State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

12/02/03

CERTIFIED MAIL

RE: Preliminary Proposed Title V
Chapter 3745-77 permit

01-45-00-0213
GE Quartz Inc. Newark Plant
Lorn Mahoney
611 O'Neill Drive SE
Hebron, OH 43025

Dear Lorn Mahoney:

Enclosed is the Ohio EPA Preliminary Proposed Title V permit that was issued in draft form on 07/03/03. The comment period for the Draft permit has ended. We are now ready to submit this permit to USEPA for approval.

We are submitting this for your review and comment. If you do not agree with the Preliminary Proposed Title V permit as written, you now have the opportunity to raise your concerns. **In order to facilitate our review of all the comments or concerns you may have with the enclosed preliminary proposed permit, please provide a hand marked-up copy of the permit showing the changes you think are necessary, along with any additional summary comments, within fourteen (14) days from your receipt of this letter to:**

Ohio EPA, Division of Air Pollution Control
Jim Orlemann, Manager, Engineering Section
Preliminary Proposed Title V Permit Correspondence
122 South Front Street
Columbus, Ohio 43215

and

Central District Office
3232 Alum Creek Drive
PO Box 1049
Columbus, OH 43216-1049
(614) 728-3778

Also, if you believe that it is necessary to have an informal conference with us, then, as part of your written comments, you should request a conference concerning the written comments.

If comments are not submitted within fourteen (14) days of your receipt of this letter, we will forward the proposed permit to USEPA for approval. All comments received will be carefully considered before proceeding to the proposed permit.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

cc: Central District Office
File, DAPC PMU

State of Ohio Environmental Protection Agency

PRELIMINARY PROPOSED TITLE V PERMIT

Issue Date: 12/02/03	Effective Date: To be entered upon final issuance	Expiration Date: To be entered upon final issuance

This document constitutes issuance of a Title V permit for Facility ID: 01-45-00-0213 to:

GE Quartz Inc. Newark Plant
611 O'Neill Drive SE
Hebron, OH 43025

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

B001 (LD Lathe #1)
LD Lathe #1

B002 (LD Lathe #2)
LD Lathe #2

B003 (LD Lathe #3)
LD Lathe #3

B004 (LD Lathe #4)
LD Lathe #4

B005 (LD Lathe #5)
LD Lathe #5

B006 (LD Lathe #6)
LD Lathe #6

B023 (LD Lathe #10)
LD Lathe #10

B024 (LD Lathe #11)
LD Lathe #11

B025 (LD Lathe #12)
LD Lathe #12

B026 (LD Lathe #13)
LD Lathe #13

B027 (LD#14)
LD Lathe # 14

B028 (LD#16)
LD Lathe # 16

B029 (LD#17)
LD Lathe # 17

B030 (LD#18)
LD Lathe # 18

B031 (LD#15)
LD Lathe # 15

P009 (HP3)
High Purity Crucible Machine #3

P010 (CM4)
P-14 Crucible Machine #4

P011 (CM5)
P-14 Crucible Machine #5

P012 (CM8)
P-272 Crucible Machine #8

P014 (LD Lathe #7)
LD Lathe #7

P015 (LD Lathe #8)
LD Lathe #8

P017 (TRIM#1)
quartz rod and tubing cut by saw blades to customer-specified lengths

P020 (CRUCIBLECOOLER(6))
Crucible Coolers (6 for machines 4,5,8)

P021 (Repair Lathe #1)
Repair Lathe #1

P025 (HP1)
High Purity Crucible Machine #1

P032 (LD Lathe #9)
LD Lathe #9

P033 (CRUCIBLECOOLERS(2))
Crucible Cooler (for Crucible Machine 9)

P035 (CM9)
P-272 Crucible Machine #9

P036 (REPAIR LATHE #2)
Repair Lathe # 2

P037 (Crucible Cleaning System)
automated crucible cleaning system

You will be contacted approximately eighteen (18) months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency listed below. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-04(A) and in accordance with the terms of this permit beyond the expiration date, provided that a complete renewal application is submitted no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

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

Central District Office
3232 Alum Creek Drive
PO Box 1049
Columbus, OH 43216-1049
(614) 728-3778

OHIO ENVIRONMENTAL PROTECTION AGENCY

Christopher Jones
Director

PART I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Section

1. Monitoring and Related Record Keeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, i.e., in Section A.III of Part III of this Title V permit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2. Scheduled Maintenance

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

3. Risk Management Plans

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

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

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

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

4. Title IV Provisions

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

5. Severability Clause

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

6. General Requirements

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

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

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

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

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

(Authority for term: OAC rule 3745-77-07(A)(7))

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.
(Authority for term: OAC rule 3745-77-07(A)(8))

8. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.
(Authority for term: OAC rule 3745-77-07(A)(9))

9. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these general terms and conditions shall apply to all operating scenarios authorized in this permit.
(Authority for term: OAC rule 3745-77-07(A)(10))

10. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b. This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c. The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d. The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

11. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

(Authority for term: OAC rule 3745-77-07(B))

12. Compliance Requirements

a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.
iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
ii. Compliance certifications shall include the following:
   (a) An identification of each term or condition of this permit that is the basis of the certification.
   (b) The permittee's current compliance status.
   (c) Whether compliance was continuous or intermittent.
   (d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.
   (e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

13. Permit Shield

a. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b. This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

14. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local

air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).
(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

15. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.
(Authority for term: OAC rule 3745-77-07(G))

16. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a. The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b. The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA. Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

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

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

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

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

17. Compliance Method Requirements

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

18. Insignificant Activities

Each insignificant activity that has one or more applicable requirements shall comply with those applicable requirements.
(Authority for term: OAC rule 3745-77-07(A)(1))

19. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.
(Authority for term: OAC rule 3745-77-07(A)(1))

20. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.
(Authority for term: OAC rule 3745-77-07(A)(1))

21. Permanent Shutdown of an Emissions Unit

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

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

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

B. *State Only Enforceable Section*

1. Reporting Requirements Related to Monitoring and Record Keeping Requirements

The permittee shall submit required reports in the following manner:

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

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

2. Records Retention Requirements

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

3. Inspections and Information Requests

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

4. Scheduled Maintenance/Malfunction Reporting

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

5. Permit Transfers

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

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

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

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

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

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

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

Part II - Specific Facility Terms and Conditions

A. State and Federally Enforcable Section

1. Emission Limitations

Nitrogen oxides (NOx) emissions from emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, shall not exceed 210.7 tons per year, based on a rolling, 12-month summation of monthly NOx emissions.

Visible particulate emissions (PE) from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036 shall not exceed 20% opacity, as a 6-minute average, except as provided by OAC rule 3745-17-07.

2. Additional Terms and Conditions

2.a Pursuant to PTI 01-08046, as issued on March 14, 2002, the permittee shall control NOx emissions from emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036 by using a selective catalytic reduction (SCR) unit with at least an 85% control efficiency for NOx.

2.b Pursuant to PTI 01-08046, as issued on March 14, 2002, the permittee shall control particulate emissions (PE) from emissions units P010, P011, P012 and P035 by using an electrostatic precipitator (ESP) (for emissions units P010, P011, P012 and P035, only PE from the crucible formation process are vented to the ESP and then directly to the SCR unit).

2.c A continuous emissions monitoring system (CEMS) malfunction is defined as any time in which the CEMS is not able to sample or analyze the gas stream exiting the SCR unit.

2.d In the event of a CEMS malfunction, emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036 shall be shut down. During a CEMS malfunction, each operating emissions unit, as listed above, shall be shut down within one hour. Once the emissions unit(s) is (are) shut down, the emissions unit(s) shall remain shut down until the CEMS is no longer malfunctioning.

2.e In order to continue to operate the above emissions units during or after a CEMS malfunction, the permittee may develop and submit for pre-approval by the Ohio EPA, CDO an alternative compliance method for estimating the emissions from the arc fusion machines and large diameter lathes listed in Section A.2.d.

2.f CEMS Quality Assurance/ Quality Control

Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the CEMS designed to ensure continuous valid and representative readings of NOx emissions in units of pounds per hour and tons per month. 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 CEMS must be kept on site and available for inspection during regular office hours.

2.g CEMS Statement of Certification

The permittee shall maintain a copy of the certification of the continuous NOx monitoring system granted by the Ohio EPA, Central Office on April 10, 2002. This certification was granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2.

3. Monitoring and Record Keeping Requirements

A. State and Federally Enforcable Section (continued)

3.a The permittee shall maintain monthly records of the tons of NOx per month and rolling, 12-month NOx emissions calculated as the summation of the NOx emissions as determined by the CEMS (Section A.3.b) and the NOx emissions from the CEMS malfunctions (Section A.3.d).

