John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

11/19/2014

Certified Mail

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

Mrs. Maura LaGreca
Momentive Performance Materials Quartz, Inc.
611 O'Neill Drive
Hebron, OH 43025

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0145000213
Permit Number: P0117199
Permit Type: OAC Chapter 3745-31 Modification
County: Licking

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, The Newark Advocate. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

and

Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Central District Office at (614)728-3778.

Sincerely,

Erica R. Engel-Ishida, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 -*Via E-Mail Notification*
Ohio EPA-CDO

Licking County

PUBLIC NOTICE
Issuance of Draft Air Pollution Permit-To-Install
Momentive Performance Materials Quartz, Inc.

Issue Date:	11/19/2014
Permit Number:	P0117199
Permit Type:	OAC Chapter 3745-31 Modification
Permit Description:	Chapter 31 modification to allow the facility additional flexibility in the use of the existing selective catalytic reduction unit to control NOx emissions within the facility's synthetic minor limits.
Facility ID:	0145000213
Facility Location:	Momentive Performance Materials Quartz, Inc. 611 O'Neill Drive, Hebron, OH 43025
Facility Description:	Nonclay Refractory Manufacturing

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at: http://epa.ohio.gov/dapc/permitsonline.aspx by entering the permit # or: Stephanie Habinak, Ohio EPA DAPC, Central District Office, 50 West Town Street, 6th Floor P.O. Box 1049, Columbus, OH 43216-1049. Ph: (614)728-3778

Permit Strategy Write-Up

1. Check all that apply:

   xSynthetic Minor Determination

   Netting Determination

2. Source Description:

   The applicant, Momentive Performance Materials Quartz, Inc. (Momentive) (Facility ID No. 01-45-00-0213), has submitted a Chapter 31 modification request for Permits to Install (PTIs) P0104785, P0108330, and P0107672. The proposed modification will allow Momentive to optimize the facility's existing selective catalytic reduction control device (SCR) by giving the facility the flexibility to prioritize flow capacity for emission sources with the highest Nitrogen Oxide (NOx) concentrations.

   Currently, the facility has four Arc Fusion Machines (P010, P011, P012, and P035), twenty three natural gas fired lathes (B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, P014, P015, P021, and P032), a rod straightener (B038), and a trial burner (B039) vented to the SCR. Under current permit terms Momentive is required to control NOx emissions from the above mentioned emissions units with the SCR on a seasonal basis from May 1 through September 30, for the period of October 1 through April 30 Momentive is allowed to operate the SCR, as needed, to maintain compliance with permitted emissions limits. Following the issuance of this permit Momentive will be required to control NOx from the above mentioned emissions units only, as needed, to comply with the facility's NOx emission limitation. This change will allow Momentive to operate the SCR on a more efficient basis lowering the ammonia and greenhouse gas emissions associated with SCR operation during periods of low production demand.

3. Facility Emissions and Attainment Status:

   Momentive Performance Materials Quartz, Inc. is classified as a major source due to its emissions of NOx. Without synthetic minor limitations presented in this permit, potential emissions associated with the SCR optimization project would trigger New Source Review (NSR) permitting thresholds levels. The facility wide emissions from the SCR (tons per year), *with* synthetic minor limits, will increase to 249.7 tons per year of NOx, and 409.31 tons per year of ammonia (NH_3).

   The ammonia is a by-product of NOx control since the NOx is controlled through a reaction with ammonia in the SCR. Excess ammonia is used in the SCR which results in the emission of unreacted ammonia (ammonia slip).

   Momentive Performance Materials Quartz, Inc. is located in Licking County. Currently, Licking County is attainment for all criteria pollutants *excluding* ozone. The facility manufactures fused quartz crucibles and glass tubing. The sources will be located at the following address:

   611 O'Neill Drive SE
   Hebron, Ohio 43025

4. Source Emissions:

   - Yearly potential *uncontrolled* NOx emissions from, B001-B003, B006, B023-B037, P010-P012, P014, P015, P021, P032, and P035 combined is 4963.4 tons per year.

