



State of Ohio Environmental Protection Agency

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

10/2/2008

Certified Mail

Michael Resar  
PCS Nitrogen Ohio, L.P.  
1900 Fort Amanda Road  
P.O. Box 1901, Lima, OH 45802  
Lima, OH 45804

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 0302020370  
Permit Number: P0103658  
Permit Type: OAC Chapter 3745-31 Modification  
County: Allen

No	TOXIC REVIEW
No	PSD
Yes	SYNTHETIC MINOR
Yes	CEMS
No	MACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	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, Northwest 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, Northwest 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  
PCS Nitrogen Ohio, L.P.

Facility ID: 0302020370  
Permit Number: P0103658  
Permit Type: OAC Chapter 3745-31 Modification  
Issued: 10/2/2008  
Effective: 10/2/2008





State of Ohio Environmental Protection Agency  
 Division of Air Pollution Control

**Air Pollution Permit-to-Install**  
 for  
 PCS Nitrogen Ohio, L.P.

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State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**

**Permit Number:** P0103658

**Facility ID:** 0302020370

**Effective Date:** To be entered upon final issuance

## Authorization

Facility ID: 0302020370

Facility Description: Nitrogenous Fertilizers

Application Number(s): A0035559

Permit Number: P0103658

Permit Description: Modification of existing nitric acid plant to increase daily acid production capacity from 400 to 450 tons.

Permit Type: OAC Chapter 3745-31 Modification

Permit Fee: \$1,000.00

Issue Date: 10/2/2008

Effective Date: 10/2/2008

This document constitutes issuance to:

PCS Nitrogen Ohio, L.P.  
Fort Amanda & Adgate Roads  
None  
Lima, OH 45804

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, Northwest District Office  
347 North Dunbridge Road  
Bowling Green, OH 43402  
(419)352-8461

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:** P0103658  
**Facility ID:** 0302020370

**Effective Date:** To be entered upon final issuance

## Authorization (continued)

Permit Number: P0103658  
 Permit Description: Modification of existing nitric acid plant to increase daily acid production capacity from 400 to 450 tons.

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>P570</b>
Company Equipment ID:	#2 Nitric Acid Plant
Superseded Permit Number:	03-05319
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**

**Permit Number:** P0103658

**Facility ID:** 0302020370

**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, Northwest 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, Northwest 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, Northwest 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, Northwest 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, Northwest 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, Northwest 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, Northwest 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.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**

**Permit Number:** P0103658

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## **17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Ohio EPA DAPC, Northwest 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**

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



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install**

**Permit Number:** P0103658

**Facility ID:** 0302020370

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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:** P0103658

**Facility ID:** 0302020370

**Effective Date:** To be entered upon final issuance

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



**1. P570, #2 Nitric Acid Plant**

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

450 tons/day Nitric Acid (100%) Plant (Plant #2), modification of PTI #03-05319 issued on 7/17/91 and modified 11/25/05 to allow for increased production.

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), d)(6), d)(7), and e)(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)	1.60 lbs of nitrogen oxides (NOx)/ton of acid (100% nitric acid) produced except during periods of startup and shutdown [see b)(2)a.]  See b)(2)c. and b)(2)d.
b.	OAC rule 3745-31-05(D)	80.78 tons of NOx per rolling, 365-day period (including emissions from startups and shutdowns) [see b)(2)f.]
c.	40 CFR Part 60 Subpart G	See b)(2)b. and b)(2)d.

(2) Additional Terms and Conditions

a. Best Available Technology (BAT) control for this emissions unit has been determined to be the use of a selective catalytic reduction (SCR) control system that achieves an emission rate of 1.60 lbs of NOx/ton of acid (100% nitric acid) produced except during periods of startup and shutdown.

b. The permittee shall not discharge into the atmosphere, except during startup and shutdown, any gases which:

i. Contain NOx, expressed as NO2, in excess of 3.0 lb per ton of acid produced, the production being expressed as 100% nitric acid; and

ii. Exhibit 10% opacity or greater.

c. The requirements of this rule also include compliance with the requirements of 40 CFR Part 60 Subpart G.