3.b The permittee shall operate and maintain the CEMS to continuously monitor and record combined NOx emissions from emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The permittee shall maintain records of all data obtained by the CEMS including parts per million NOx on an instantaneous (one-minute) basis, emissions of NOx in units of pounds per hour and tons per month, results of daily zero/span calibration checks and magnitude of manual calibration adjustments.

3.c The permittee shall collect and record the following information for each CEMS malfunction:

i. The number of lathes operating.
ii. The emissions unit ID for each arc fusion machine in operation.
iii. The total duration of the CEMS malfunction, in hours.
iv. The estimated NOx emissions from the lathes in operation calculated by multiplying the number of lathes in operation in Section A.3.c.i, by the total hours of the CEMS malfunctions in Section A.3.c.iii, by the maximum allowable emission rate of 7.34* lbs NOx/hr.
v. The estimated NOx emissions from the arc fusion machines** calculated using the following equation: {arc fusion machine #4 (P010) * 3.59 lbs/hr} + {arc fusion machine #5 (P011) * 3.59 lbs/hr} + {arc fusion machine #8 (P012) * 4.33 lbs/hr} + {arc fusion machine #9 (P035) * 4.33 lbs/hr}.
vi. The summation of the NOx emissions from the lathes and from the arc fusion machines, in lbs.
* Allowable emission rate for emissions unit B030.
** If an arc fusion machine is not in operation at the time of the CEMS malfunction then its emissions are assumed to be zero.

3.d The permittee shall maintain monthly records of the estimated NOx emissions resulting from CEMS malfunctions as the estimated NOx emissions for each CEMS malfunction from Section A.3.c.vi.

3.e The permittee shall perform daily checks, using either certified or non-certified visible emissions observers, when any of the emissions units identified in Section A.1 are in operation and when the weather conditions allow, for any visible particulate emissions from the SCR unit stack serving these emissions units. 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 conditions;
c. if the emissions are not representative of normal conditions, the cause(s) of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

Note: The presence of any visible particulate emissions may or may not indicate a violation of the particulate mass emission limitation and/or visible emission limitation. If required, compliance with the particulate mass emission limitation and the visible emission limitation shall be determined by performing concurrent mass emission tests and visible emissions observations, using USEPA methods and procedures. The results of any required mass emission tests and visible emissions observations shall be used in determining whether or not the presence of any visible particulate emissions is indicative of a possible violation of the particulate mass emission limitation and/or visible emission limitation.

If the daily checks show visible emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when any of the emissions units identified in Section A.1 are in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 90 consecutive operating days of normal visible emissions.

A. State and Federally Enforcable Section (continued)

3.f Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.3.a through A.3.e. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

4. Reporting Requirements

4.a The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month NOx emission limitation for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined.

The quarterly deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c.ii.

4.b The permittee shall submit quarterly summary reports that specify the total NOx emissions from emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, and the NOx emissions from CEMS malfunctions for the previous quarter.

4.c CEMS Data Reporting

The permittee must submit data for each CEMS (that meets the requirements of 40 CFR Part 60.13 and has recieved certification from Ohio EPA) to Ohio EPA, Central Office on a quarterly basis. The data presented in the quarterly reports shall reflect emissions unit operations, monitoring availability, actual tons of NOx, and excess NOx emissions in units of pounds per hour and rolling, 12-month limitation (in tons) for the previous calendar quarter.

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA, CDO documenting any CEMS downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

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

4.d CEMS Electronic Data Reporting, Summary Form

Pursuant to OAC rule 3745-15-04 and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report pursuant to 40 CFR Part 60.7. The summary shall be submitted to the Ohio EPA, CDO within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

4.e 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 visible particulate emissions. These reports shall be submitted to Ohio EPA, CDO by January 31 and July 31 of each year and shall cover the previous 6-month period.

A. State and Federally Enforcable Section (continued)

4.f Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.4.a through A.4.e. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

5. Testing Requirements

Compliance with the emission limitations in Section A.1 and A.2 of these terms and conditions shall be determined in accordance with the following methods:

5.a Emission Limitation:
210.7 tons per year NOx emissions from the SCR unit stack for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
Compliance shall be based on the record keeping in Sections A.3.a through A.3.d.

5.b SCR Unit Testing Requirements

The permittee shall conduct, or have conducted, emission testing of the SCR unit serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036 in accordance with the following requirements:

i. The emission testing shall be conducted approximately 2.5 years after the effective date of this permit and approximately 12 months prior to permit expiration.
ii. The emission testing shall be conducted to demonstrate compliance with the 85% control efficiency for NOx from the SCR unit (see Part III, Terms and Conditions for Emissions Units). The mass emission testing shall be conducted at the inlet as well as the outlet of the control device.
iii. The following test methods shall be employed to demonstrate compliance with the 85% control efficiency: 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, CDO.
iv. The test(s) shall be conducted while all emissions units venting to the SCR unit are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, CDO.

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, CDO. 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, CDO's refusal to accept the results of the emission test(s).

Personnel from the appropriate the Ohio EPA, CDO 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 emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, CDO.

5.c Relative Accuracy Test Audit

To ensure the validity of the data from the CEMS, the permittee shall certify the accuracy of the CEMS annually pursuant to provisions for a relative accuracy test audit (RATA) in 40 CFR Part 60, Appendix F.

A. State and Federally Enforcable Section (continued)

5.d Emission Limitation:
Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
If required by Ohio EPA and/or U.S. EPA, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

5.e Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.5.a through A.5.d. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

6. Ohio EPA has determined that the requirements specifically identified in the following list are not applicable, as the facility existed on the date of issuance of this permit.

List of Negative Declarations - Ohio and Federal Nonapplicable Requirements

Emissions Unit	Requirement
All emissions units	OAC rule 3745-17-07(B)
All emissions units	OAC rule 3745-17-08(B)
All emissions units	OAC rule 3745-18-06(E)(2)
All emissions units	Subparts of 40 CFR Part 60
All emissions units	Subparts of 40 CFR Part 61
All emissions units	CAA Title IV
All emissions units	CAA sections 129,183(e and f), 328
All emissions units	CAA Title I, Part C
All emissions units	OAC rule 3745-17-09
All emissions units	OAC rule 3745-17-10
All emissions units	OAC rule 3745-17-12
All emissions units	OAC rule 3745-17-13
All emissions units	OAC rule 3745-17-14
All emissions units	OAC rule 3745-18-51
All emissions units	OAC rule 3745-21-07
Facility-wide	OAC rule 3745-21-11
Facility-wide	OAC Chapter 3745-24
All emissions units	OAC Chapter 3745-14
All emissions units	OAC Chapter 3745-16
All emissions units	OAC Chapter 3745-71

7. This facility is subject to the applicable requirements specified in OAC Chapter 3745-25. In accordance with Ohio EPA Engineering Guide #64, the emission control action programs, as specified in OAC rule 3745-25-03, shall be developed and submitted within 60 days after receiving notification from the Ohio EPA.

8. All asbestos renovation and demolition activities conducted at this facility shall be performed in accordance with the applicable requirements specified in 40 CFR Part 61.

9. The permittee shall comply with all applicable provisions specified in 40 CFR Part 82, Subpart F as related to the operations at this facility.

A. State and Federally Enforcable Section (continued)

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

B018 - 58 hp natural gas-fired pump engine;
B019 - 75 hp natural gas-fired pump engine;
B020 - 600kW diesel emergency engine;
B021 - 6.5 MMBtu/hr diesel emergency generator;
B022 - 9.7 MMBtu/hr diesel emergency generator;
L001 - 30-gallon solvent based parts cleaner;
P002 - auto-cutter #1/hand-cut saws;
P003 - tubing wash tanks;
P005 - crucible sandblasters for machines 1, 2, 3, and 4;
P018 - crucible sandblasters for machines 5 and 8;
P022 - (6) B-type tubing furnaces;
P023 - (3) F-type tubing furnaces;
P024 - (3) I-type tubing furnaces;
P026 - (3) tubing wet cut saws;
P027 - (5) vacuum bake ovens;
P028 - tubing wet cut saws;
P030 - crucible coating process (Ortona);
P031 - tube trimmer #2;
P034 - auto cutter #2;
T001 - HF acid wash tank #1;
T002 - HF acid wash tank #2;
Z001 - (6) I-type tubing furnaces;
Z002 - (3) vacuum bake ovens;
Z007 - plant roadways/parking areas;
Z008 - end cut saw table - LD feedstock;
Z009 - large diameter tube cleaning and inspection;
Z012 - (4) Fletcher-Terry saws;
Z013 - crucible wet-cut saw with beveler;
Z014 - (1) crucible belt-sander;
Z015 - Spencer system-deck housekeeping;
Z016 - 120 hp natural gas engine;
Z017 - (3) crucible wet-cut saws;
Z018 - crucible band saw
Z019 - finishing dip tank #2; and
Z020 - vacuum system - LD housekeeping.