   - Yearly potential controlled NOx emissions with a rolling, 12-month emission limitation from B001-B003, B006, B023-B037, P010-P012, P014, P015, P021, P032, and P035 combined will increase from 210.7 tons per year to 249.7 tons per year.

5. Conclusion:

   The SCR optimization project is not a Major Modification because the applicant has limited the total yearly emissions of NOx which will result from this action to less than 40 tons per year. The reduction of yearly emissions will be achieved by the control efficiency of the pollution control equipment (SCR) and normal product demand.

   The synthetic minor limit of 249.7 tons per year as a rolling 12-month summation for emissions units B001-B003, B006, B023-B037, P010-P012, P014, P015, P021, P032, and P035 will effectively restrict the nitrogen oxide emissions resulting from this action below thresholds for a major modification. Compliance with the synthetic minor limit will be ensured through the use of continuous emission monitoring systems (CEMS), recordkeeping, reporting and testing requirements.

6. Please provide additional notes or comments as necessary:

   The SCR was first activated by the facility (then GE Quartz Inc.) in June 2001. The SCR was installed as a voluntary measure after GE Quartz Inc. determined that NOx emissions from the arc fusion machines and the natural gas lathes were emitting NOx at a much higher rate than indicated by the AP-42 emission factors used for prior emission determinations. Installation of the SCR exceeded what would have constituted Best Available Control Technology (BACT) at the time. On September 30, 2003 GE Quartz, Inc was issued a consent order in response to the facility's NOx emission exceedance. The consent order required GE Quartz to pay a civil penalty but did not include any requirements concerning the operation or maintenance of any existing emissions units or the SCR.

7. Total Permit Allowable Emissions Summary (for informational purposes only):

Pollutant	Tons Per Year
NOx	249.7
NH4	409.3

DRAFT

Division of Air Pollution Control
Permit-to-Install
for
Momentive Performance Materials Quartz, Inc.

Facility ID:	0145000213
Permit Number:	P0117199
Permit Type:	OAC Chapter 3745-31 Modification
Issued:	11/19/2014
Effective:	To be entered upon final issuance

Division of Air Pollution Control
Permit-to-Install
for
Momentive Performance Materials Quartz, Inc.

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Authorization

Facility ID:	0145000213
Facility Description:	Nonmetallic mineral products
Application Number(s):	A0050943
Permit Number:	P0117199
Permit Description:	Chapter 31 modification to allow the facility additional flexibility in the use of the existing selective catalytic reduction unit to control NOx emissions within the facility's synthetic minor limits.
Permit Type:	OAC Chapter 3745-31 Modification
Permit Fee:	$5,225.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date:	11/19/2014
Effective Date:	To be entered upon final issuance

This document constitutes issuance to:

Momentive Performance Materials Quartz, Inc.
611 O'Neill Drive
Hebron, OH 43025

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

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049
(614)728-3778

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Craig W. Butler
Director

Authorization (continued)

Permit Number: P0117199
Permit Description: Chapter 31 modification to allow the facility additional flexibility in the use of the existing selective catalytic reduction unit to control NOx emissions within the facility's synthetic minor limits.

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

Group Name: Arc Fusion Crucible Machines

Emissions Unit ID:	**P010**
Company Equipment ID:	CM4
Superseded Permit Number:	P0108330
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**P011**
Company Equipment ID:	CM5
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**P012**
Company Equipment ID:	CM8
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**P035**
Company Equipment ID:	CM9
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable

Group Name: Large Diameter Lathes

Emissions Unit ID:	**B034**
Company Equipment ID:	B034
Superseded Permit Number:	P0107672
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B035**
Company Equipment ID:	B035
Superseded Permit Number:	P0107672
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B036**
Company Equipment ID:	B036
Superseded Permit Number:	P0107672
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B037**
Company Equipment ID:	B037
Superseded Permit Number:	P0107672
General Permit Category andType:	Not Applicable

Group Name: Large Diameter Lathes

Emissions Unit ID:	**B001**
Company Equipment ID:	LD1
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
	B002

