



State of Ohio Environmental Protection Agency

STREET ADDRESS:

MAILING ADDRESS:

Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

P.O. Box 1049
Columbus, OH 43216-1049

7/29/2008

Certified Mail

Robert Schmude
Millennium Inorganic Chemicals, Inc. Plant #1
2900 Middle Road
Ashtabula, OH 44004

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0204010200
Permit Number: 02-15582
Permit Type: Initial installation
County: Ashtabula

| | |
|-----|----------------------|
| Yes | TOXIC REVIEW |
| Yes | PSD |
| No | SYNTHETIC MINOR |
| No | CEMS |
| Yes | MACT |
| Yes | NSPS |
| No | NESHAPS |
| No | NETTING |
| No | MAJOR NON-ATTAINMENT |
| Yes | MODELING SUBMITTED |

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, The Star Beacon. A copy of the public notice and the draft permit are enclosed. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page <http://www.epa.state.oh.us/dapc> in Microsoft Word and Adobe Acrobat format. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
122 South Front Street
Columbus, Ohio 43215

and Ohio EPA DAPC, Northeast District Office
2110 East Aurora Road
Twinsburg, OH 43087

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)425-9171.

Sincerely,

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

Cc: U.S. EPA
Ohio EPA-NEDO; Pennsylvania; Canada

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

ASHTABULA COUNTY

PUBLIC NOTICE
OHIO ENVIRONMENTAL PROTECTION AGENCY
ISSUANCE OF DRAFT PERMIT TO INSTALL
SUBJECT TO PREVENTION OF SIGNIFICANT DETERIORATION REVIEW
TO MILLENNIUM INORGANIC CHEMICALS, INC. – PLANT #1

Public notice is hereby given that the Ohio Environmental Protection Agency (EPA) has issued, on 7/29/2008, a draft action of Permit to Install (PTI) application number 02-15582 to Millennium Inorganic Chemicals, Ashtabula, Ohio. This draft permit proposes to allow the installation of one new jet engine test stand at the facility located at 2900 Middle Road, Ashtabula, Ohio 44004.

Air emissions of several pollutants will result. The proposed allowable criteria pollutant air emission rates for the new source are listed below, in tons per year.

| <u>Pollutant</u> | <u>Tons/yr</u> |
|--------------------------------|----------------|
| PM/PM-10 | 13.85 |
| SO ₂ | 38.98 |
| NO _x | 33.64 |
| CO | 92.55 |
| HCl | 16.60 |
| OC (including COS) | 11.91 |
| H ₂ SO ₄ | 19.71 |

This facility is subject to the applicable provisions of the federal Prevention of Significant Deterioration (PSD) regulations (40 CFR 52.21) and the Ohio Administrative Code (OAC) rules 3745-31-10 through 31-27.

The U.S. EPA allows sources to consume no more than the maximum available ambient PSD increment(s) for each PSD pollutant. Proposed new sources also can not cause or significantly contribute to violations of the national ambient air quality standard (NAAQS). The Ohio EPA allows PSD sources to consume not more than one half of the remaining available increment, with some exceptions. After reviewing the air quality impact modeling for Millennium Inorganic Chemicals Ohio EPA has found no violations of the National Ambient Air Quality Standards or Prevention of Significant Deterioration. Modeling shows compliance with all applicable air quality standards. Based on this analysis, the project complies with both the federal and state modeling requirements.

Within 30 days from the date of this notice, any interested party may submit comments or request a public hearing. Comments are to be sent to Tim Fischer, Ohio EPA - NEDO, 2110 E. Aurora Rd., Twinsburg, Ohio, 44087.

Further information concerning this application, which is available for public inspection, may be secured from Tim Fischer, Ohio EPA - NEDO at the above address, telephone number 330-963-1200, during normal business hours.