B. State Only Enforceable Section

1. Ammonia emissions from the SCR unit stack shall not exceed 9.22 pounds per hour and 40.4 tons per year.

The ammonia emission limitations were established and permitted under OAC rule 3745-31-05(D) in PTI 01-08046.

Ammonia is an air toxic, and the hourly emission limitation was established to reflect the status quo ammonia emission rate for this emissions unit for future air toxics evaluations that may involve this emissions unit.

B. State Only Enforceable Section (continued)

2. Air Toxics Language

Ammonia emissions from the SCR unit stack were evaluated based on the actual materials and the design parameters of the SCR unit. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by the SCR unit using actual operating data and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: ammonia
TLV (mg/m3): 17
Maximum Hourly Emission Rate (lbs/hr): 9.22
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 56.63
MAGLC (ug/m3): 404.8

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

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

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions units that vent to the SCR unit will still satisfy the "Air Toxic Policy":

d. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

e. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

f. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

3. Testing Requirements
Compliance with the emission limitations of these terms and conditions shall be demonstrated in accordance with the following methods:

B. State Only Enforceable Section (continued)

3.a Emission Limitation:
Ammonia emissions from the SCR unit stack shall not exceed 9.22 pounds per hour.

Applicable Compliance Method:
Compliance shall be demonstrated based upon the emission testing requirements specified in Section B.4.

3.b Emission Limitation:
Ammonia emissions from the SCR unit stack shall not exceed 40.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for ammonia may be assumed provided compliance is maintained with the pound per hour emission limitation for ammonia. The annual limitation was calculated by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

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

i. The emission testing shall be conducted approximately 2.5 years after the effective date of this permit and approximately 12 months prior to permit expiration.
ii. The emission testing shall be conducted to demonstrate compliance with the hourly emission limitation for ammonia.
iii. The following test methods shall be employed to demonstrate compliance with the ammonia emission limitation: 40 CFR Part 60, Appendix A, Methods 1 - 4 and Conditional Test Method 027. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, CDO.
iv. The tests shall be conducted while all emissions units venting to the SCR unit are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, CDO.

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, CDO's refusal to accept the emissions tests.

Personnel from the Ohio EPA, CDO shall be permitted to witness the tests, 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 emission tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with approval from the Ohio EPA, CDO.

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #1 (B001)

Activity Description: LD Lathe #1

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #1 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (3.78) by an emission factor of 12.06 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #2 (B002)

Activity Description: LD Lathe #2

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #2 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (3.78) by an emission factor of 12.06 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #3 (B003)

Activity Description: LD Lathe #3

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #3 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (3.78) by an emission factor of 12.06 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #4 (B004)

Activity Description: LD Lathe #4

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #4 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (3.78) by an emission factor of 12.06 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #5 (B005)

Activity Description: LD Lathe #5

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #5 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (3.78) by an emission factor of 12.06 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #6 (B006)

Activity Description: LD Lathe #6

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #6 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 6.84 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (3.78) by an emission factor of 12.06 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #10 (B023)

Activity Description: LD Lathe #10

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #10 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (5.04) by an emission factor of 7.77 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #11 (B024)

Activity Description: LD Lathe #11

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #11 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (5.04) by an emission factor of 7.77 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #12 (B025)

Activity Description: LD Lathe #12

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #12 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (5.04) by an emission factor of 7.77 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #13 (B026)

Activity Description: LD Lathe #13

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #13 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (5.04) by an emission factor of 7.77 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD#14 (B027)

Activity Description: LD Lathe # 14

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #14 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (5.04) by an emission factor of 7.77 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD#16 (B028)

Activity Description: LD Lathe # 16

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #16 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (5.04) by an emission factor of 7.77 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD#17 (B029)

Activity Description: LD Lathe # 17

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #17 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (5.04) by an emission factor of 7.77 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD#18 (B030)

Activity Description: LD Lathe # 18

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #18 - 6.3 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 7.34 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 7.34 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (6.3) by an emission factor of 7.77 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD#15 (B031)

Activity Description: LD Lathe # 15

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #15 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (5.04) by an emission factor of 7.77 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: HP3 (P009)

Activity Description: High Purity Crucible Machine #3

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
high purity crucible machine #3 (uncontrolled)	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions shall not exceed 3.3 pounds per hour from the stack serving this emissions unit. Particulate emissions (PE) shall not exceed 3.25 tons per year from the stack serving this emissions unit.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions shall not exceed 18.1 tons per year, from the two high purity crucible machine stacks, for emissions units P009 and P025, combined, as a rolling, 12-month summation of the NOx emissions. See A.II.1 below.
	OAC rule 3745-17-07(A)	Visible PE from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(1)	PE from the stack serving this emissions unit shall not exceed 0.74 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.a below.

2. Additional Terms and Conditions

2.a The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.b The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop any additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

1. The maximum crucible production for emissions units P009 and P025, combined, shall not exceed 75,416 crucibles, based upon a rolling, 12-month summation of the crucible production figures.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.III.2. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall maintain monthly records of the following information:

a. the total number of crucibles produced in emissions units P009 and P025;
b. the total NOx emission rate from emissions units P009 and P025, combined, in pounds, calculated using the following formula:
{number of crucibles produced monthly in P025}*{1.02 lbs/crucible} + {number of crucibles produced monthly in P009}*{0.48 lb/crucible}; and
c. the rolling, 12-month summation of NOx emissions and the rolling, 12-month summation of crucibles produced from emissions units P009 and P025, combined.

3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

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.

III. Monitoring and/or Record Keeping Requirements (continued)

4. The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned frequencies for performing the visible emissions checks if operating experience indicates that less frequent visible emissions checks would be sufficient to ensure compliance with the above-mentioned applicable requirements.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.IV.2 and A.IV.3. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month crucible production restriction and NOx emission limitation. The quarterly deviation reports shall be submitted in accordance with General Term and Condition A.1.c.ii of this permit.

3. The permittee shall submit annual reports that specify the total NOx emissions and total crucible production from emissions units P009 and P025, combined, for the previous calendar year. These reports shall be submitted by January 31 of each year.

4. 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 visible particulate emissions. These reports shall be submitted to Ohio EPA, Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

2.a Emission Limitation:
NOx emissions shall not exceed 3.3 pounds per hour from the stack serving this emissions unit.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly number of crucibles produced in this emissions unit (6) by an emission factor of 0.48 lb/crucible (based on emission tests performed by GE Quartz, Inc. Newark Plant on 3/24/98).

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
Total NOx emissions shall not exceed 18.1 tons per year, from the two high purity crucible machine stacks, for emissions units P009 and P025, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation based on the record keeping required in section A.III.2.

V. Testing Requirements (continued)

2.c Emission Limitation:
Visible PE from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

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

2.d Emission Limitation:
PE shall not exceed 0.74 pound per hour from the stack serving this emissions unit.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on August 2, 1999 that demonstrated a maximum hourly emission rate of 0.017 lb/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.

2.e Emission Limitation:
PE shall not exceed 3.25 tons per year from the stack serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: CM4 (P010)

Activity Description: P-14 Crucible Machine #4

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
P-14 arc fusion machine #4 controlled with a SCR unit and dust collection system (4 baghouses and an ESP) and monitored by a NOx CEMS.	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 3.59 pounds per hour. Particulate emissions (PE) for this emissions unit alone from all stacks serving this emissions unit shall not exceed 7.0 tons per year. See A.I.2.a and A.I.2.b below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.
	OAC rule 3745-17-07(A)	Visible PE from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 1.6 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.c below.
	OAC rule 3745-17-07(B) and OAC rule 3745-17-08(B)	See A.I.2.e and A.I.2.f below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee shall vent all emissions from this emissions unit through a dust collection system consisting of: baghouse no. 1, baghouse no. 3, baghouse no. 6 and baghouse no. 9, and a dry electrostatic precipitator (ESP) and shall operate the dust collection system (4 baghouses and ESP) at all times while operating this emissions unit.

2.c The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.d The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop any additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

2.e Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.

2.f Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.

2.g The emissions generated during the crucible formation shall be vented to the ESP. The emissions from the ESP shall be vented directly to the SCR unit.

2.h The emissions generated during the hot sand removal shall be vented to the baghouse portion of the dust collection system referenced above for collection and control.

II. Operational Restrictions

1. The pressure drop across the baghouses which make up a portion of the dust collection system shall be maintained within the following pressure drop ranges while the emissions unit is in operation:

a. for baghouse no. 1, within the range of 1 to 2 inches of water;
b. for baghouse no. 3, within the range of 2 to 4 inches of water;
c. for baghouse no. 6, within the range of 2 to 4 inches of water; and
d. for baghouse no. 9, within the range of 3 to 5 inches of water.