Emissions Unit ID:	
Company Equipment ID:	LD2
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B003**
Company Equipment ID:	LD3
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B006**
Company Equipment ID:	LD6
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B023**
Company Equipment ID:	LD10
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B024**
Company Equipment ID:	LD11
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B025**
Company Equipment ID:	LD12
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B026**
Company Equipment ID:	LD13
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B027**
Company Equipment ID:	LD14
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B028**
Company Equipment ID:	LD16
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B029**
Company Equipment ID:	LD17
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B030**
Company Equipment ID:	LD18
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B031**
Company Equipment ID:	LD15
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B032**
Company Equipment ID:	LD19
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**B033**
Company Equipment ID:	LD20
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable

Emissions Unit ID:	**P014**
Company Equipment ID:	LD7
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**P015**
Company Equipment ID:	LD8
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**P021**
Company Equipment ID:	LDR1
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**P032**
Company Equipment ID:	LD9
Superseded Permit Number:	P0104785
General Permit Category andType:	Not Applicable

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:

(1) Standard Term and Condition A.2.a), Severability Clause

(2) Standard Term and Condition A.3.c) through A. 3.e)General Requirements

(3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements

(4) Standard Term and Condition A.9., Reporting Requirements

(5) Standard Term and Condition A.10., Applicability

(6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install

(7) Standard Term and Condition A.14., Public Disclosure

(8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(9) Standard Term and Condition A.16., Fees

(10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

a) Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

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

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

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

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

4. Monitoring and Related Record Keeping and Reporting Requirements

a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

(1) The date, place (as defined in the permit), and time of sampling or measurements.

(2) The date(s) analyses were performed.

(3) The company or entity that performed the analyses.

(4) The analytical techniques or methods used.

(5) The results of such analyses.

(6) The operating conditions existing at the time of sampling or measurement.

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

c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:

(1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Central District Office.

(2) Quarterly written reports of (i) any deviations from federally enforceable emissionlimitations, operationalrestrictions, andcontroldeviceoperatingparameterlimitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Central District Office. The written reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

(3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, andreportingrequirements contained in this permit shall be submitted to the Ohio EPA DAPC, Central District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

(4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to theOhio EPA DAPC, Central District Officein accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted

local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

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

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:

(1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.

(3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

(4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

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

(1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

(2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

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

8. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Central District Office.

b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to theOhio EPA DAPC, Central District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s)not exempt from the requirement to obtain a Permit-to-Install.

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

a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual

obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.

c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).

d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted,no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

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

12. Permit-To-Operate Application

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

13. Construction Compliance Certification

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

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

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

14. Public Disclosure

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

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

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

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

17. Permit Transfers

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

18. Risk Management Plans

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

19. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

   a) 2.a)(3), 4.f)-4.i.),5.e), 6.a)(3) and (4), and 6.b)

2. Applicable Emissions Limitations and/or Control Requirements

   a) Emission Limitations

      (1) Pursuant to OAC rule 3745-31-05(D), total nitrogen oxides (NOx) emissions shall not exceed 249.7 tons per year for emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035, combined, as a rolling, 12-month summation of the NOx emissions.

      (2) Pursuant to OAC rule 3745-17-07(A), visible particulate emissions (PE) from any stack serving emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035 shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

      (3) Pursuant to ORC 3704.03(F)(4)(c) ammonia emissions from the SCR unit stack shall not exceed 93.4 pounds per hour and 409.1 tons per year.

      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) Additional Terms and Conditions

      (1) The permittee shall control particulate emissions (PE) from the blockhouse enclosures of emissions units P010, P011, P012 and P035 by using an electrostatic precipitator (ESP).

      (2) A continuous emissions monitoring system (CEMS) malfunction is defined as any time in which a CEMS systems used for monitoring emissions is not able to sample or analyze the nitrogen oxides in the gas stream. In the event of a CEMS malfunction, NOx emissions during the malfunction may be determined utilizing source specific emission factors or calculations as set forth in section B.4.d).