- d. The lb NOx/ton of acid produced limitation specified by 40 CFR Part 60 Subpart G is less stringent than the lb NOx/ton of acid produced limitation established pursuant to OAC rule 3745-31-05(A)(3). 40 CFR Part 60 Subpart G requires a specific method for demonstrating compliance without any option of an alternative compliance method. This permit requires the use of a different method resulting in greater accuracy (as compared to the requirements of 40 CFR Part 60 Subpart G) for demonstrating compliance with the lb NOx/ton of acid produced limitation established by OAC rule 3745-31-05(A)(3). Due to the necessity for greater accuracy to demonstrate compliance with the limitation established by OAC rule 3745-31-05(A)(3) and the lack of an alternative compliance option in 40 CFR Part 60 Subpart G, the establishment of two separate lbs NOx/ton of acid produced limitations is necessary.
- e. The permittee shall submit a plan for quantifying NOx emissions during times of startup\* and shutdown\* when emissions exceed the capability of the NOx monitoring system (i.e., the NOx concentration exceeds the span range, etc.). The plan shall be submitted for review to the Northwest District Office within 60 days of final issuance of this permit and shall be implemented [as specified in d)(3) immediately upon approval.

\* A startup consists of all periods of time when the reactor gauze temperature is below a minimum operating temperature of 1700 degrees Fahrenheit while bringing the unit online. A shutdown consists of all periods of time when the reactor gauze temperature is below a minimum operating temperature of 1200 degrees Fahrenheit while bringing the unit offline.

- f. This permit establishes the following federally enforceable emission limitation for purposes of avoiding Prevention of Significant Deterioration (PSD) applicability:

Annual emissions (including emissions from startups and shutdowns) shall not exceed 80.78 tons NOx per rolling, 365-day period.

To ensure enforceability during the first 12 calendar months of operation under the provisions of this permit, the permittee shall not exceed the emission levels specified in the following table:

Months	Maximum Allowable Cumulative Emissions of NOx (in tons)
1	17.00
1-2	34.00
1-3	51.00
1-4	68.00
1-5	80.78
1-6	80.78



1-7	80.78
1-8	80.78
1-9	80.78
1-10	80.78
1-11	80.78
1-12	80.78

After the first 12 calendar months of operation under the provisions of this permit, compliance with the annual emission limitation for NOx shall be based upon a rolling, 365-day summation of the daily emissions.

c) Operational Restrictions

- (1) None

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform the following monitoring and record keeping requirements contained in 40 CFR Part 60 Subpart G for purposes of demonstrating compliance with the 3.0 lb NOx per ton of acid produced limitation:
  - a. The permittee shall operate and maintain a continuous monitoring system for measuring NOx. The pollutant gas mixtures under Performance Specification 2 and for calibration checks under 40 CFR 60.13(d) of this part shall be nitrogen dioxide (NO2). The span value shall be 500 ppm of NO2. Method 7 shall be used for the performance evaluations under 40 CFR 60.13(c). Acceptable alternative methods to Method 7 are given in 40 CFR 60.74(c). [40 CFR 60.73(a)]
  - b. The permittee shall establish a conversion factor for the purpose of converting monitoring data into units of applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., kg/metric ton per ppm (lb/ton per ppm). The conversion factor shall be re-established during any performance test under 40 CFR 60.8 or any continuous monitoring system performance evaluation under 40 CFR 60.13(c). [40 CFR 60.73(b)]
  - c. The permittee shall record the daily production rate and the hours of operation. [40 CFR 60.73(c)]