2. The permittee shall operate the ESP during any operation of this emissions unit.

II. Operational Restrictions (continued)

3. The secondary voltage (V) recorded at each field within the ESP shall be maintained within the manufacturer's recommended ranges:

a. a minimum of three fields out of a total of four must be operating; and

b. the secondary voltage of at least three operating fields shall not drop below 8 kV, for each field, for a period exceeding five minutes.

The ESP parameter ranges may be adjusted in the event that future emission testing is conducted which demonstates compliance with the particulate emission limitation and written approval of the new ESP parameters is obtained from the Ohio EPA, Central District Office.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.III.2, A.III.3, A.III.4. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall maintain monthly records of the following information for this emissions unit:

a. the number of crucibles produced; and

b. the monthly hours of operation.

3. The permittee shall operate and maintain equipment to monitor the pressure drops across the dust control system baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacture's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The permittee shall monitor the pressure drops across baghouse no. 1, baghouse no. 3, baghouse no. 6, and baghouse no. 9 on a daily basis.

4. The permittee shall monitor and record, once each day, the secondary voltage, in kilovolts, to each field and the number of fields operating in the ESP when the emissions unit is in operation.

5. 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 stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

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.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.IV.2, A.IV.3, A.IV.4, and A.IV.5. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drops across the baghouses which make up a portion of the dust collection system did not comply with the allowable pressure drop ranges as specified above.

3. The permittee shall submit quarterly deviation (excursion) reports that identify any deviations from the operational parameters specified in section A.II.3.

4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stacks and SCR unit stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to Ohio EPA, Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

5. The quarterly deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition, Section A.1.c.ii.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f, and A.V.3. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 3.59 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated using the following equation:

Emission limitation (EL) = (10 crucibles/hr)x(2.39 lbs of NOx/crucible)* x (0.15)**

* The emission factor was established through emission tests performed by GE Quartz, Inc. on 12/4/96, 12/5/96 and 12/19/96.
** The control efficiency of the SCR unit is assumed to be 85% for the purpose of this calculation.

If required, compliance shall be determined through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

V. Testing Requirements (continued)

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

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

2.e Emission Limitation:
PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 1.6 pounds per hour.

Applicable Compliance Method:
Compliance shall be demonstrated by the procedure specified in Section A.V.3.

2.f Emission Limitation:
PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 7.0 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

V. Testing Requirements (continued)

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

a. The emission testing shall be conducted within 6 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the hourly PE limitation and shall be conducted at the control equipment egress points of the following operations:

i. crucible formation through arc fusion (F); and
ii. hot sand clean out (C).

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s): 40 CFR Part 60, Appendix A, Methods 1 - 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, CDO.

d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO.

e. The tests will be performed on the following control equipment for this emissions unit:

i. ESP (during operation of crucible formation through arc fusion, F); and
ii. at least one baghouse (during operation of hot sand clean out, C).

f. Pursuant to Permit to Install 01-08046, the procedure to demonstrate compliance with the hourly PE limitation was established by using the following equation, emission factors, and results from the emission tests referenced below:

hourly PE rate = L + F + P + C + V where:

PE = particulate emissions for this emissions unit
L = loading of sand into crucible pots (lb/hr)
F = crucible formation through electric arc fusion (lb/hr)
P = crucible pop-off hood (lb/hr)
C = hot sand clean out (lb/hr)
V = vacuum maintains sand in pot during preparation and fusion (lb/hr)

L = (484 lbs/hr) x (0.174 lb/ton)* x (0.01) x (1 ton/2000 lbs)

F = (10 crucibles/hr)x(0.37 lb PE/crucible)**x(0.1)***

P= (484 lbs/hr)x(0.058 lb/ton)*x(0.01)x(1 ton/2000 lbs)

C = (150 lbs/hr) x (0.75 lb PE / lb sand) x (0.001)

V = 2 x 0.05 lb/hr

*The transfer emission factor was derived with information from AP-42, 5th Edition, Volume I, Chapter 11, Mineral Products Industry,Table 11.12-2, dated January 1995.
** The emission factor was established through emission tests performed by GE Quartz, Inc Newark Plant. 12/17/96 through 12/19/96.
*** The control efficiency of the ESP is assumed to be 99% for the purpose of this calculation.

g. Compliance with the hourly PE limitation shall be determined by summing the tested hourly emission rates for C and F as required above and the calculated emission rates for L, P and V.

V. Testing Requirements (continued)

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, CDO's refusal to accept the emission tests.

Personnel from the Ohio EPA, CDO shall be permitted to witness the tests, 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 emission tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with approval from the Ohio EPA, CDO.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: CM5 (P011)

Activity Description: P-14 Crucible Machine #5

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
P-14 arc fusion machine #5 controlled with a SCR unit and dust collection system (4 baghouses and an ESP) and monitored by a NOx CEMS.	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 3.59 pounds per hour. Particulate emissions (PE) for this emissions unit alone from all stacks serving this emissions unit shall not exceed 7.0 tons per year. See A.I.2.a and A.I.2.b below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.
	OAC rule 3745-17-07(A)	Visible PE from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 1.6 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.c below.
	OAC rule 3745-17-07(B) and OAC rule 3745-17-08(B)	See A.I.2.e and A.I.2.f below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee shall vent all emissions from this emissions unit through a dust collection system consisting of: baghouse no. 1, baghouse no. 4, baghouse no. 7 and baghouse no. 8, and a dry electrostatic precipitator (ESP) and shall operate the dust collection system (4 baghouses and ESP) at all times while operating this emissions unit.

2.c The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.d The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop any additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

2.e Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.

2.f Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.

2.g The emissions generated during the crucible formation shall be vented to the ESP. The emissions from the ESP shall be vented directly to the SCR unit.

2.h The emissions generated during the hot sand removal shall be vented to the baghouse portion of the dust collection system referenced above for collection and control.

II. Operational Restrictions

1. The pressure drop across the baghouses which make up a portion of the dust collection system shall be maintained within the following pressure drop ranges while the emissions unit is in operation:

a. for baghouse no. 1, within the range of 1 to 2 inches of water;
b. for baghouse no. 4, within the range of 2 to 4 inches of water;
c. for baghouse no. 7, within the range of 2 to 4 inches of water; and
d. for baghouse no. 8, within the range of 2 to 4 inches of water.

2. The permittee shall operate the ESP during any operation of this emissions unit.

II. Operational Restrictions (continued)

3. The secondary voltage (V) recorded at each field within the ESP shall be maintained within the manufacturer's recommended ranges:

a. a minimum of three fields out of a total of four must be operating; and

b. the secondary voltage of at least three operating fields shall not drop below 8 kV, for each field, for a period exceeding five minutes.

The ESP parameter ranges may be adjusted in the event that future emission testing is conducted which demonstates compliance with the particulate emission limitation and written approval of the new ESP parameters is obtained from the Ohio EPA, Central District Office.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.III.2, A.III.3, A.III.4. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall maintain monthly records of the following information for this emissions unit:

a. the number of crucibles produced; and

b. the monthly hours of operation.

3. The permittee shall operate and maintain equipment to monitor the pressure drops across the dust control system baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacture's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The permittee shall monitor the pressure drops across baghouse no. 1, baghouse no. 4, baghouse no. 7, and baghouse no. 8 on a daily basis.

4. The permittee shall monitor and record, once each day, the secondary voltage, in kilovolts, to each field and the number of fields operating in the ESP when the emissions unit is in operation.

5. 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 stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

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.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.IV.2, A.IV.3, A.IV.4, and A.IV.5. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drops across the baghouses which make up a portion of the dust collection system did not comply with the allowable pressure drop ranges as specified above.

3. The permittee shall submit quarterly deviation (excursion) reports that identify any deviations from the operational parameters specified in section A.II.3.

4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stacks and SCR unit stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to Ohio EPA, Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

5. The quarterly deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition, Section A.1.c.ii.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f, and A.V.3. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 3.59 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated using the following equation:

Emission limitation (EL) = (10 crucibles/hr)x(2.39 lbs of NOx/crucible)* x (0.15)**

* The emission factor was established through emission tests performed by GE Quartz, Inc. on 12/4/96, 12/5/96 and 12/19/96.
** The control efficiency of the SCR unit is assumed to be 85% for the purpose of this calculation.

If required, compliance shall be determined through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

V. Testing Requirements (continued)

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

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

2.e Emission Limitation:
PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 1.6 pounds per hour.

Applicable Compliance Method:
Compliance shall be demonstrated by the procedure specified in Section A.V.3.