      (3) A SCR malfunction is defined as any time that the SCR automatically shuts down due to an internal control system setting or when the permittee manually determines that the SCR is not operating properly and must be shut down. The malfunction event will begin at the time of automatic shutdown of the SCR (as recorded by the SCR control system) or at the time a malfunction requiring SCR shutdown is manually identified by the permittee. In the event of a SCR malfunction, NOx emissions during the malfunction may be determined utilizing source specific emission factors or calculations as set forth in Section B.4.d).

      (4) An ESP malfunction is defined as any time that the ESP automatically shuts down due to an internal control system setting, or when the permittee manually determines that the

ESP is not operating properly and must be shut down. The malfunction event will begin at the time of automatic shutdown of the ESP as recoreded by the control system, or at the time a malfunction requiring ESP shutdown is manually identified by the permitee.

(5) CEMS Quality Assurance/ Quality Control

The permittee shall maintain a copy of the written quality assurance/quality control plan for the NOxCEMS used to demonstrate compliance with paragraph 2.(a)(1) 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.

(6) CEMS Statement of Certification

The permittee shall maintain a copy of the certification of the continuous NOx monitoring systems granted by the Ohio EPA, Central Office. This certification is 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.

(7) In the event of an ESP malfunction, emissions units P010, P011, P012,and P035 will be shut down immediately following completion of work-in-process. Work-in-process is defined as the crucible being fused in the blockhouse at the time of the malfunction. In the event of an ESP malfunction, PM emissions during the malfunction may be determined utilizing source specific fusion emission factors as set forth in this permit.

3. Operational Restrictions

a) None

4. Monitoring and Record Keeping Requirements

a) The permittee shall maintain monthly records of the tons of NOx per month and the rolling, 12-month NOx emissions calculated as the summation of the NOx emissions as determined by the CEMS (Section B.4.c) and from the recordkeeping in B.4.d).

b) The permittee shall operate and maintain the CEMS to continuously monitor and record combined NOx emissions from the SCR stack.Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

c) The permittee shall maintain records of all data obtained by a CEMS used to demonstrate compliance with this permit, including 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.

d) For each CEMS malfunction or any period where emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035 are vented through a stack not monitored by a CEMS the permittee shall collect and record the following information:

(1) The emissions unit ID for each above mentioned emission unit operating during the malfunction or the emissions unit ID for each emissions unit not vented to a stack monitored by a CEMS.

(2) For periods of CEMS malfunction: The total duration of the CEMS malfunction, in hours or the volume of natural gas consumed by each emissions unit during the malfunction in, standard cubic feet.

(3) For periods when the above mentioned emissions units are not vented to a stack monitored by a CEMS: The total hours of operation in which the emissions unit was not vented to a stack monitored by a CEMS or the volume of natural gas consumed while the emissions unit was not vented to a stack monitored by a CEMS, in standard cubic feet.

(4) The NOx emissions from the lathes in operation calculated by:

(a) multiplying the lathes in operation in Section B.4.d)(1), by the total hours of the CEMS malfunctions in Section B.4.d)(2) or the total hours of operation in Section B.4.d)(3), by the maximum uncontrolledemission rate for each lathe (X) or;

(b) by multiplying the volume of natural gas consumed by each lathe, by the established heating value of the natural gas (Z), by the established NOx emission factor (Y), derived from emissions tests performed on March 25, 1998, or emission factors based on more recent source-specific emission tests approved in writing by the Ohio EPA, where:

Source	(X) Uncontrolled NOxlb/hr	(Y) Emission Factor NOxlb/MMBtu	(Z) Natural Gas Heating Value MMBtu/scf
B001	45.6	12.06	1.05×10^{-3}
B002	45.6	12.06	1.05×10^{-3}
B003	45.6	12.06	1.05×10^{-3}
B006	45.6	12.06	1.05×10^{-3}
B023	39.2	7.77	1.05×10^{-3}
B024	39.2	7.77	1.05×10^{-3}
B025	39.2	7.77	1.05×10^{-3}
B026	39.2	7.77	1.05×10^{-3}
B027	39.2	7.77	1.05×10^{-3}
B028	39.2	7.77	1.05×10^{-3}
B029	39.2	7.77	1.05×10^{-3}
B030	49.0	7.77	1.05×10^{-3}
B031	39.2	7.77	1.05×10^{-3}
B032	39.2	7.77	1.05×10^{-3}
B033	39.2	7.77	1.05×10^{-3}