- (2) The permittee shall perform the following monitoring and recordkeeping requirements for purposes of quantifying NO<sub>x</sub> emissions which will be used in demonstrating ongoing compliance with the 1.60 lb NO<sub>x</sub> per ton of acid (100% nitric acid) produced limitation and the emission limitation of 80.78 tons NO<sub>x</sub> per rolling 365-day period:
- a. The permittee shall operate and maintain equipment to continuously monitor and record NO<sub>x</sub> from this emissions unit in appropriate units (lbs/day) to be used to demonstrate compliance with the NO<sub>x</sub> limitations presented above. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
  - b. The permittee shall maintain records of all data obtained by the continuous NO<sub>x</sub> monitoring system including, but not limited to, parts per million NO<sub>x</sub> on an instantaneous (one-minute) basis, emissions of NO<sub>x</sub> in appropriate units and averaging period, results of daily zero/span calibration checks, and the magnitude of manual calibration adjustments.
  - c. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO<sub>x</sub> monitoring system designed to ensure continuous valid and representative readings of NO<sub>x</sub>. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.
  - d. A statement of certification of the existing continuous NO<sub>x</sub> monitoring system shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and/or 40 CFR Part 75. Proof of certification shall be made available to the Director (the Ohio EPA, Northwest District Office) upon request.

In lieu of installing a continuous emissions monitoring system (CEM) for NO<sub>x</sub> (to demonstrate compliance with the NO<sub>x</sub> limitations of 1.60 lbs per ton of acid produced and 80.87 tons per rolling, 365-day period), the permittee may elect to install a predictive emission monitoring system (PEMS) for quantifying NO<sub>x</sub> emissions. The PEMS must meet 'Example Specifications and Test Procedures for Predictive Emission Monitoring Systems' as written by the United States Environmental Protection Agency, and the proposed system shall be approved in writing by Ohio EPA prior to installation. At such time that a performance specification for PEMS is promulgated, the PEMS shall be required to meet the promulgated requirements.

After initial testing to assure the PEMS meets the 'Example Specifications and Test Procedures for Predictive Emission Monitoring Systems', or when available, the promulgated performance specification, ongoing quality assurance/quality control shall include a relative accuracy test audit (RATA) once every four (or less) calendar quarters. RATA requirements are in addition to any and all PEMS manufacturer-suggested quality assurance/quality control procedures. RATA requirements shall include multi-load, multi-fuel (when applicable) testing. RATA testing shall be completed using the appropriate 40 CFR 60, Appendix A test methods (Methods 7E, 3A and 1-4 as necessary). RATA testing protocol shall be submitted to the Director (the Ohio EPA, Central Office) for approval prior to installation of the PEMS.



- e. The permittee shall calculate and record the following information for purposes of determining compliance with the 1.60 lb of NOx per ton of acid produced:

The emission rate (E) of NOx shall be computed using the following equation:

$$E = (Q_{NOx})/P$$

where

E = emission rate of NOx as NO2, lb/ton of 100% nitric acid

Q<sub>NOx</sub> = NOx emissions quantified by CEM/PEM, lbs/day

P = acid production rate, ton/day for 100% nitric acid

- (3) The permittee shall maintain daily records of the following information for this emissions unit:
  - a. The total NOx emissions, in lbs/day, as quantified by the CEM/PEM [see d)(2)].
  - b. The total NOx emissions, in lbs/day, from startup and shutdown events during which emissions exceed the capability of the NOx monitoring system. The NOx emissions shall be determined in accordance with the requirement contained in b)(2)e.
  - c. The total NOx emission rate, in lbs/day, [summation of d)(3)a. and d)(3)b]
  - d. The rolling, 365-day NOx emission rate , in tons.
- (4) The permittee shall perform daily checks when the emissions unit is in operation and when the weather conditions allow for any visible particulate emissions from the stack serving the 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 emissions;
  - c. If the emissions are not representative of normal emissions, the cause of the abnormal emissions;
  - d. The total duration of any visible emissions incident; and
  - e. Any corrective actions taken to eliminate the visible emissions.
- (5) The Permit to Install for this emissions unit was evaluated based on the actual materials and design parameters of the emissions unit's exhaust system, as specified 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. Modeling was performed for each toxic air contaminant



emitted at over one ton per year using the SCREEN 3.0 air dispersion model. The predicted 1-hour maximum ground-level concentration results 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 Toxic Air Emissions, Option A," as follows:

- a. The exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour work day and 40-hour work week, for each toxic compound emitted from the emissions unit, 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. TLV (threshold limit value) 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 ACGIH's "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 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" hours per week, from that of 8 hours per day and 5 days per week. The resulting calculation was used to determine the MAGLC:

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

- d. The following summarizes the results of dispersion modeling for the increase in significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminants:

Toxic Contaminant: Ammonia

TLV (mg/m3): 17.41

Maximum Hourly Emission Rate (lbs/hr): 0.46

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.566

MAGLC (ug/m3): 415.00

The permittee has demonstrated that emissions of ammonia are calculated to be less than 80% of the MAGLC; any new raw material or processing agent shall not be applied without evaluating each toxic air contaminant in accordance with the "Toxic Air Contaminant Statute" in ORC 3704.03(F).



- (6) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute" in ORC 3704.03(F):
    - 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 modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
    - b. The MAGLC for each significant toxic contaminant or worst case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute";
    - c. A copy of the computer model runs that establish the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit to be in compliance with the "Toxic Air Contaminant Statute," initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
    - d. Documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute" 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.
  - (7) The permittee shall maintain a record of any change made to a parameter or value in the dispersion model used to demonstrate compliance with the "Toxic Air Contaminant Statute" through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason for the change, and a determination of whether the change would increase the ground-level determination.
- e) Reporting Requirements
- (1) For the purpose of reports required under 40 CFR 60.7(c), periods of excess emissions that shall be reported are defined as any 3-hour period during which the average nitrogen oxide emissions (arithmetic average of three contiguous 1-hour periods), as measured by a continuous monitoring system, exceed the standard under 40 CFR 60.72(a). [40 CFR 60.73(e)]
  - (2) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its two separate continuous NO<sub>x</sub> monitoring systems [CEM for 3.0 lbs NO<sub>x</sub>/ton of acid, CEM/PEM for 1.60 lbs NO<sub>x</sub>/ton of acid and 80.87 tons NO<sub>x</sub> per rolling 365-day period (see d)(1) and d)(2)]:
    - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of NO<sub>x</sub> emissions in excess of any applicable limit specified in this permit and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).



- b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
  - i. the facility name and address;
  - ii. the manufacturer and model number of the continuous NO<sub>x</sub> and other associated monitors;
  - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
  - iv. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
  - v. the total NO<sub>x</sub> emissions for the calendar quarter (tons);
  - vi. the total operating time (hours) of the emissions unit;
  - vii. the total operating time of the continuous NO<sub>x</sub> monitoring system while the emissions unit was in operation;
  - viii. results and date of quarterly cylinder gas audits;
  - ix. unless previously submitted, results and date of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
  - x. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO<sub>x</sub> monitor out-of-control and the compliant results following any corrective actions;
  - xi. the date, time, and duration of any/each malfunction\*\* of the continuous NO<sub>x</sub> monitoring system, emissions unit, and/or control equipment;
  - xii. the date, time, and duration of any downtime\*\* of the continuous NO<sub>x</sub> monitoring system and/or control equipment while the emissions unit was in operation; and
  - xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

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

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

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



[40 CFR 60.7, OAC rule 3745-31-05(A)(3), and OAC rule 3745-31-05(D)]

- (3) 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 eliminate the abnormal visible particulate emissions. These reports shall be submitted to the Northwest District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
- (4) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. for the first 12 calendar months of operation under the provisions of this permit, all exceedances of the maximum allowable cumulative emissions of NOx; and
  - b. after the first 12 calendar months of operation under the provisions of this permit, all exceedances of the rolling, 365-day NOx emission limitation.

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

- (5) The permittee shall submit annual reports to the Northwest District Office documenting any changes made to a parameter or value in the dispersion model that was used to demonstrate compliance with the "Toxic Air Contaminant Statute" through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit or the exhaust stack have been made, the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 of each year and shall cover the previous calendar year.

f) Testing Requirements

- (1) Compliance with the emission limitations in section b)(1) of this permit shall be determined in accordance with the following methods:
  - a. Emission Limitation  
1.60 lbs of NOx/ton of acid produced (100% nitric acid), except during periods of startup and shutdown  
  
Acceptable Compliance Method  
Compliance with the NOx emission limitation shall be based on the results of emission testing conducted in accordance with Methods 1 – 4 and 7 of 40 CFR Part 60, Appendix A.
  - b. Emission Limitation  
3.00 lbs of NOx/ton of acid produced (100% nitric acid), except during periods of startup and shutdown  
  
Acceptable Compliance Method  
Compliance with the NOx emission limitation shall be based on the results of emission testing conducted in accordance with Methods 1 – 4 and 7 of 40 CFR Part 60, Appendix A.



