr, 2,465 lbs/day, and 450 tons per rolling, 365-day period. Sulfuric acid mist emissions shall not exceed 3.60 lbs/hr and 15.8 tpy. Carbon monoxide (CO) emissions shall not exceed 7.41 lb/hr and 32.46 tpy. Nitrogen oxides (NO _x) emissions shall not exceed 3.85 lbs/hr and 16.5 tpy. See b)(2)b.
b.	OAC rule 3745-18-54(X)	See b)(2)a.
c.	40 CFR Part 60, Subpart H (40 CFR 63.80-85) [In accordance with 40 CFR 60.81(a), this emissions unit is a Sulfuric acid production facility subject to the emission limitation/control measures specified in this section.]	See b)(2)c.
d.	OAC rule 3745-17-07(A)	See b)(2)a.
e.	OAC rule 3745-17-11	See b)(2)d.

(2) Additional Terms and Conditions

- a. The emission limitation specified by this rule is less stringent than the emission limitation specified by 40 CFR Part 60, Subpart H.
- b. The hourly and annual emission limitations for CO and NO_x 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.
- c. [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.

- d. 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.
- e. The following definitions shall apply to the terms and conditions of this emissions unit.
 - i. "Startup" means the setting in operation of the unit and associated equipment for any purpose.

[40 CFR 60.2]

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 780°F 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. "Shutdown" means the cessation of operation of the unit and associated equipment for any purpose.

[40 CFR 60.2]

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. "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.

[40 CFR 60.2]

- 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.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) A flow monitor shall be maintained and operated for this emissions unit to allow for monitoring SO₂ 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.

- (2) The continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

[40 CFR 60.2] and/or [40 CFR 63.2] and [Appendix F to 40 CFR Part 60]

- (3) [PTI 04-00923]

The continuous monitoring system shall also include a flow monitor. The combination of the SO₂ continuous monitoring system and flow monitor will be identified in this permit as

the SO₂ Continuous Emission Rate Monitoring System (CERMS). The CERMS shall monitor SO₂ emissions in units of pounds per ton of 100% acid produced, pounds per hour, pounds per day, and tons per rolling, 365-day period.

- (4) The permittee shall operate and maintain the SO₂ CERMS to continuously monitor and record SO₂ 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 SO₂ CERMS including, but not limited to:

- a. emissions of SO₂ in parts per million SO₂ on an instantaneous (1-minute) basis;
- b. emissions of SO₂ 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);
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous SO₂ monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous SO₂ monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous SO₂ monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).
- j. [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 SO₂. Method 8 shall be used for conducting monitoring system performance evaluations under 40 CFR 60.13(c) except that only the SO₂ portion of the Method 8 results shall be used. The span value shall be set at 1000 ppm of SO₂.

- k. [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 SO₂ 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 SO₂ 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 SO₂ by volume in the emissions to the atmosphere determined by the CERMS.

I. [40 CFR 60.84(c)]

The permittee shall record all conversion factors and values under d)(4)k. from which they were computed (i.e., CF, r, and s).

m. [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 SO₂ 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 SO₂, O₂, and CO₂ (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 SO₂ monitor shall be as specified in d)(4)j. The span value for CO₂ (if required) shall be 10 percent and for O₂ shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO₂ emission rate as follows:

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

where:

Es = emission rate of SO₂, kg/metric ton (lb/ton) of 100 percent of H₂SO₄ produced;

Cs = concentration of SO₂, kg/dscm (lb/dscf);

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

%O₂ = 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

%CO₂ = 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	10 ⁻³
mg/scm	kg/scm	10 ⁻⁶
ppm(SO ₂)	kg/scm	2.66x10 ⁻⁶
ppm(SO ₂)	lb/scf	1.66x10 ⁻⁷

[Authority for term: OAC 3745-77-07(C)(1)]

- (5) The permittee shall maintain on-site, the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous SO₂ monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6. The letter(s)/document(s) of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (6) The permittee shall maintain a written quality assurance/quality control plan for the continuous SO₂ monitoring system which meets the requirements of 40 CFR Part 60.13 and has been certified by the U.S. EPA or the Ohio EPA, Central Office, designed to ensure continuous valid and representative readings of SO₂ emissions in units of the applicable standard(s). 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 SO₂ monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

- (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 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.

e) Reporting Requirements

- (1) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO₂ monitoring system:
- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of SO₂ emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapter 3745-18, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration,

and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).