**State of Ohio Environmental Protection Agency
Division of Air Pollution Control**

DRAFT

**Air Pollution Permit-to-Install
for
Millennium Inorganic Chemicals, Inc. Plant #1**

Facility ID: 0204010200
Permit Number: 02-15582
Permit Type: Initial installation
Issued: 7/29/2008
Effective: To be entered upon final issuance



State of Ohio Environmental Protection Agency
 Division of Air Pollution Control

Air Pollution Permit-to-Install
 for
 Millennium Inorganic Chemicals, Inc. Plant #1

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..... | 9 |
| 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. P006, Chlorination B Process..... | 14 |
| 2. P007, Spray Dryer B..... | 27 |
| 3. P010, Oxygen Preheater and TiCl 4 Vaporizer Train B..... | 32 |



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Draft Permit-to-Install
Permit Number: 02-15582
Facility ID: 0204010200

Effective Date: To be entered upon final issuance

Authorization

Facility ID: 0204010200
Facility Description: Manufacturer of titanium dioxide
Application Number(s): A0001916
Permit Number: 02-15582
Permit Description: Chapter 31 Modification to PTI 02-4450, Train B TiCl₄ and TiO₂ processes with associated boilers and storage tanks
Permit Type: Initial installation
Permit Fee: \$3,000.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 7/29/2008
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

Millennium Inorganic Chemicals, Inc. Plant #1
2900 Middle Road
Ashtabula, OH 44004

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:

Ohio EPA DAPC, Northeast District Office
2110 East Aurora Road
Twinsburg, OH 43087
(330)425-9171

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: 02-15582

Permit Description: Chapter 31 Modification to PTI 02-4450, Train B TiCl4 and TiO2 processes with associated boilers and storage tanks

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

Emissions Unit ID:

Company Equipment ID:
Superseded Permit Number:
General Permit Category and Type:

P006

Chlorination B Process

Not Applicable

Emissions Unit ID:

Company Equipment ID:
Superseded Permit Number:
General Permit Category and Type:

P007

Spray Dryer B

Not Applicable

Emissions Unit ID:

Company Equipment ID:
Superseded Permit Number:
General Permit Category and Type:

P010

Oxygen Preheater and TiCl 4 Vaporizer Train B

Not Applicable



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Draft Permit-to-Install

Permit Number: 02-15582

Facility ID: 0204010200

Effective Date: To be entered upon final issuance

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 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 Ohio EPA DAPC, Northeast District Office.



- (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 Ohio EPA DAPC, Northeast District Office. 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 Ohio EPA DAPC, Northeast District Office 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 Ohio EPA DAPC, Northeast District Office 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 Ohio EPA DAPC, Northeast District Office 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 Ohio EPA DAPC, Northeast District Office.
- 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 Ohio EPA DAPC, Northeast District Office. 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 through completion of the annual PER covering the last period of operation 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 PER 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 PER, 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 Ohio EPA DAPC, Northeast District Office must be notified in writing of any transfer of this permit.

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.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Draft Permit-to-Install

Permit Number: 02-15582

Facility ID: 0204010200

Effective Date: To be entered upon final issuance

B. Facility-Wide Terms and Conditions



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Draft Permit-to-Install

Permit Number: 02-15582

Facility ID: 0204010200

Effective Date: To be entered upon final issuance

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.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Draft Permit-to-Install

Permit Number: 02-15582

Facility ID: 0204010200

Effective Date: To be entered upon final issuance

C. Emissions Unit Terms and Conditions



1. P006, Chlorination B Process

Operations, Property and/or Equipment Description:

P006 - chlorination B process

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) d)(9), d)(10), d)(11), d)(12) and e)(9)

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) | 1.25 lbs/hr and 5.48 TPY of particulate matter (PM)/PM less than 10 microns in diameter (PM-10) 8.90 lbs/hr and 38.98 TPY of sulfur dioxide (SO ₂) 15.89 lbs/hr and 69.60 TPY of carbon monoxide (CO) 0.64 lb/hr and 2.80 TPY of nitrogen oxides (NO _x) 3.79 lbs/hr and 16.60 TPY of hydrogen chloride (HCl) 1.69 lbs/hr and 7.40 TPY of carbonyl sulfide (COS) The requirements of this rule also include compliance with OAC rule 3745-17-07(A)(1). See sections b)(2)a through b)(2)d below. |
| b. | OAC rule 3745-31-10 - OAC rule 3745-31-20 40 CFR Part 52, Section 52.21 | 4.50 lbs/hr and 19.71 TPY of sulfuric acid (H ₂ SO ₄) See section b)(2)e below. |
| c. | OAC rule 3745-17-07(A)(1) | Visible emissions from the stack serving this emissions unit shall not exceed 20 percent (%) opacity, as a 6-minute |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|-------------------------------|---|
| | | average, except as provided by the rule. |
| d. | OAC rule 3745-17-11(B) | The requirements established pursuant to this rule is less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3) and OAC rule 3745-31-10 through OAC rule 3745-31-20. |
| e. | OAC rule 3745-18-06(E) | The requirements established pursuant to this rule is less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3) and OAC rule 3745-31-10 through OAC rule 3745-31-20. |
| f. | OAC rule 3745-21-08(B) | See section b)(2)f. below. |