- c. Emission Limitation  
80.78 tons of NOx per rolling, 365-day period (including emissions from startup and shutdown)

Acceptable Compliance Method

Compliance with the NOx emission limitation shall be based on the monitoring and record keeping in d)(3).

- d. Emission Limitation  
The permittee shall not discharge into the atmosphere, except during periods of startup and shutdown, any gases which exhibit 10% opacity or greater.

Acceptable Compliance Method

Compliance with the opacity limitation shall be based on the results of emission testing conducted in accordance with Method 9 of 40 CFR Part 60, Appendix A.

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

- a. The emission testing shall be conducted within the first winter time period of January 1<sup>st</sup> to February 28<sup>th</sup> (for purposes of achieving maximum acid production) after starting operations under modified conditions.

- b. The emissions testing shall be conducted to demonstrate compliance with the following limitations:

- i. 1.60 lbs of NOx/ton of acid produced (100% nitric acid)

- ii. 3.00 lbs of NOx/ton of acid produced (100% nitric acid)

- iii. 10% opacity

- c. The following test methods shall be employed to demonstrate compliance with the allowable emission rates:

- i. For NOx, Methods 1 – 4 and 7 of 40 CFR Part 60, Appendix A

- ii. For opacity, Method 9 of 40 CFR Part 60, Appendix A

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

- d. The test(s) shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northwest District Office.

- e. The permittee shall determine compliance with the NOx per ton of acid produced limitations as follows:

- i. The emission rate (E) of NOx shall be computed for each run using the following equation:



$$E = (Cs \times Qsd)/P$$

where

E = emission rate of NOx as NO2, lb/ton of 100% nitric acid

Cs = concentration of NOx as NO2, lb/dscf

Qsd = volumetric flow rate of effluent gas, dscf/hr

P = acid production rate, ton/hr for 100% nitric acid

- ii. Method 7 shall be used to determine the NOx concentration of each grab sample. Method 1 shall be used to select sampling site, and the sampling point shall be the centroid of the stack or duct or at a point no closer to the wall than 1 m (3.28 ft). Four grab samples shall be taken at approximately 15-minute intervals. The arithmetic mean of the four sample concentrations shall constitute the run value (Cs).
  - iii. Method 2 shall be used to determine the volumetric flow rate (Qsd of the effluent gas). The measurement site shall be the same as for the NOx samples taken.
  - iv. The methods of 40 CFR 60.73(c) shall be used to determine the production rate (P) of the nitric acid for each run. Material balance over the production system shall be used to confirm the production rate.
- f. The permittee may use the following as alternatives to the reference methods and procedures specified in this section:
- i. For Method 7, Method 7A, 7B, 7C, 7D, or 7E may be used. If Method 7C is used, the sampling time shall be at least 1 hour.
  - ii. The permittee shall use the procedures in 40 CFR 60.73(b) to determine the conversion factor for converting the monitoring data to the units of the standard.

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, Northwest 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, Northwest District Office's refusal to accept the results of the emissions test(s).

Personnel from the Ohio EPA, Northwest 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,



Northwest District Office within 30 days following the 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, Northwest District Office.

g) Miscellaneous Requirements

- (1) This emissions unit is subject to the applicable provisions of Subpart G of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60.

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

It should be noted that the permittee fulfilled the reporting requirements pursuant to 40 CFR Part 60.7 during the permitting process that resulted in the issuance of PTI #03-05319 on 07/17/91.

- (2) The terms and conditions contained in this permit for this emissions unit shall supersede all the air pollution control requirements for the emissions unit contained in the permit to install issued on 7/17/91 and modified 11/25/05.