- b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
- i. the facility name and address;
 - ii. the manufacturer and model number of the continuous SO₂ and other associated monitors;
 - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - v. the total SO₂ emissions for the calendar quarter (tons);
 - vi. the total operating time (hours) of the emissions unit;
 - vii. the total operating time of the continuous SO₂ monitoring system while the emissions unit was in operation;
 - viii. results and dates of quarterly cylinder gas audits;
 - ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
 - x. unless previously submitted, the results of any relative accuracy test audit showing the continuous SO₂ monitor out-of-control and the compliant results following any corrective actions;
 - xi. the date, time, and duration of any/each malfunction** of the continuous SO₂ monitoring system, emissions unit, and/or control equipment;
 - xii. the date, time, and duration of any downtime** of the continuous SO₂ monitoring system and/or control equipment while the emissions unit was in operation; and
 - xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

** each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

[40 CFR 60.7]

- (2) The permittee shall submit quarterly Data Assessment Reports to the TES 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.
- (3) 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.

f) **Testing Requirements**

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:
 - a. Emission Limitation:
102.7 lbs/hr of SO₂

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in d). Performance testing on September 2, 2008 using Methods 1 through 4 and 8 of 40 CFR Part 60, Appendix A resulted in an emission rate of 96.02 lbs/hr of SO₂. 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.
 - b. Emission Limitation:
2,465 lbs/day of SO₂

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in d).

c. Emission Limitation:

450 tons of SO₂ per rolling, 365-day period

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in d).

d. Emission Limitation:

3.60 lbs/hr of sulfuric acid mist

Applicable Compliance Method:

Performance testing on April 9, 2009 using Methods 1 through 4 and Method 8 of 40 CFR Part 60, Appendix A resulted in emissions of 2.59 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.

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.

f. Emission Limitation:

4 pounds of SO₂ per ton of 100% sulfuric acid produced

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance according to the methods 1 through 4 and 8 and Appendix A of 40 CFR Part 60 and procedures specified in 40 CFR 60.85. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

g. Emission Limitation:

7.41 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.

h. Emission Limitation:

32.46 tpy of CO

Applicable Compliance Method:

The annual CO emission limitation was developed by multiplying the hourly allowable emission limitation of 7.41 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.

i. Emission Limitation:

3.85 lbs/hr of NO_x

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.

j. Emission Limitation:

16.5 tpy of NO_x

Applicable Compliance Method:

The annual NO_x 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.

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 f)(2).

l. Emission Limitation:

10 percent opacity

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing methods and procedures specified in f)(2) and the procedures of 40 CFR 60.11.

- (2) 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 SO₂ 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.

- (3) 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.

g) Miscellaneous Requirements

- (1) [PTI 04-00923].

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 dated June 29, 1994 or making any further modifications to the source.

2. P002, B-Plant

Operations, Property and/or Equipment Description:

Sulfuric Acid regeneration: B-plant with dual absorption and oxygen enrichment

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-00923 modified 10/21/2004)	Sulfur dioxide (SO ₂) emissions shall not exceed 59.5 lbs/hr, 1,428 lbs/day, and 261 tons per rolling, 365-day period. Sulfuric acid mist emissions shall not exceed 2.10 lbs/hr and 9.20 tpy. Carbon monoxide (CO) emissions shall not exceed 4.12 lb/hr and 18.04 tpy. Nitrogen oxides (NO _x) emissions shall not exceed 2.42 lbs/hr and 10.6 tpy. See b)(2)a. and b)(2)b.
b.	OAC rule 3745-18-54(X)	See b)(2)a.
	40 CFR Part 60, Subpart H (40 CFR 63.80-85) [In accordance with 40 CFR 60.81(a), this emissions unit is a Sulfuric acid production facility subject to the emission limitation/control measures specified in this section.]	See b)(2)c.
	OAC rule 3745-17-07	See b)(2)a.
	OAC rule 3745-17-11	See b)(2)d.

(2) Additional Terms and Conditions

- a. The emission limitation specified by this rule is less stringent than the emission limitation specified by 40 CFR Part 60, Subpart H.
- b. The hourly and annual emission limitations for CO and NO_x 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.
- c. [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.

- d. 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.
- e. The following definitions shall apply to the terms and conditions of this emissions unit.
 - i. "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 780°F 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.

[40 CFR 60.2]

- ii. ["Shutdown" means the cessation of operation of the unit and associated equipment for any purpose.

[40 CFR 60.2]

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. "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.

[40 CFR 60.2]

- 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.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) A flow monitor shall be maintained and operated for this emissions unit to allow for monitoring SO₂ 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.
- (2) The continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

[40 CFR 60.2] and/or [40 CFR 63.2] and [Appendix F to 40 CFR Part 60]

(3) [40 CFR 60.84(a)]

The continuous monitoring system shall also include a flow monitor as required by PTI 04-00923 modified November 20, 2001. The combination of the SO₂ continuous monitoring system and flow monitor will be identified in this permit as the SO₂ Continuous Emission Rate Monitoring System (CERMS). The CERMS shall monitor SO₂ emissions in units of pounds per ton of 100% acid produced, pounds per hour, pounds per day, and tons per rolling, 365-day period.

(4) The permittee shall operate and maintain the SO₂ CERMS to continuously monitor and record SO₂ 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 SO₂ CERMS including, but not limited to:

- a. emissions of SO₂ in parts per million SO₂ on an instantaneous (1-minute) basis;
- b. emissions of SO₂ 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);
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous SO₂ monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous SO₂ monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous SO₂ monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).