(2) Additional Terms and Conditions

- a. Methane injection must be employed to control chlorine emissions from a chlorine release that occurs during a safety bypass of the thermal converter (BRN-5330) and the caustic scrubber (SBR-5390).
- b. The following control equipment is used to control emissions during normal and maintenance operations at this emissions unit and also to control emissions during normal and maintenance operations at the Train "A" Chlorination Process (P001): a scrubber spray tower (TWR-5370), a venturi scrubber (SBR-5375) and a separator tower (SEP-5380).
- c. The following equipment is used to control emissions during startup operations at this emissions unit and also to control emissions during startup operations at the Train "A" Chlorination Process (P001): a venturi scrubber (SBR-0100) and a separator (SEP-0101).
- d. A safety bypass around the thermal converter was incorporated as part of the original Plant design of the B train chlorination system. The function of the safety bypass is to route combustible gases from chlorination around the thermal converter during a flame out, directly to the exhaust stack. A catastrophic explosion could occur if combustible gases are allowed to enter a hot vessel without a flame to ensure complete combustion.

A Preventative Maintenance Malfunction Abatement Plan (PMMAP), has been prepared and approved by Ohio EPA for the B train thermal converter. It outlines the procedures employed to minimize emissions that result from the use of the safety bypass. A safety bypass will not be considered a malfunction or deviation for Title V reporting so long as the approved PMMAP is followed. The pound per hour limit for CO is representative of normal operation and shall not apply during startup, shutdown, or safety bypass. If a safety bypass event occurs and the PMMAP is not followed, it will be considered a deviation for purposes of Title V reporting. A call will be made to Ohio EPA's Northeast District Office within 24



hours of the occurrence to report a malfunction per OAC rule 3745-15-06. The permittee shall maintain records of safety bypass emissions estimates.

- e. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that no additional air pollution controls are required to control H₂SO₄. The emission limitations based on the BACT requirements are listed under OAC rules 3745-31-10 thru 20 above.
- f. The permittee shall satisfy 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 (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

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. On June 24, 2003, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision 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.

c) Operational Restrictions

- (1) The permittee shall employ the venturi scrubber SBR-5305, the thermal convertor BRN-5330 and the water quench with a packed column caustic scrubber mist eliminator SBR-5390 whenever the emissions unit is in operation except during startup, shutdown, maintenance, calibration periods, or safety bypass events.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly operate and maintain equipment to monitor the operating parameters specified below in sections d)(2), d)(3), and d)(4). The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.
- (2) The venturi scrubber SBR-5305, the thermal convertor BRN-5330 and the water quench with a packed column caustic scrubber mist eliminator SBR-5390 shall be maintained within the following operating parameter values while the emissions unit is in normal operation except during startup, shutdown, maintenance, calibration periods, or safety bypass events:
 - a. for the venturi scrubber SBR-5305 water flow rate: not less than 5 gallons/minute or the minimum value established during the most recent emissions test that demonstrated that the emissions unit was in compliance;
 - b. for the thermal convertor BRN-5330, an average combustion temperature: for any 3-hour block of time, of not less than 1,350 degrees Fahrenheit (762 degrees Celsius) as outlined in the PMMAP or no more than 50 degrees Fahrenheit (28