B034	88.5	11.7	1.05×10^{-3}
B035	88.5	11.7	1.05×10^{-3}
B036	88.5	11.7	1.05×10^{-3}
B037	88.5	11.7	1.05×10^{-3}
P014	55.0	12.06	1.05×10^{-3}
P015	55.0	12.06	1.05×10^{-3}
P021	6.6	8.51	3.25×10^{-4}
P032	39.2	7.77	1.05×10^{-3}

(5) The NOx emissions from the arc fusion machines* calculated using the following equation:

{arc fusion machine #4 (P010) hours of operation * 29.78 lbs/hr } + {arc fusion machine #5 (P011) hours of operation* 23.9lbs/hr } + {arc fusion machine #8 (P012) hours of operation * 44.49 lbs/hr } + {arc fusion machine #9 (P035) hours of operation * 44.49 lbs/hr}.

* If an arc fusion machine is not in operation then its emissions are assumed to be zero.

(6) The NOx emissions from the trial burners and rod straightener using the following equation:

{(total hours the rod straightener (B038) was operated * 8.5 lbs/hr) + (total hours the trial burners were operated * 13.3 lbs/hr)}

(7) The summation of the NOx emissions from the lathes, arc fusion machines, trial burners and rod straightener in pounds.

e) The permittee shall perform daily checks, when any of the emissions units identified in Section B.2.a)(2) are 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:

(1) the color of the emissions;
(2) whether the emissions are representative of normal conditions;
(3) if the emissions are not representative of normal conditions, the cause(s) of the abnormal emissions;
(4) the total duration of any visible emission incident; and
(5) any corrective actions taken to eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (4) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions 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.

If the 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 B.2.a)(2) are in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to once each operating day until such time as there are 30 consecutive operating days of normal visible emissions.

f) The PTI applications for this/these emissions unit(s), B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035, were evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The Toxic Air Contaminant Statute, ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

(1) the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

(a) threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or

(b) STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

(c) The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).

(d) This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "**X**" hours per day and "**Y**" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

TLV/10 x 8/X x 5/Y = 4 TLV/XY = MAGLC

The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: ammonia

TLV (mg/m3): 17

Maximum Hourly Emission Rate (lbs/hr): 93.4

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 171.09

MAGLC (ug/m3): 404.8

The permittee, has demonstrated that emissions of ammonia, from the SCR unit stack is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

g) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:

(1) changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;

(a) changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and

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

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

concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

h) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F):

(1) a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);

(2) the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the Toxic Air Contaminant Statute, ORC 3704.03(F);

(3) a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

(a) the documentation of the initial evaluation of compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

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

5. Reporting Requirements

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, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035 combined.

The quarterly deviation reports shall be submitted in accordance with the requirements specified in Part A.4.c).

b) CEMS Data Reporting

The permittee must submit data for each CEMS (that meets the requirements of 40 CFR Part 60.13 and has received 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 rolling, 12-month limitation (in tons) for the previous calendar quarter.

The permittee shall submit reports within one month following the end of each calendar quarter to the Ohio EPA, CDO documenting any CEMS malfunction 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 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

c) 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 the schedule required in Part A.4.c) of this PTI.

d) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack(s) serving these emissions units 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.

e) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the quarterly deviation (excursion) reports. If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

6. Testing Requirements

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

(1) <u>Emission Limitation</u>:

249.7 tons per year NOx emissions for emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035 combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:

Compliance shall be based on the record keeping in Section 4, Monitoring and Recordkeeping, terms a) through d).

(2) Emission Limitation:

Visible particulate emissions (PE) from the stack(s) serving emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035 shall not exceed 20% opacity, as a 6-minute average, except as provided by OAC rule 3745-17-07.

Applicable Compliance Method:

Compliance shall be based on the record keeping in Section 4., Monitoring and Recordkeeping, term e).

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).