[40 CFR 60.13] and [40 CFR Part 60, Appendices B & F]

j. [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 SO₂. Method 8 shall be used for conducting monitoring system performance

evaluations under 40 CFR 60.13(c) except that only the SO₂ portion of the Method 8 results shall be used. The span value shall be set at 1000 ppm of SO₂.

k. [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 SO₂ 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 SO₂ 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 SO₂ by volume in the emissions to the atmosphere determined by the CERMS.

l. [40 CFR 60.84(c)]

The permittee shall record all conversion factors and values under d)(4)k. from which they were computed (i.e., CF, r, and s).

m. [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 SO₂ 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 SO₂, O₂, and CO₂ (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 SO₂ monitor shall be as specified in d)(4)j. The span value for CO₂ (if required) shall be 10 percent and for O₂ shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO₂ emission rate as follows:

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

where:

Es = emission rate of SO₂, kg/metric ton (lb/ton) of 100 percent of H₂SO₄ produced;

Cs = concentration of SO₂, kg/dscm (lb/dscf);

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

%O₂ = 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

%CO₂ = 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	10 ⁻³
mg/scm	kg/scm	10 ⁻⁶
ppm(SO ₂)	kg/scm	2.66x10 ⁻⁶
ppm(SO ₂)	lb/scf	1.66x10 ⁻⁷

- (5) The permittee shall maintain on-site, the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous SO₂ monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6. The letter(s)/document(s) of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

[40 CFR 60.13] and [40 CFR Part 60, Appendix B]

- (6) The permittee shall maintain a written quality assurance/quality control plan for the continuous SO₂ monitoring system which meets the requirements of 40 CFR Part 60.13 and has been certified by the U.S. EPA or the Ohio EPA, Central Office, designed to ensure continuous valid and representative readings of SO₂ emissions in units of the applicable standard(s). 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 SO₂ monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

[40 CFR 60.13] and [40 CFR Part 60, Appendix F]

- (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 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.

e) Reporting Requirements

- (1) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO₂ monitoring system:

- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of SO₂ emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapter 3745-18, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
- b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous SO₂ and other associated monitors;
 - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - v. the total SO₂ emissions for the calendar quarter (tons);
 - vi. the total operating time (hours) of the emissions unit;
 - vii. the total operating time of the continuous SO₂ monitoring system while the emissions unit was in operation;
 - viii. results and dates of quarterly cylinder gas audits;
 - ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
 - x. unless previously submitted, the results of any relative accuracy test audit showing the continuous SO₂ monitor out-of-control and the compliant results following any corrective actions;
 - xi. the date, time, and duration of any/each malfunction** of the continuous SO₂ monitoring system, emissions unit, and/or control equipment;
 - xii. the date, time, and duration of any downtime** of the continuous SO₂ monitoring system and/or control equipment while the emissions unit was in operation; and

- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

** each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

[40 CFR 60.7]

- (2) The permittee shall submit quarterly Data Assessment Reports to the TES 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.
- (3) The permittee shall submit quarterly written reports that:
- identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
 - 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.

f) **Testing Requirements**

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods: Miscellaneous Requirements

- a. Emission Limitation:

59.5 lbs/hr of SO₂

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in d). Performance testing on September 4, 2008 using Methods 1 through 4 and 8 of 40 CFR Part 60, Appendix A resulted in an emission rate of 56.29 lbs/hr of SO₂. 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.

b. Emission Limitation:

1,428 lbs/day of SO₂

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in d).

c. Emission Limitation:

261 tons of SO₂ per rolling, 365-day period

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring and record keeping requirements specified in d).

d. Emission Limitation:

2.10 lbs/hr of sulfuric acid mist

Applicable Compliance Method:

Performance testing on September 4, 2008 using Methods 1 through 4 and Method 8 of 40 CFR Part 60, Appendix A resulted in emissions of 1.22 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.

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.

f. Emission Limitation:

4 pounds of SO₂ per ton of 100% sulfuric acid produced

Applicable Compliance Method:

g. If required, the permittee shall demonstrate compliance according to the methods 1 through 4 and 8 and Appendix A of 40 CFR Part 60 and procedures specified in 40 CFR 60.85. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

4.12 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.

h. Emission Limitation:

18.04 tpy of CO

Applicable Compliance Method:

The annual CO emission limitation was developed by multiplying the hourly allowable emission limitation of 4.12 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.

i. Emission Limitation:

2.42 lbs/hr of NO_x

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.

j. Emission Limitation :

10.6 tpy of NO_x

Applicable Compliance Method:

The annual NO_x 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.

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 f).

I. Emission Limitation:

10 percent opacity

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing methods and procedures specified in f) and the procedures of 40 CFR 60.11.

(2) 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 SO₂ 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.

(3) 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.

g) Miscellaneous Requirements

(1) [PTI 04-00923].

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 dated June 29, 1994 or making any further modifications to the source.