- degrees Celsius) below the average temperature during the most recent emissions test that demonstrated that the emissions unit was in compliance; and
- c. for the packed column caustic scrubber mist eliminator SBR-5390: the 20 percent (%) caustic solution flow rate shall be maintained at or above 1 gallon/minute or not less than the minimum value(s) established during the most recent emissions test that demonstrated that the emissions unit was in compliance.
- (3) The venturi scrubber SBR-5375 shall be maintained at not less than 5 gallons/minute or the minimum value established either during the most recent emissions test that demonstrated that the emissions unit was in compliance at all times while any part of the emissions unit is in normal and/or maintenance operation except during startup, shutdown, maintenance, or calibration periods.
 - (4) The venturi scrubber SBR-0100 shall be maintained at not less than 5 gallons/minute or the minimum value established either during the most recent emissions test that demonstrated that the emissions unit was in compliance at all times while any part of the emissions unit is in cold startup operation except during startup (other than cold startup), shutdown, maintenance, or calibration periods.
 - (5) The permittee shall collect and record the following information each day while the emissions unit is in normal operation:
 - a. the venturi scrubber SBR-5305 water flow rate, in gallons per minute, on a once/12-hour basis;
 - b. all 3-hour blocks of time during which the average combustion temperature within the thermal convertor BRN-5330 was less than 1,350 degrees Fahrenheit (762 degrees Celsius), or no more than 50 degrees Fahrenheit (28 degrees Celsius) below the average temperature during the most recent emissions test that demonstrated that the emissions unit was in compliance;
 - c. the packed column caustic scrubber mist eliminator SBR-5390 20 percent (%) caustic solution flow rate, in gallons per minute, on a once/12-hour basis; and
 - d. the operating times for the capture (collection) system(s), control devices, monitoring equipment, and the associated emissions unit.
 - (6) The permittee shall collect and record the following information each day while any part of the emissions unit is in normal and/or maintenance operation;
 - a. the venturi scrubber SBR-5375 water flow rate, in gallons per minute, on a once/12-hour basis; and
 - b. the operating times for the capture (collection) system(s), control devices, monitoring equipment, and the associated emissions unit.
 - (7) The permittee shall collect and record the following information each day while any part of the emissions unit is in cold startup operation;



- a. the venturi scrubber SBR-0100 water flow rate, in gallons per minute, on a once/12-hour basis; and
 - b. the operating times for the capture (collection) system(s), control devices, monitoring equipment, and the associated emissions unit.
- (8)** The PMMAP, submitted on November 20, 2002, requires that the permittee collect and record the following information:
- a. a copy of the current PMMAP and previous revisions shall be kept on-site in accordance with Part I: General Terms and Conditions, section A.1.;
 - b. a record of the occurrence and duration of each safety bypass incident of the thermal convertor BRN-5330 and associated heat recovery boiler on a daily basis;
 - c. a record of inspection of the safety bypass valve on a monthly basis to ensure that it is maintained in the closed position and the exhaust gas stream is not diverted through the bypass line;
 - d. a record of the measurement of the CO content within the bypass line on a monthly basis; and
 - e. the operating times for the capture (collection) system(s), control devices, monitoring equipment, and the associated emissions unit.
- (9)** The permit to install for this emissions unit (P006) was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit application. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices";
or



- ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit, i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants or "worst case" toxic contaminant(s):

Toxic Contaminant: H2SO4

TLV (mg/m3): 1.0

Maximum Hourly Emission Rate (lbs/hr): 4.5 lbs/hr

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 19.19

MAGLC (ug/m3): 23.8

The permittee, having demonstrated that emissions of H2SO4, from emissions unit P006, is estimated to be equal or greater than eighty per cent, but less than 100 per cent of the maximum acceptable ground level concentration (MAGLC), shall not operate the emissions unit at a rate that would exceed the daily emissions rate, process weight rate, and/or restricted hours of operations, as allowed in this permit; and any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (10) Prior to making any physical changes to or changes in the method of operation of the emissions unit, that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and



- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute", ORC 3704.03(F), will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous modeled level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

- (11) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":

- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
- b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
- c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
- d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit or the materials applied.