2.f Emission Limitation:
PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 7.0 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

V. Testing Requirements (continued)

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

a. The emission testing shall be conducted within 6 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the hourly PE limitation and shall be conducted at the control equipment egress points of the following operations:

i. crucible formation through arc fusion (F); and
ii. hot sand clean out (C).

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s): 40 CFR Part 60, Appendix A, Methods 1 - 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, CDO.

d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO.

e. The tests will be performed on the following control equipment for this emissions unit:

i. ESP (during operation of crucible formation through arc fusion, F); and
ii. at least one baghouse (during operation of hot sand clean out, C).

f. Pursuant to Permit to Install 01-08046, the procedure to demonstrate compliance with the hourly PE limitation was established by using the following equation, emission factors, and results from the emission tests referenced below:

hourly PE rate = L + F + P + C + V where:

PE = particulate emissions for this emissions unit
L = loading of sand into crucible pots (lb/hr)
F = crucible formation through electric arc fusion (lb/hr)
P = crucible pop-off hood (lb/hr)
C = hot sand clean out (lb/hr)
V = vacuum maintains sand in pot during preparation and fusion (lb/hr)

L = (484 lbs/hr) x (0.174 lb/ton)* x (0.01) x (1 ton/2000 lbs)

F = (10 crucibles/hr)x(0.37 lb PE/crucible)**x(0.1)***

P= (484 lbs/hr)x(0.058 lb/ton)*x(0.01)x(1 ton/2000 lbs)

C = (150 lbs/hr) x (0.75 lb PE / lb sand) x (0.001)

V = 2 x 0.05 lb/hr

*The transfer emission factor was derived with information from AP-42, 5th Edition, Volume I, Chapter 11, Mineral Products Industry,Table 11.12-2, dated January 1995.
** The emission factor was established through emission tests performed by GE Quartz, Inc Newark Plant. 12/17/96 through 12/19/96.
*** The control efficiency of the ESP is assumed to be 99% for the purpose of this calculation.

g. Compliance with the hourly PE limitation shall be determined by summing the tested hourly emission rates for C and F as required above and the calculated emission rates for L, P and V.

V. Testing Requirements (continued)

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, CDO's refusal to accept the emission tests.

Personnel from the Ohio EPA, CDO shall be permitted to witness the tests, 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 emission tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with approval from the Ohio EPA, CDO.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: CM8 (P012)

Activity Description: P-272 Crucible Machine #8

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
P-272 arc fusion machine #8 controlled with a SCR unit and dust collection system (4 baghouses and an ESP) and monitored by a NOx CEMS.	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 4.33 pounds per hour. Particulate emissions (PE) for this emissions unit alone from all stacks serving this emissions unit shall not exceed 8.1 tons per year. See A.I.2.a and A.I.2.b below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.
	OAC rule 3745-17-07(A)	Visible PE from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 1.9 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.c below.
	OAC rule 3745-17-07(B) and OAC rule 3745-17-08(B)	See A.I.2.e and A.I.2.f below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee shall vent all emissions from this emissions unit through a dust collection system consisting of: baghouse no. 1, baghouse no. 4, baghouse no. 7 and baghouse no. 8, and a dry electrostatic precipitator (ESP) and shall operate the dust collection system (4 baghouses and ESP) at all times while operating this emissions unit.

2.c The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.d The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop any additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

2.e Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.

2.f Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.

2.g The emissions generated during the crucible formation shall be vented to the ESP. The emissions from the ESP shall be vented directly to the SCR unit.

2.h The emissions generated during the hot sand removal shall be vented to the baghouse portion of the dust collection system referenced above for collection and control.

II. Operational Restrictions

1. The pressure drop across the baghouses which make up a portion of the dust collection system shall be maintained within the following pressure drop ranges while the emissions unit is in operation:

a. for baghouse no. 1, within the range of 1 to 2 inches of water;
b. for baghouse no. 4, within the range of 2 to 4 inches of water;
c. for baghouse no. 7, within the range of 2 to 4 inches of water; and
d. for baghouse no. 8, within the range of 2 to 4 inches of water.

2. The permittee shall operate the ESP during any operation of this emissions unit.

II. Operational Restrictions (continued)

3. The secondary voltage (V) recorded at each field within the ESP shall be maintained within the manufacturer's recommended ranges:

a. a minimum of three fields out of a total of four must be operating; and

b. the secondary voltage of at least three operating fields shall not drop below 8 kV, for each field, for a period exceeding five minutes.

The ESP parameter ranges may be adjusted in the event that future emission testing is conducted which demonstates compliance with the particulate emission limitation and written approval of the new ESP parameters is obtained from the Ohio EPA, Central District Office.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.III.2, A.III.3, A.III.4. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall maintain monthly records of the following information for this emissions unit:

a. the number of crucibles produced; and

b. the monthly hours of operation.

3. The permittee shall operate and maintain equipment to monitor the pressure drops across the dust control system baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacture's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The permittee shall monitor the pressure drops across baghouse no. 1, baghouse no. 4, baghouse no. 7, and baghouse no. 8 on a daily basis.

4. The permittee shall monitor and record, once each day, the secondary voltage, in kilovolts, to each field and the number of fields operating in the ESP when the emissions unit is in operation.

5. 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 stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

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.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.IV.2, A.IV.3, A.IV.4, and A.IV.5. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drops across the baghouses which make up a portion of the dust collection system did not comply with the allowable pressure drop ranges as specified above.

3. The permittee shall submit quarterly deviation (excursion) reports that identify any deviations from the operational parameters specified in section A.II.3.

4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stacks and SCR unit stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to Ohio EPA, Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

5. The quarterly deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition, Section A.1.c.ii.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f, and A.V.3. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 4.33 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated using the following equation:

Emission limitation (EL) = (6 crucibles/hr)x(4.8 lbs of NOx/crucible)* x (0.15)**

* The emission factor was established through emission tests performed by GE Quartz, Inc. on 12/10/96.
** The control efficiency of the SCR unit is assumed to be 85% for the purpose of this calculation.

If required, compliance shall be determined through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

V. Testing Requirements (continued)

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

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

2.e Emission Limitation:
PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 1.9 pounds per hour.

Applicable Compliance Method:
Compliance shall be demonstrated by the procedure specified in Section A.V.3.

2.f Emission Limitation:
PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 8.1 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

V. Testing Requirements (continued)

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

a. The emission testing shall be conducted within 6 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the hourly PE limitation and shall be conducted at the control equipment egress points of the following operations:

i. crucible formation through arc fusion (F); and
ii. hot sand clean out (C).

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s): 40 CFR Part 60, Appendix A, Methods 1 - 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, CDO.

d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO.

e. The tests will be performed on the following control equipment for this emissions unit:

i. ESP (during operation of crucible formation through arc fusion, F); and
ii. at least one baghouse (during operation of hot sand clean out, C).

f. Pursuant to Permit to Install 01-08046, the procedure to demonstrate compliance with the hourly PE limitation was established by using the following equation, emission factors, and results from the emission tests referenced below:

hourly PE rate = L + F + P + C + V where:

PE = particulate emissions for this emissions unit
L = loading of sand into crucible pots (lb/hr)
F = crucible formation through electric arc fusion (lb/hr)
P = crucible pop-off hood (lb/hr)
C = hot sand clean out (lb/hr)
V = vacuum maintains sand in pot during preparation and fusion (lb/hr)

L = (484 lbs/hr) x (0.174 lb/ton)* x (0.01) x (1 ton/2000 lbs)

F = (6 crucibles/hr)x(0.37 lb PE/crucible)**x(0.1)***

P= (484 lbs/hr)x(0.058 lb/ton)*x(0.01)x(1 ton/2000 lbs)

C = (150 lbs/hr) x (0.75 lb PE / lb sand) x (0.001)

V = 2 x 0.05 lb/hr

*The transfer emission factor was derived with information from AP-42, 5th Edition, Volume I, Chapter 11, Mineral Products Industry,Table 11.12-2, dated January 1995.
** The emission factor was established through emission tests performed by GE Quartz, Inc Newark Plant. 12/17/96 through 12/19/96.
*** The control efficiency of the ESP is assumed to be 99% for the purpose of this calculation.

g. Compliance with the hourly PE limitation shall be determined by summing the tested hourly emission rates for C and F as required above and the calculated emission rates for L, P and V.

V. Testing Requirements (continued)

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, CDO's refusal to accept the emission tests.

