



State of Ohio Environmental Protection Agency

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Columbus, OH 43216-1049

9/16/2008

Certified Mail

Richard Hughes  
Millennium Inorganic Chemicals, Inc. - Plant 2  
2900 Middle Road  
Ashtabula, OH 44004

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 0204010193  
Permit Number: 02-14024  
Permit Type: Administrative Modification  
County: Ashtabula

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR
No	CEMS
No	MACT
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.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of \$70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC 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 Ohio EPA DAPC, Northeast District Office. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page <http://www.epa.state.oh.us/dapc>.

Sincerely,

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

Cc: U.S. EPA Region 5 *Via E-Mail Notification*  
Ohio EPA DAPC, Northeast District Office

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





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

**FINAL**

**Air Pollution Permit-to-Install**  
for  
Millennium Inorganic Chemicals, Inc. - Plant 2

Facility ID: 0204010193  
Permit Number: 02-14024  
Permit Type: Administrative Modification  
Issued: 9/16/2008  
Effective: 9/16/2008





State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Air Pollution Permit-to-Install**  
for  
Millennium Inorganic Chemicals, Inc. - Plant 2

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State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**  
**Permit Number:** 02-14024  
**Facility ID:** 0204010193  
**Effective Date:** 9/16/2008

# Authorization

Facility ID: 0204010193  
Facility Description: Manufacturing of titanium dioxide  
Application Number(s): A0001908  
Permit Number: 02-14024  
Permit Description: Administrative modification of PTI 02-14024 for the No. 2 TiO2 spray dryer (P013).  
Permit Type: Administrative Modification  
Permit Fee: \$300.00  
Issue Date: 9/16/2008  
Effective Date: 9/16/2008

This document constitutes issuance to:

Millennium Inorganic Chemicals, Inc. - Plant 2  
2426 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



State of Ohio Environmental Protection Agency  
 Division of Air Pollution Control

**Final Permit-to-Install**  
**Permit Number:** 02-14024  
**Facility ID:** 0204010193  
**Effective Date:** 9/16/2008

## Authorization (continued)

Permit Number: 02-14024

Permit Description: Administrative modification of PTI 02-14024 for the No. 2 TiO2 spray dryer (P013).

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

<b>Emissions Unit ID:</b>	<b>P012</b>
Company Equipment ID:	Spray Dryer #1 - TiO2 Unit
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P013</b>
Company Equipment ID:	Spray Dryer #2 - TiO2 Unit
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**  
**Permit Number:** 02-14024  
**Facility ID:** 0204010193  
**Effective Date:** 9/16/2008

## **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

**Final Permit-to-Install**  
**Permit Number:** 02-14024  
**Facility ID:** 0204010193  
**Effective Date:** 9/16/2008

## **B. Facility-Wide Terms and Conditions**



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**  
**Permit Number:** 02-14024  
**Facility ID:** 0204010193  
**Effective Date:** 9/16/2008

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

**Final Permit-to-Install**  
**Permit Number:** 02-14024  
**Facility ID:** 0204010193  
**Effective Date:** 9/16/2008

## **C. Emissions Unit Terms and Conditions**



**1. P012, Spray Dryer #1 - TiO<sub>2</sub> Unit**

**Operations, Property and/or Equipment Description:**

P012 - TiO<sub>2</sub> paste feed tank (FE-917), No. 1 TiO<sub>2</sub> paste drier (FF-919) and 21 mmBtu/hr natural gas fired burner (BA-918) with two baghouses (FD-921A & FD-921B) MODIFICATION

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)(5)

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)	Particulate emissions (PE) shall not exceed 4.0 lbs/hr and 17.5 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).
b.	OAC rule 3745-17-07(A)	Visible from the stack serving this emissions unit shall not exceed 20 percent (%) opacity, as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11	See b)(2)a.
d.	OAC rule 3745-21-08	See b)(2)b.

(2) Additional Terms and Conditions

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

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.



Because this emissions unit burns only natural gas, there is no applicable SO<sub>2</sub> emission limitation in OAC Chapter 3745-18.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in the No.1 TiO<sub>2</sub> paste dryer burner (BA-918).
- (2) The permittee shall employ the two baghouse collection system (FD-921A & FD-921B) 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, the permittee shall maintain a record of the type and quantity of fuel burned in the No. 1 TiO<sub>2</sub> paste dryer burner (BA-918).
- (2) The permittee shall perform daily checks of the spray dryer CB-925 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 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:
  - f. for one full quarter the permittee's inspections indicate no visible particulate emissions; and
  - g. the permittee continues to comply with all the record keeping and monitoring requirements specified in 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.
- (5) Modeling to demonstrate compliance with the "Toxic Air Contaminant Statute" in ORC 3704.03(F)(4)(b) was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be



less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install.