- (12) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each recorded reading during normal operation when the following control device parameters were not maintained at or above the required levels specified in section d)(2):



- a. the venturi scrubber SBR-5305 wet scrubber water flow rate;
 - b. the thermal convertor BRN-5330 average combustion temperature, (all 3-hour blocks of time); and
 - c. the packed column caustic scrubber mist eliminator SBR-5390 20 percent (%) caustic solution flow rate.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify each recorded reading during normal operation and/or maintenance operation when venturi scrubber SBR-5375 water flow rate was not maintained at or above the required level specified in section d)(3).
- (3) The permittee shall submit quarterly deviation (excursion) reports that identify each recorded reading during cold startup operation when the venturi scrubber SBR-0100 water flow rate was not maintained at or above the required level specified in section d)(4).
- (4) The permittee shall submit reports that identify each occasion when the chlorine emissions were in excess of the reportable quantity required by the Emergency Planning and Community Right-to-Know Act (EPCRA), except during calibration spans. These reports shall contain the date, commencement and completion times, duration of each occasion, the total chlorine emissions for each occasion (in pounds), and the corrective actions taken (if any). Each report shall be submitted within 30 days after the reportable quantity chlorine release occurs.
- (5) Notification must be made to Ohio EPA Northeast District Office within 24 hours after any of the following conditions occurs:
- a. a malfunction incident such that process equipment, control equipment or related equipment breaks down or fails in such a manner to cause air contaminant emissions above the allowable levels specified in section C.1.b)(1). (except as provided in section b)(2)d);
 - b. a malfunction has been corrected and the equipment is operational again; or
 - c. actions are taken during a safety bypass that are not consistent with the PMMAP.
- (6) Written notification must be made to Ohio EPA Northeast District Office after actions are taken during a safety bypass that are not consistent with the PMMAP within the specified time period(s) and shall include the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the PMMAP, whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred, and if there was delay in making repairs, proof that repair parts have been ordered or any other records that would explain that the delay was beyond the owner/operator's control:
- a. within 7 work days after the end of a safety bypass incident, excluding safety bypasses resulting from temperature monitoring of the thermal convertor BRN-5330; and



- b. within 14 work days after the end of a thermal convertor BRN-5330 temperature monitoring safety bypass incident.
- (7) The permittee shall submit quarterly deviation (excursion) reports to the Ohio EPA Northeast District Office. If no malfunctions occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. These reports shall contain the following information for each malfunction incident:
- a. date;
 - b. commencement time, completion time and duration;
 - c. an identification of the process equipment and/or control equipment affected by the malfunction;
 - d. an identification and estimated quantity of air contaminant emissions that have been or may have been emitted (in pounds);
 - e. the corrective actions taken (if any);
 - f. whether the actions taken were consistent with the procedures specified in the PMMAP or not; and
 - g. if applicable, the reasons why the PMMAP procedures were not followed.
- (8) Within thirty (30) days following the end of each calendar quarter, the permittee shall submit quarterly malfunction summary reports to the Ohio EPA Northeast District Office. These reports shall contain the following information:
- a. the beginning and ending dates of the reporting period;
 - b. the total operating time of the emissions unit during the reporting period;
 - c. the identification of the air contaminant emissions and sum total duration of excess emissions for all malfunction incidents during the reporting period (recorded in minutes);
 - d. the sum total duration of excess emissions for all malfunction incidents, expressed as a per cent of the total emissions unit operating time during the reporting period;
 - e. a summary account of incidents that were caused by the same type of malfunction during the reporting period; and
 - f. if malfunctions that affect temperature monitoring of the thermal convertor BRN-5330 occurred, the following information:
 - i. the date of the most recent continuous temperature monitoring device certification or audit;
 - ii. the total continuous temperature monitoring down-time during the reporting period;



- iii. the sum total duration of continuous temperature monitoring down-time expressed as a percent of the total emissions unit operating time during the reporting period; and
- iv. a summary account of temperature monitoring malfunction incidents that were caused by the same type malfunction during the reporting period.