Personnel from the Ohio EPA, CDO shall be permitted to witness the tests, 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 emission tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with approval from the Ohio EPA, CDO.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #7 (P014)

Activity Description: LD Lathe #7

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #7 - 4.56 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 8.25 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 8.25 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (4.56) by an emission factor of 12.06 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #8 (P015)

Activity Description: LD Lathe #8

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #8 - 4.56 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 8.25 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 8.25 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (4.56) by an emission factor of 12.06 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: TRIM#1 (P017)

Activity Description: quartz rod and tubing cut by saw blades to customer-specified lengths

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
quartz rod/tubing trimmer with mist eliminator for wet use and baghouse for dry use	OAC rule 3745-31-05(A)(3) (PTI 01-08511)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). Particulate emissions shall not exceed 0.020 gr/dscf (equivalent to 1.23 pounds per hour at maximum flow rate) in the exhaust stream or there shall be no visible particulate emissions from the stack, whichever is less stringent. Total particulate emissions from this emissions unit shall not exceed 5.4 tons per year. See A.II.1 below.
	OAC rule 3745-17-07(A)	The visible particulate emission limitations specified by this rule are less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-11(B)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).

2. Additional Terms and Conditions

2.a During dry operation, the permittee shall only operate the quartz rod/tubing trimmer unit while venting emissions to the dust collection system (the exhaust from the dust collection system is vented outside).

2. Additional Terms and Conditions (continued)

2.b During wet operation, the permittee shall only operate the quartz rod/tubing trimmer unit while venting to the mist eliminator (the exhaust of the mist eliminator is vented indoors).

II. Operational Restrictions

1. The pressure drop across the baghouse shall be maintained within the range of 1-8 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 01-08511, issued on March 5, 2002: A.III.2, and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall perform daily checks, using either certified or non-certified visible emissions readers, 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 conditions;
c. if the emissions are not representative of normal conditions, the cause(s) of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

Note: The presence of any visible particulate emissions may or may not indicate a violation of the particulate mass emission limitation and/or visible emission limitation. If required by the Ohio EPA Central District Office, compliance with the particulate mass emission limitation and the visible emission limitation shall be determined by performing concurrent mass emission tests and visible emissions readings, using USEPA methods and procedures. The results of any required mass emission tests and visible emission readings shall be used in determining whether or not the presence of any visible particulate emissions is indicative of a possible violation of the particulate mass emission limitation and/or visible emission limitation.

If the daily checks show no visible emissions for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check indicates visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 90 consecutive operating days of no visible emissions.

3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The permittee shall record the pressure drop across the baghouse on a daily basis when the emissions unit is operating.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 01-08511, issued on March 5, 2002: A.IV.2 through A.IV.4. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

IV. Reporting Requirements (continued)

2. 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 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 6-month period.

3. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

The quarterly deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c.ii.

4. The permittee shall also submit annual reports that specify the total particulate emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08511, issued on March 5, 2002: A.V.2, A.V.2.a through A.V.2.c. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

2.a Emissions Limitation:
Particulate emissions shall not exceed 0.020 gr/dscf (equivalent to 1.23 pounds per hour at maximum flow rate) in the exhaust stream or there shall be no visible particulate emissions from the stack, whichever is less stringent.

Applicable Compliance Method:
The permittee shall conduct particulate emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted to demonstrate compliance with the emission limitation of 0.020 gr/dscf of particulate emissions.

ii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate for particulates: 40 CFR Part 60, Appendix A, Methods 1 - 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iii. The test shall be conducted within 6 months after the effective date of this permit while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

iv. The permittee shall conduct concurrent visible emission observations using 40 CFR Part 60, Appendix A, Method 22-like visible emissions observations. (Although Test Method 22 applies to fugitive emissions units, the visible/no visible emissions observation technique of Test Method 22 can be applied to ducted emissions, i.e., Test Method 22-like visible observations).

V. Testing Requirements (continued)

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

Personnel from the Ohio EPA, Central District Office shall be permitted to witness the test, 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 shall be signed by the person or persons responsible for the test and submitted to the Ohio EPA, Central District Office within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA ,Central District Office.

2.b Emission Limitation:
PE shall not exceed 1.23 lbs/hr.

Applicable Compliance Method:
This emission limitation was established by multiplying the maximum outlet grain loading of the baghouse (0.020 gr/dscf) by the maximum air flow capacity of the baghouse (7,200 acfm), by 60 minutes per hour, and dividing by 7,000 grains per pound. Therefore, compliance shall be assumed provided compliance is maintained with the grain loading limit.

2.c Emission limitation:
PE shall not exceed 5.4 tons/yr.

Applicable compliance method:
Compliance with the annual emission limitation for PE shall be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual limitation was calculated by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: CRUCIBLECOOLER(6) (P020)

Activity Description: Crucible Coolers (6 for machines 4,5,8)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
final cooling of quartz crucibles produced in crucible machines #'s 4, 5, 8 (six crucible coolers total) vented to baghouse	OAC 3745-31-05(A)(3) (PTI 01-4026)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). Particulate emissions (PE) shall not exceed 0.3125 lb/hr or 0.010 grain per dry standard cubic foot in the exhaust stream.
	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-07(B)	See A.I.2.b below.
	OAC rule 3745-17-08(B)	See A.I.2.c below.

2. Additional Terms and Conditions

2.a The permittee shall vent the PE to the baghouse at all times when the emissions unit is in operation.

2.b Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.

2.c Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.

II. Operational Restrictions

1. The pressure drop across the baghouse shall be maintained within the range of 3 to 7 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 01-4026, issued on September 2, 1992: A.III.2, A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The permittee shall record the pressure drop across the baghouse on a daily basis when this emissions unit is operating.

3. The permittee shall perform daily checks, using either certified or non-certified visible emissions readers, 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 conditions;
c. if the emissions are not representative of normal conditions, the cause(s) of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

Note: The presence of any visible particulate emissions may or may not indicate a violation of the particulate mass emission limitation and/or visible emission limitation. If required, compliance with the particulate mass emission limitation and the visible emission limitation shall be determined by performing concurrent mass emission tests and visible emissions readings, using USEPA methods and procedures. The results of any required mass emission tests and visible emission readings shall be used in determining whether or not the presence of any visible particulate emissions is indicative of a possible violation of the particulate mass emission limitation and/or visible emission limitation.

If the daily checks show emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 90 consecutive operating days of normal visible emissions.

IV. Reporting Requirements

1. Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 01-4026, issued on September 2, 1992: A.III.2 and A.III.3. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. The quarterly deviation reports shall be submitted in accordance with Part I - General Term and Condition A.1.c.ii.

IV. Reporting Requirements (continued)

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 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 6-month period.

V. Testing Requirements

1. Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-4026, issued on September 2, 1992: A.V.2 and A.V.3. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

Emission Limitation:
PE shall not exceed 0.3125 lb/hr or 0.010 grain per dry standard cubic foot in the exhaust stream.

Applicable Compliance Method:
Compliance shall be demonstrated by the procedure specified in section A.V.3.

3. The permittee shall conduct particulate emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted to demonstrate compliance with the particulate emission limitation of 0.3125 lb/hr or 0.010 gr/dscf of particulate emissions in the exhaust stream.

b. The following test methods shall be employed to demonstrate compliance with the allowable emission limitation for particulates: 40 CFR Part 60, Appendix A, Methods 1 - 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

c. The test(s) shall be conducted within 6 months after the effective date of this permit while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

d. The permittee shall conduct concurrent visible emission observations using 40 CFR, Part 60, Appendix A, Method 22-like visible emissions observations. (Although Test Method 22 applies to fugitive emissions units, the visible/no visible emissions observation technique of Test Method 22 can be applied to ducted emissions, i.e. Test Method 22-like visible observations).

V. Testing Requirements (continued)

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the CDO. 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 CDO's refusal to accept the results of the emission test(s).

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

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Repair Lathe #1 (P021)

Activity Description: Repair Lathe #1

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter repair lathe #1 - 0.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 1.0 pound per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 1.0 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (0.78) by an emission factor of 8.5 lbs/MMBtu (derived from emission tests performed on March 12, 1999) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 12, 1999 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: HP1 (P025)

Activity Description: High Purity Crucible Machine #1

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
high purity crucible machine #1 (uncontrolled)	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides emissions (NOx) shall not exceed 4.13 pounds per hour from the stack of this emissions unit. Particulate emissions (PE) shall not exceed 4.6 tons per year from the stack of this emissions unit.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx shall not exceed 18.1 tons per year, from the two high purity crucible machine stacks, for emissions units P009 and P025 combined, as a rolling, 12-month summation. See A.II.1 below.
	OAC rule 3745-17-07(A)	Visible PE, from the stack, shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(1)	PE, from the stack of this emissions unit, shall not exceed 1.042 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.a below.

2. Additional Terms and Conditions

2.a The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install No. 01-08046.

2.b The PE and NOx pounds per hour and PE tons per year emissions limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emissions limitations.