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 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 TiO<sub>2</sub> paste dryer burner (BA-918). Each report shall be submitted within 30 days after the deviation occurs.

f) Testing Requirements

- (1) Compliance with the allowable emissions limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitation:

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

Applicable Compliance Method:

In accordance with OAC rule 3745-17-03(B)(1), compliance with the opacity limitation shall be determined in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

b. Emission Limitation:

4.0 lbs of PE/hr.

Applicable Compliance Method:

To determine the actual worst case emission rate for PE, the following equation may be used:

$$E_{PE} = \text{summation of } [Qds \times (PE_{\text{grain load}}) \times (1 \text{ lb PE}/7000 \text{ grains PE}) \times (60 \text{ min/hr})].$$

where the following applies:

$$E_{PE} = \text{PE rate, in pounds per hour.}$$



Qds = dry, standard actual exhaust flow from final egress point (CB-925), 15,574 dry standard cubic feet per minute (dcfm), from the stack test conducted on July 29, 1999.

PE grain load = maximum particulate load from dust control device(s)  
0.0025 grains PE/dscf, from the stack test conducted on July 29, 1999.

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 1-5.

c. Emission Limitation:

17.5 TPY of PE

Applicable Compliance Method:

To determine the annual rate for PE, the actual hourly, worst case emission rate as determined in (f)(1)b. shall be multiplied by the actual hours of operation, which is the sum of the daily operating hours, as required in the record keeping in (d)(4), for the calendar year, and divided by 2000 lbs/ton.

g) Miscellaneous Requirements

- (1) Newly designated emissions unit, P012, was previously associated with emissions unit, (P901) Titanium dioxide finishing operations.



**2. P013, Spray Dryer #2 - TiO<sub>2</sub> Unit**

**Operations, Property and/or Equipment Description:**

P013 - TiO<sub>2</sub> paste feed tank (FA-614), No. 2 TiO<sub>2</sub> paste drier (FF-946) and 37 mmBtu/hr natural gas fired burner (BA-946) with baghouse (FD-946) - Administrative Modification of PTI 02-14024 issued on 2/20/2001.

- 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)	Particulate emissions (PE) shall not exceed 2.24 lbs/hr and 9.81 TPY.  Carbon monoxide (CO) emissions shall not exceed 6.78 lbs/hr and 29.7 tons/yr.  Nitrogen oxide (NO <sub>x</sub> ) emissions shall not exceed 4.40 lbs/hr and 19.3 tons/yr.  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).
b.	OAC rule 3745-17-07(A)	Visible from the stack serving this emissions unit shall not exceed 20 percent (%) opacity, as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11	See (b)(2)a.
d.	40 CFR 60.730 - 60.737 40 CFR 60.732(a)	The PE rate shall not exceed 0.025 grains/dscf (0.057 grams/dscm).
e.	40 CFR 60.730 - 60.737 40 CFR 60.732(b)	Visible PE from the stack serving this emissions unit shall not exceed 10 percent (%) opacity, as a six-minute average.
f.	OAC rule 3745-21-08	See b)(2)b.



(2) Additional Terms and Conditions

- a. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- 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. The requirements of 40 CFR Part 60, Subpart UUU have been included for emissions unit P013 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 of 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. The 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).
- d. Because this emissions unit burns only natural gas, there is no applicable SO<sub>2</sub> emission limitation in OAC Chapter 3745-18.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in the No.2 TiO<sub>2</sub> paste dryer burner (BA-946).
- (2) The permittee shall employ the baghouse collection system (FD-946) 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, the permittee shall maintain a record of the type and quantity of fuel burned in the No. 2 TiO<sub>2</sub> paste dryer burner (BA-946).
- (2) The permittee shall perform daily checks of the spray dryer CB-945 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. the total duration of any visible emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (3) Notwithstanding the frequency of the inspections specified in 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 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 the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous six-month periods.
- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the TiO<sub>2</sub> paste dryer burner (BA-946). Each report shall be submitted within 30 days after the deviation occurs.



f) Testing Requirements

(1) Compliance with the allowable emissions limitations in (b)(1) shall be determined in accordance with the following methods:

a. Emission Limitation:

Visible PE from the stack serving this emissions unit shall not exceed 20 percent (%) opacity, as a six-minute average, except as provided by rule. Visible PE from the stack serving this emissions unit shall not exceed 10 percent (%) opacity, as a six-minute average.