(9) The permittee shall submit quarterly deviation reports, to the Ohio EPA Northeast District Office, documenting any exceedance of the daily limitation on toxic air emissions or any deviation from a restriction on the process or hours of operation, as established by the Director in order to maintain any toxic air contaminant below its MAGLC. The permittee shall also report any changes made, during the calendar quarter, to a parameter or value entered into the dispersion model that demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F). These quarterly reports shall be submitted by April 30, July 31, October 31, and January 31, and shall cover the records for the previous calendar quarters.

f) Testing Requirements

(1) Compliance with the emissions limitation(s) in section C.1.b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

Visible emissions from the stack serving this emissions unit shall not exceed 20 percent (%) opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method(s):

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

b. Emission Limitation:

1.25 lbs of PM/PM-10/hr

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

c. Emission Limitation:

8.90 lbs of SO₂/hr

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60,



Appendix A, Methods 1 through 4 and 6C and the procedures in OAC rule 3745-18-04.

d. Emission Limitation:

15.89 lbs of CO/hr

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

e. Emission Limitation:

0.64 lb of NO_x/hr

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7E.

f. Emission Limitation:

3.79 lbs of HCl/hr

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 26.

g. Emission Limitation:

1.69 lbs of COS/hr

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25A.

h. Emission Limitation:

4.50 lbs of H₂SO₄/hr

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 8.

i. Emission Limitation(s):



5.48 TPY of PM/PM-10

38.98 TPY of SO₂

69.60 TPY of CO

2.80 TPY of NO_x

16.60 TPY of HCl

7.40 TPY of COS

19.71 TPY of H₂SO₄

Applicable Compliance Method(s):

The annual emission limitations above were determined by multiplying the respective hourly emission limitation by 8,760 hours per year and dividing 2,000 lbs/ton. Therefore, compliance with the each annual limit is assumed, provided compliance with the respective hourly limit is maintained.

- (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 the time frame in which testing is required in the permittee's Title V permit.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable visible particulate emission rate (opacity) for particulate emissions and the allowable mass rates of PM, SO₂, CO, NO_x, HCl, COS, and H₂SO₄ emissions.
 - c. The following test method(s) shall be employed to demonstrate compliance with the specified allowable limit:
 - i. Method 9 of 40 CFR, Part 60, Appendix A for visible particulate emissions;
 - ii. Methods 1 through 4 and 5 of 40 CFR, Part 60, Appendix A for the mass PM/PM-10 emissions rate;
 - iii. Methods 1 through 4 and 6C of 40 CFR, Part 60, Appendix A for the mass SO₂ emissions rate;
 - iv. Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A for the mass CO emissions rate;
 - v. Methods 1 through 4 and 7E of 40 CFR, Part 60, Appendix A for the mass NO_x emissions rate;
 - vi. Methods 1 through 4 and 26 of 40 CFR, Part 60, Appendix A for the mass HCl emissions rate;



- vii. Methods 1 through 4 and 25A of 40 CFR, Part 60, Appendix A for the mass COS emission rate; and
- viii. Methods 1 through 4 and 8 of 40 CFR, Part 60, Appendix A for the mass H2SO4 emission rate.

Alternative U.S.EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. The tests shall be conducted during normal operations while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA Northeast District Office. The emission tests shall be performed at the STK-5355 egress.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA Northeast District Offices refusal to accept the results of the emission test(s).

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

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

g) Miscellaneous Requirements

- (1) None.



2. P007, Spray Dryer B

Operations, Property and/or Equipment Description:

P007 - spray dryer B

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 operations(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. 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) | <p>1.91 lbs/hr, which is the same as 0.00814 grain/dscf and 8.37 TPY of particulate matter (PM)/PM less than 10 microns in diameter (PM-10)</p> <p>3.46 lbs/hr and 15.15 TPY of carbon monoxide (CO)</p> <p>4.92 lbs/hr and 21.55 TPY of nitrogen oxides (NOx)</p> <p>0.68 lb/hr and 2.98 TPY of organic compounds (OC)</p> <p>There shall be no visible particulate emissions from the STK-7537 egress, except during periods of startup, shutdown or malfunction as set forth in 40 CFR 60.8(c) and OAC rule 3745-15-06. The exclusion for uncombined water as set forth in OAC rule 3745-17-07(A)(2) shall apply.</p> |
| b. | 40 CFR Part 60, Subpart UUU | <p>The requirements established pursuant to 40 CFR Part 60, Subpart UUU [0.025 grain/dscf and 10 percent (%) opacity, as a 6-minute average], if applicable, are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3).</p> <p>See section b)(2)a below.</p> |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|-------------------------------|---|
| c. | OAC rule 3745-17-07(A) | The requirements specified in OAC rule 3745-17-07(A) are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-17-11(B) | The requirements established pursuant to OAC rule 3745-17-11(B) are less stringent than the requirements established pursuant to OAC rule 3745-31-05(A)(3). |
| e. | OAC rule 3745-21-08 | See section b)(2)b below. |