II. Operational Restrictions

1. The maximum crucible production for P009 and P025 shall not exceed 75,416 crucibles, based upon a rolling, 12-month summation of the crucible production figures.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install No. 01-08046, issued on March 14, 2002: A.III.2. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall maintain monthly records of the following information:

a. the total number of crucibles produced in P009, and P025;
b. the total uncontrolled NOx emission rates, in pounds per month which are calculated using the following formula:
{number of crucibles produced monthly in P025}*{1.02 lbs/crucible} + {number of crucibles produced monthly in P009}*{0.48 lb/crucible}; and
c. the rolling, 12-month summation of NOx emissions and the rolling, 12-month summation of crucibles produced from P009 and P025 combined.

3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to 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.

III. Monitoring and/or Record Keeping Requirements (continued)

4. The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned frequencies for performing the visible emissions checks if operating experience indicates that less frequent visible emissions checks would be sufficient to ensure compliance with the above-mentioned applicable requirements.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install No. 01-08046, issued on March 14, 2002: A.IV.2 and A.IV.3. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month crucible production restriction and NOx emission limitation. These reports are due by the dates described in Part 1 - General Terms and Conditions of this permit.

3. The permittee shall submit annual reports which specify total NOx emissions and total crucible production from emissions units P009, and P025 combined for the previous calendar year. These reports shall be submitted by January 31 of each year.

4. 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 Ohio EPA, Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install No. 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

2.a Emission Limitation:
Nitrogen oxides emissions (NOx) shall not exceed 4.13 pounds per hour from the stack of this emissions unit.

Applicable Compliance Method:
The hourly limitation was established by multiplying the maximum hourly number of crucibles produced in this emissions unit (3.5) by the emission factor 1.02 lbs/crucible (derived from stack test performed by GE Quartz, Inc. Newark Plant on 3/24/98).

If required by Ohio EPA, compliance shall be demonstrated through emission testing in accordance with U.S. EPA Methods 1 - 4 and 7E.

2.b Emission Limitation:
Total NOx shall not exceed 18.1 tons per year, from the two high purity crucible machine stacks, for emissions units P009 and P025 combined, as a rolling, 12-month summation.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation based on the record keeping required in section A.III.2.

V. Testing Requirements (continued)

2.c Emission Limitation:
Visible PE, from the stack, shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

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

2.d Emission Limitation:
PE shall not exceed 1.042 pounds per hour from the stack of this emissions unit.

Applicable Compliance Method:
Compliance was established by a stack test performed on August 2, 1999 that demonstrated a maximum hourly emission rate of 0.057 lb/hr. If required by Ohio EPA, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

2.e Emission Limitation:
Particulate emissions (PE) shall not exceed 4.6 tons per year from the stack of this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE shall be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual limitation was calculated by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: LD Lathe #9 (P032)

Activity Description: LD Lathe #9

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter lathe #9 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (5.04) by an emission factor of 7.77 lbs/MMBtu (derived from emission tests performed on March 25, 1998) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: CRUCIBLECOOLERS(2) (P033)

Activity Description: Crucible Cooler (for Crucible Machine 9)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
final cooling of quartz crucibles produced in crucible machines #'s 9 (two crucible coolers total) vented to baghouse	OAC rule 3745-31-05(A)(3) (PTI 01-5278)	Particulate emissions (PE) shall not exceed 0.13 lb/hr and no visible particulate emissions at any time.
	OAC rule 3745-17-07(A)	The visible particulate emission limitations specified by this rule are less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-11(B)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The permittee shall vent the particulate emissions to the baghouse at all times when the emissions unit is in operation.

II. Operational Restrictions

1. The pressure drop across the baghouse shall be maintained within the range of 3 to 7 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 01-5278, issued on February 1, 1995: A.III.2 and A.III.3. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

III. Monitoring and/or Record Keeping Requirements (continued)

2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.

3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

IV. Reporting Requirements

1. Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 01-5278, issued on February 1, 1995: A.III.2 and A.III.3. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. The quarterly deviation reports shall be submitted in accordance with Part I - General Term and Condition A.1.c.ii.

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 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 6-month period.

V. Testing Requirements

1. Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-5278, issued on February 1, 1995: A.V.2 and A.V.2.a. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emissions Limitation:
PE shall not exceed 0.13 lb/hr and no visible particulate emissions at any time.

Applicable Compliance Method:
The permittee shall conduct emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted to demonstrate compliance with the 0.13 lb/hr particulate emissions limitation.

ii. The following test methods shall be employed to demonstrate compliance with the allowable emission limitation for particulates: 40 CFR Part 60, Appendix A, Methods 1 - 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iii. The test shall be conducted within 6 months after the effective date of this permit while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office (CDO).

iv. The permittee shall conduct concurrent visible emission observations using 40 CFR Part 60, Appendix A, Method 22-like visible emissions observations. (Although Test Method 22 applies to fugitive emissions units, the visible/no visible emissions observation technique of Test Method 22 can be applied to ducted emissions, i.e. Test Method 22-like visible observations).

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the CDO. 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 CDO refusal to accept the results of the emission test(s).

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

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: CM9 (P035)

Activity Description: P-272 Crucible Machine #9

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
P-272 arc fusion machine #9 controlled with a SCR unit and dust collection system (4 baghouses and an ESP) and monitored by a NOx CEMS.	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 4.33 pounds per hour. Particulate emissions (PE) for this emissions unit alone from all stacks serving this emissions unit shall not exceed 8.1 tons per year. See A.I.2.a and A.I.2.b below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.
	OAC rule 3745-17-07(A)	Visible PE from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 1.9 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.c below.
	OAC rule 3745-17-07(B) and OAC rule 3745-17-08(B)	See A.I.2.e and A.I.2.f below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee shall vent all emissions from this emissions unit through a dust collection system consisting of: baghouse no. 1, baghouse no. 3, baghouse no. 6 and baghouse no. 9, and a dry electrostatic precipitator (ESP) and shall operate the dust collection system (4 baghouses and ESP) at all times while operating this emissions unit.

2.c The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.d The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop any additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

2.e Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.

2.f Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.

2.g The emissions generated during the crucible formation shall be vented to the ESP. The emissions from the ESP shall be vented directly to the SCR unit.

2.h The emissions generated during the hot sand removal shall be vented to the baghouse portion of the dust collection system referenced above for collection and control.

II. Operational Restrictions

1. The pressure drop across the baghouses which make up a portion of the dust collection system shall be maintained within the following pressure drop ranges while the emissions unit is in operation:

a. for baghouse no. 1, within the range of 1 to 2 inches of water;
b. for baghouse no. 3, within the range of 2 to 4 inches of water;
c. for baghouse no. 6, within the range of 2 to 4 inches of water; and
d. for baghouse no. 9, within the range of 3 to 5 inches of water.

2. The permittee shall operate the ESP during any operation of this emissions unit.

II. Operational Restrictions (continued)

3. The secondary voltage (V) recorded at each field within the ESP shall be maintained within the manufacturer's recommended ranges:

a. a minimum of three fields out of a total of four must be operating; and

b. the secondary voltage of at least three operating fields shall not drop below 8 kV, for each field, for a period exceeding five minutes.

The ESP parameter ranges may be adjusted in the event that future emission testing is conducted which demonstates compliance with the particulate emission limitation and written approval of the new ESP parameters is obtained from the Ohio EPA, Central District Office.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.III.2, A.III.3, A.III.4. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall maintain monthly records of the following information for this emissions unit:

a. the number of crucibles produced; and

b. the monthly hours of operation.

3. The permittee shall operate and maintain equipment to monitor the pressure drops across the dust control system baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacture's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The permittee shall monitor the pressure drops across baghouse no. 1, baghouse no. 3, baghouse no. 6, and baghouse no. 9 on a daily basis.

4. The permittee shall monitor and record, once each day, the secondary voltage, in kilovolts, to each field and the number of fields operating in the ESP when the emissions unit is in operation.

5. 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 stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to eliminate the visible emissions.

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.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.IV.2, A.IV.3, A.IV.4, and A.IV.5. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drops across the baghouses which make up a portion of the dust collection system did not comply with the allowable pressure drop ranges as specified above.

3. The permittee shall submit quarterly deviation (excursion) reports that identify any deviations from the operational parameters specified in section A.II.3.

4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stacks and SCR unit stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to Ohio EPA, Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

5. The quarterly deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition, Section A.1.c.ii.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f, and A.V.3. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 4.33 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated using the following equation:

Emission limitation (EL) = (6 crucibles/hr)x(4.8 lbs of NOx/crucible)* x (0.15)**

* The emission factor was established through emission tests performed by GE Quartz, Inc. on 12/10/96.
** The control efficiency of the SCR unit is assumed to be 85% for the purpose of this calculation.