Applicable Compliance Method:

In accordance with OAC rule 3745-17-03(B)(1) and 40 CFR 60.736(b)(2), compliance with the opacity limitations shall be determined in accordance with 40 CFR, Part 60, Appendix A, Method 9.

b. Emission Limitation:

2.24 lbs of PE/hr.

Applicable Compliance Method:

To determine the actual worst case emission rate for PE, the following equation may be used:

$$E_{PE} = \text{summation of } [Q_a \times 528 / (T_a + 459.67) \times (1 - M / 100) \times (PE_{\text{grain load}}) \times (1 \text{ lb PE} / 7000 \text{ grains PE}) \times (60 \text{ min} / \text{hr})].$$

Where the following applies:

$E_{PE}$  = PE rate, in pounds per hour.

$Q_a$  = actual exhaust flow from final egress point (CB-945), 45,000 actual cubic feet per minute (acfm) is maximum design flow as noted in the permit application.

$T_a$  = actual exhaust gas temperature, 300 degrees Fahrenheit, from engineering estimates in the permit application.

$M$  = moisture content of exhaust flow, 24 percent by volume, from engineering estimates in the permit application.

PE grain load = maximum particulate load from dust control device, 0.01 grains PE/dscf, from baghouse manufacturer specifications as noted in the permit application.

After a performance test is conducted to demonstrate compliance with the hourly PE rate or the grains/dscf PE exhaust gas concentration limit, the measured emission rate during the performance test shall be employed as the compliance method. A Method 5 performance test, employing 2-hour sampling periods, was conducted on June 21, 2004 on this emissions unit, and measured a PE rate of



0.06 lb PE/hr. 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 1-5.

c. Emission Limitation:

0.025 grains of PE per dry standard cubic feet of exhaust gas from a dryer

Applicable Compliance Method:

In accordance with 40 CFR 60.736(b)(1), compliance with the exhaust gas PE concentration limit shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 5. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dry standard cubic meters. A Method 5 performance test, employing 2-hour sampling periods, was conducted on June 21, 2004 on this emissions unit, and measured a particulate concentration of 0.003 grains/dscf.

d. Emission Limitation:

9.81 TPY of PE

Applicable Compliance Method:

To determine the annual rate for PE, the actual hourly, worst case emission rate as determined in (f)(1)b. or f)(1)c., whichever is the most recent performance test that was conducted under representative conditions, shall be multiplied by the actual hours of operation, which is the sum of the daily operating hours, as required in the record keeping in (c)(3), for the calendar year, and divided by 2,000 lbs/ton.

e. Emission Limitation:

6.78 lbs/hr of CO

Applicable Compliance Method:

To determine the actual hourly worst case CO emission rate the following equation may be used:

$$E_{CO} = Q \times CO \times 1\text{ppm}/1,000,000 \text{ parts} \times 28 \text{ gram CO/mole CO} \times 1 \text{ lb CO}/453.59 \text{ gram CO} \times 60 \text{ min/hr.}$$

Where the following applies:

$E_{CO}$  = CO emissions, in pounds per hour.

Q = exhaust flow , which is 23,760 dscf./min, as noted in the application for PTI 02-14024.

CO = CO concentration in exhaust flow, which is 70 ppm, based upon manufacturer specifications.

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 1-4 and 10 . Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

f. Emission Limitation:

29.7 TPY of CO

Applicable Compliance Method:

To determine the actual, annual CO emissions, the worst case hourly rate, E\_CO, as determined from the equation as noted in (f)(1)e., is multiplied by the actual, annual hours of operation, as required in the record keeping specified in (d)(3), and divided by 2,000 lbs per ton.

g. Emission Limitation:

4.40 lbs/hr of NO<sub>x</sub>

Applicable Compliance Method:

To determine the actual, hourly worst case NO<sub>x</sub> emission rate the following equation may be used:

$$E_{NO_x} = \text{Btu/hr} \times EF$$

E\_NO<sub>x</sub> = NO<sub>x</sub> emissions, in pounds per hour.

Btu = maximum, hourly heat input, which is 37 mmBtu, based on manufacturer's specification.

EF = NO<sub>x</sub> emission factor, which is 0.108 lb NO<sub>x</sub>/mmBtu of actual heat input, based upon manufacturer's specification.

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 1-4 and 7E . Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

h. Emission Limitation:

19.3 TPY of NO<sub>x</sub>

Applicable Compliance Method:

To determine the actual, annual NO<sub>x</sub> emissions, the worst case hourly rate, E\_NO<sub>x</sub> , as determined from the equation as noted in (f)(1)g. is multiplied by the actual, annual hours of operation, as required in the record keeping specified in (c)(3), and divided by 2,000 lbs per ton.

g) Miscellaneous Requirements

- (1) None.