(2) Additional Terms and Conditions

a. The requirements of 40 CFR Part 60, Subpart UUU have been included for emissions unit P007 on the basis that USEPA has tentatively determined that the rule is applicable to this emissions unit. This determination is currently under review at USEPA. If USEPA determines in the future that Subpart UUU does not apply to this emissions unit, the terms and conditions established pursuant to 40 CFR Part 60, Subpart UUU shall be void and cease to apply. This emissions unit has potential PM emissions less than 11 tons per year. Therefore, unless and until USEPA makes a final determination otherwise, this emissions unit is exempt from any monitoring requirements under 40 CFR 60.734, consistent with 57 Fed. Reg. 44501 (Sept. 28, 1992).

b. The permittee shall satisfy 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 (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

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. On June 24, 2003, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision 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.

c. Because this emissions unit burns only natural gas, there is no applicable SO2 emission limitation in OAC Chapter 3745-18.

c) Operational Restrictions

- (1)** The permittee shall burn only natural gas in the TiO2 paste dryer burner (BRN-7508).
- (2)** The permittee shall employ the four baghouse collection system (BAG-7515, BAG-7517, BAG-7519 and BAG-7521) at all times while the emissions unit is in normal operation.



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas in the TiO₂ paste dryer burner (BRN-7508), the permittee shall maintain a record of the type and quantity of fuel burned.
- (2) The permittee shall perform daily checks of the spray dryer STK-7537 egress, 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. whether the visible emissions during the observation period were continuous or intermittent; and
 - e. any corrective actions taken to eliminate the visible emissions.
- (3) Notwithstanding the frequency of the inspections specified in section d)(2), the permittee may reduce the frequency for this emissions unit from daily to three days per week if the following conditions are met:
 - a. for one full quarter the permittee's inspections indicate no visible particulate emissions; and
 - b. the permittee continues to comply with all the record keeping and monitoring requirements specified in section d).

The permittee shall revert to daily readings if any visible particulate emissions are observed.

- (4) The permittee shall collect and record the operating times for the capture (collection) system(s) and the process equipment associated with the Train "B" Finishing Process.

e) Reporting Requirements

- (1) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from spray dryer STK-7537 egress and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office by January 31 and July 31 of each year and shall cover the previous six-month period.
- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the TiO₂ paste dryer burner (BRN-7508). Each report shall be submitted within 30 days after the deviation occurs.

f) Testing Requirements



(1) Compliance with the emission limitation(s) in section C.2.b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

There shall be no visible particulate emissions from the STK-7537 egress, except during periods of startup, shutdown or malfunction as set forth in 40 CFR 60.8(c) and OAC rule 3745-15-06. The exclusion for uncombined water as set forth in OAC rule 3745-17-07(A)(2) shall apply.

Applicable Compliance Method(s):

Compliance shall be determined through visible emissions observations performed in accordance with sections d)(2) and d)(3).

b. Emission Limitation:

1.91 lbs of PM/PM-10/hr

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

c. Emission Limitation:

3.46 lbs of CO/hr

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

d. Emission Limitation:

4.92 lbs of NOx/hr

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7E.

e. Emission Limitation:

0.68 lbs of OC/hr

Applicable Compliance Method(s):



If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25A.

f. Emission Limitation:

8.37 TPY of PM/PM-10

15.15 TPY of CO

2.98 PY of NOx

2.98 TPY of OC

Applicable Compliance Method(s):

The annual emission limitations above were determined by multiplying the respective hourly emission limitation by 8,760 hours per year and dividing 2,000 lbs/ton. Therefore, compliance with the each annual limit is assumed, provided compliance with the respective hourly limit is maintained.

- (2) Stack testing for PM/PM-10, NOx, CO, and OC is not required at this time. The need for stack testing will be re-evaluated during the drafting of the Title V renewal permit.

g) Miscellaneous Requirements

- (1) None.