If required, compliance shall be determined through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

V. Testing Requirements (continued)

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

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

2.e Emission Limitation:
PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 1.9 pounds per hour.

Applicable Compliance Method:
Compliance shall be demonstrated by the procedure specified in Section A.V.3.

2.f Emission Limitation:
PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 8.1 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

V. Testing Requirements (continued)

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

a. The emission testing shall be conducted within 6 months prior to permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the hourly PE limitation and shall be conducted at the control equipment egress points of the following operations:

i. crucible formation through arc fusion (F); and
ii. hot sand clean out (C).

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitation(s): 40 CFR Part 60, Appendix A, Methods 1 - 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, CDO.

d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO.

e. The tests will be performed on the following control equipment for this emissions unit:

i. ESP (during operation of crucible formation through arc fusion, F); and
ii. at least one baghouse (during operation of hot sand clean out, C).

f. Pursuant to Permit to Install 01-08046, the procedure to demonstrate compliance with the hourly PE limitation was established by using the following equation, emission factors, and results from the emission tests referenced below:

hourly PE rate = L + F + P + C + V where:

PE = particulate emissions for this emissions unit
L = loading of sand into crucible pots (lb/hr)
F = crucible formation through electric arc fusion (lb/hr)
P = crucible pop-off hood (lb/hr)
C = hot sand clean out (lb/hr)
V = vacuum maintains sand in pot during preparation and fusion (lb/hr)

L = (484 lbs/hr) x (0.174 lb/ton)* x (0.01) x (1 ton/2000 lbs)

F = (6 crucibles/hr)x(0.37 lb PE/crucible)**x(0.1)***

P= (484 lbs/hr)x(0.058 lb/ton)*x(0.01)x(1 ton/2000 lbs)

C = (150 lbs/hr) x (0.75 lb PE / lb sand) x (0.001)

V = 2 x 0.05 lb/hr

*The transfer emission factor was derived with information from AP-42, 5th Edition, Volume I, Chapter 11, Mineral Products Industry,Table 11.12-2, dated January 1995.
** The emission factor was established through emission tests performed by GE Quartz, Inc Newark Plant. 12/17/96 through 12/19/96.
*** The control efficiency of the ESP is assumed to be 99% for the purpose of this calculation.

g. Compliance with the hourly PE limitation shall be determined by summing the tested hourly emission rates for C and F as required above and the calculated emission rates for L, P and V.

V. Testing Requirements (continued)

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, CDO's refusal to accept the emission tests.

Personnel from the Ohio EPA, CDO shall be permitted to witness the tests, 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 emission tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with approval from the Ohio EPA, CDO.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: REPAIR LATHE #2 (P036)

Activity Description: Repair Lathe # 2

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
large diameter repair lathe #2 - 0.88 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS	OAC rule 3745-31-05(A)(3) (PTI 01-08046)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 1.1 pounds per hour. Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year. See A.I.2.a below.
	OAC rule 3745-31-05(D) (PTI 01-08046)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions. See A.I.2.d below.
	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
	OAC rule 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The permittee shall vent all emissions from this emissions unit to a selective catalytic reduction (SCR) unit and shall operate the SCR unit with at least 85% control efficiency for NOx while operating this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements established in Permit to Install 01-08046.

2.c The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.3.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.3.e.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.4.

2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.4.e.

V. Testing Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08046, issued on March 14, 2002: A.V.2, A.V.2.a through A.V.2.f. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

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

V. Testing Requirements (continued)

2.a Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 1.1 pounds per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly MMBtu demand (0.88) by an emission factor of 8.5 lbs/MMBtu (derived from emission tests performed on March 12, 1999) and by (1 - 0.85) for the control efficiency of the SCR unit.

If required, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

2.b Emission Limitation:
85% control efficiency for NOx by the SCR unit.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.b.

2.c Emission Limitation:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.a.

2.d Emission Limitation:
Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part II -Specific Facility Terms and Conditions, Section A.5.d.

2.e Emission Limitation:
PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated based upon the results of emission tests performed on May 12, 1999 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

2.f Emission Limitation:
Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE may be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Crucible Cleaning System (P037)

Activity Description: automated crucible cleaning system

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures
automated crucible cleaning system: chemical delivery system, acid etching system, vented to wet caustic scrubber	OAC rule 3745-31-05(A)(3) (PTI 01-08339)	Hydrogen flouride emissions from the wet caustic scrubber stack shall not exceed 0.15 pound per hour and 0.66 ton per year. Nitric acid emissions from the wet caustic scrubber stack shall not exceed 0.07 pound per hour and 0.31 ton per year. See A.I.2.a, A.I.2.b and A.II.1 through A.II.3 below.

2. Additional Terms and Conditions

2.a The permittee shall vent the emissions from this emissions unit to a wet caustic scrubber and shall operate the wet caustic scrubber while operating this emissions unit.

2.b The hourly and annual emission limitations for this emissions unit were established to reflect potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop any additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

2.c The emissions from the following components of the automated crucible cleaning system shall be vented to the wet caustic scrubber:

i. chemical delivery;
ii. acid etching (crucible cleaning); and
iii. spent acid waste tanks.

II. Operational Restrictions

1. The permittee shall maintain the pressure drop across the wet caustic scrubber packing at not less than 0.5 to 4 inches of water while operating this emissions unit.

2. The permittee shall maintain the wet caustic scrubber liquid recirculation flow rate at not less than 100 gallons per minute while operating this emissions unit.

II. Operational Restrictions (continued)

3. The permittee shall maintain the pH of the wet caustic scrubber liquid in the wet caustic scrubber tower sump at not less than a pH of 8.0 while operating this emissions unit.

III. Monitoring and/or Record Keeping Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 01-08339, issued on July 10, 2001: A.III.2. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

2. The permittee shall properly operate and maintain device(s) and recorder(s) to monitor and record the following parameters on a daily basis:

a. the water supply pressure, in psig;
b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit;
c. the pressure drop across the wet caustic scrubber packing;
d. the wet caustic scrubber liquid recirculation flow rate; and
e. the wet caustic scrubber liquid pH.

The monitoring devices and recorder(s) shall be installed, calibrated, operated and maintained in accordance with good engineering practices. To meet this monitoring requirement the permittee has established an interlocked Process Control System PLC to continuously monitor and record the parameters listed in section A.II.1-3 above and to automatically shut down the emissions unit before an excursion from the operational restrictions listed in section A.II.1-3 above occurs.

IV. Reporting Requirements

1. Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 01-08339, issued on July 10, 2001: A.IV.2 and A.IV.3. The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the emissions unit was in operation and the Process Control System PLC was either bypassed or not monitoring the water supply pressure, pressure drop across the wet caustic packing, the wet caustic scrubber liquid recirculation flow rate, and the wet caustic scrubber liquid pH. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Term and Condition A.1.c.ii of this permit.

3. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the emissions unit shut down by the Process Control System PLC. These excursion reports shall contain an explanation of why the emissions unit was shut down and the corrective actions taken to address the excursion. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Term and Condition A.1.c.ii of this permit.

V. Testing Requirements

1. Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 01-08339 issued on July 10, 2001: A.V.2, A.V.2.a, A.V.2.b, A.V.2.c, A.V.2.d and A.V.3. The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

V. Testing Requirements (continued)

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

2.a Emission Limitation:
Hydrogen flouride emissions from the wet caustic scrubber stack shall not exceed 0.15 pound per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the requirements described in section A.V.3 of this permit.

2.b Emission Limitation:
Hydrogen flouride emissions shall not exceed 0.66 ton per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for hydrogen flouride may be assumed provided compliance is maintained with the pound per hour emissions limitation for hydrogen flouride. The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours per year and dividing by 2000 pounds per ton.

2.c Emission Limitation:
Nitric acid emissions from the wet caustic scrubber stack shall not exceed 0.07 pound per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the requirements described in section A.V.3 of this permit.

2.d Emission Limitation:
Nitric acid emissions shall not exceed 0.31 ton per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for nitric acid may be assumed provided compliance is maintained with the pound per hour emissions limitation for nitric acid. The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours per year and dividing by 2000 pounds per ton.

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

a. The emission testing shall be conducted within 3 months after emissions unit startup and within 6 months prior to the permit expiration.

b. The emission testing shall be conducted to demonstrate compliance with the allowable emission limitations for nitric acid and hydrogen flouride.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitations: Methods 1 - 4 and Method 26A for hydrogen flouride and Method 18 for nitric acid. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, CDO.

d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO.

V. Testing Requirements (continued)

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, CDO. 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, CDO's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, CDO 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 emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, CDO.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/ Requirements	Applicable Emissions Limitations/Control Measures

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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