3. P010, Oxygen Preheater and TiCl 4 Vaporizer Train B

Operations, Property and/or Equipment Description:

P010 - oxygen preheater and TiCl 4 vaporizer

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 operations(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. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Train 'B' Oxidation Process includes an aluminum chloride generator (GEN-5808), an oxidation reactor (REA-5904), a flue pond (HEX-5904), a paire filter (FLT-5905), a slurry tank (TNK-5907)

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|-------------------------------|---|
| a. | OAC rule 3745-17-07(A) | Visible particulate emissions from any stack serving this portion of the emissions unit shall not exceed 20 percent (%) opacity as a 6-minute average, except as specified by the rule. |
| b. | OAC rule 3745-17-11 | The emission limitation established by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). See section b)(2)a. below. |

7.0 mmBtu/hr natural gas-fired oxygen preheater (HTR-5902) and
14.6 mmBtu/hr natural gas-fired TiCl4 vaporizer (VAP-5901)

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|-------------------------------|---|
| c. | OAC rule 3745-17-07(A) | Visible particulate emissions from the stack serving either of these portions of the emissions unit shall not exceed 20 percent (%) opacity as a 6-minute average, except as specified by the rule. |
| d. | OAC rule 3745-17-10(B)(1) | Particulate emissions (PE) from either of these portions of the emissions unit shall not exceed 0.020 lb/mmBtu of actual heat input. |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|-------------------------------|---|
| e. | OAC rule 3745-21-08(B) | See section b)(2)b below. |

Oxidation Process fuel combustion operations [TiCl4 vaporizer (VAP-5901) and O2 preheater (HTR-5902)]

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|-------------------------------|--|
| f. | OAC rule 3745-31-05(A)(3) | <p>1.78 lbs/hr and 7.80 TPY of carbon monoxide (CO)</p> <p>2.12 lbs/hr and 9.29 TPY of nitrogen oxides (NOx)</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-10, and 3745-21-08(B).</p> |

(2) Additional Terms and Conditions

- a. Exhaust gases from the paire filter (FLT-5905) product capture device, serving the oxidation reactor, are vented to the Train "B" Chlorination Process (P006) instead of the atmosphere. However, during startup or equipment pressure testing, nitrogen or oxygen is used to warm the oxygen preheater HTR-5902 so that no air contaminant emissions are generated when paire filter gases are exhausted to the atmosphere.
- b. The permittee shall satisfy 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 (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

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. On June 24, 2003, the rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP); however, until the U.S. EPA approves the revision 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.

c) Operational Restrictions

- (1)** The permittee shall burn only natural gas in the TiCl4 vaporizer (VAP-5901) burner and in the O2 preheater burner (HTR-5902).

d) Monitoring and/or Recordkeeping Requirements



- (1) For each day during which the permittee burns a fuel other than natural gas in TiCl₄ vaporizer (VAP-5901) burner or in the O₂ preheater burner (HTR-5902), the permittee shall maintain a record of the type and quantity of fuel burned.

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the TiCl₄ vaporizer (VAP-5901) burner or in the O₂ preheater burner (HTR-5902). Each report shall be submitted within 30 days after the deviation occurs.

f) Testing Requirements

- (1) Compliance with the emissions limitation(s) in section C.3.b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20 percent (%) opacity as a 6-minute average, except as specified by the rule.

Applicable Compliance Method(s):

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

b. Emission Limitation:

PE shall not exceed 0.020 lb/mmBtu of actual heat input.

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

c. Emission Limitation:

1.78 lbs/hr of CO

Applicable Compliance Method(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

d. Emission Limitation:

2.12 lbs/hr of NO_x

Applicable Compliance Method(s):



If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7E.

e. Emission Limitations:

7.80 TPY of CO

9.29 TPY of NO_x

Applicable Compliance Method(s):

The annual emission limitations above were determined by multiplying the respective hourly emission limitation by 8,760 hours per year and dividing 2,000 lbs/ton. Therefore, compliance with the each annual limit is assumed, provided compliance with the respective hourly limit is maintained.

(2) Stack testing for PM/PM-10, NO_x, CO, and OC is not required at this time. The need for stack testing will be re-evaluated during the drafting of the Title V renewal permit.

g) Miscellaneous Requirements

(1) None.