(3) Emission Limitation:

Ammonia emissions from the SCR unit stack shall not exceed 93.4 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing requirements specified in term b) which follows.

(4) Emission Limitation:

Ammonia emissions from the SCR unit stack shall not exceed 409.1 tons per year.

Applicable Compliance Method:

Compliance with the annual emission limitation for ammonia shall 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.

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

(1) The emission testing shall be conducted in accordance with the schedule dictated by the site's Title V Permit.

(2) The emission testing shall be conducted to demonstrate compliance with the hourly emission limitation for ammonia.

(3) 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.

(4) 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.

c) Relative Accuracy Test Audit

To ensure the validity of the data from a CEMS used to demonstrate compliance with this permit, the permittee shall certify the accuracy of the CEMS every two years and as required for good cause pursuant to provisions for a relative accuracy test audit (RATA) in 40 CFR Part 60, Appendix F.

7. Miscellaneous Requirements

a) None.

C. Emissions Unit Terms and Conditions

1. Emissions Unit Group -Arc Fusion Crucible Machines: P010, P011, P012, and P035

EU ID	Operations, Property and/or Equipment Description
P010	P-14 Arc Fusion Machine No. 4 – sand loading, fusion, pop-off and cleanout stages
P011	P-14 Arc Fusion Machine No. 5 – sand loading, fusion, pop-off and cleanout stages
P012	P-272 Arc Fusion Machine No. 8 – sand loading, fusion, pop-off and cleanout stages
P035	P-272 Arc Fusion Machine No. 9 – sand loading, fusion, pop-off and cleanout stages

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-11(B)(1) and 3745-31-05(D). <u>For emission unit P010</u>: Nitrogen oxides (NOx) emissionsshall not exceed 10.8 tons per month averaged over a twelve-month rolling period. <u>For emission unit P011</u>: Nitrogen oxides (NOx) emissionsshall not exceed 8.7 tons per month averaged over a twelve-month rolling period. <u>For emission units P012 and P035</u>: Nitrogen oxides (NOx) emissionsshall not exceed 16.2 tons per month averaged over a twelve-month rolling period. <u>For emission units P010 and P011</u>: Particulate emissions (PE)shall not exceed 0.6 tons per month averaged over a twelve-month rolling period.

		For emission units P012 and P035: PEshall not exceed 0.7 tons per month averaged over a twelve-month rolling period. See b)(2)a. below.
b.	OAC rule 3745-31-05(C), as effective 12/01/06	See b(2) b. below.
c.	OAC rule 3745-31-05(D) (synthetic minor to avoid PSD)	Total NOx emissions shall not exceed 249.7 tons per year for emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035, combined, as a rolling, 12-month summation of the NOx emissions
d.	OAC rule 3745-17-11(B)(1)	For emission unit P010: PE for this emission unit alone from all stacks serving this emissions unit shall not exceed 2.0 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II. For emission unit P011: PE for this emission 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. For emission units P012 and P035: PE for these individual emissions units alone from all stacks serving these emissions units shall not exceed 1.9 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.
e.	OAC rule 3745-17-07(B)	See b)(2)f. below.
f.	OAC rule 3745-17-08(B)	See b)(2)e. below.
g.	40 CFR Part 64 – Compliance assurance monitoring (CAM)	See d)(7) below.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan. Permit to Install P0117199 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment), as proposed by the permittee, for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

i. The permittee shall vent the emissions from the sand loading, pop-off and cleanout stages throughdust collection systems, and the fusion process through an ESP at all times while operating.

c. The PE pounds per hour and tons per year emission limitations for each emissions unit was established to reflect the potentials to emit for the emissions units 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.

d. The NOxton per month limitation for each emissions unit was established to reflect the potential to emit for the unit without control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

e. Since these emissions unitsare 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 these emissions units.

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 these emissions units.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) It has been determined that the normal range for the pressure drop across each baghouse is between 1 and 6 inches of water.

(2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouses when the emissions unit is in operation. The monitoring equipment shall be installed, 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 baghouses on a daily basis.Whenever the monitored value for the pressure drop is observed to be outside the normal range identified above, the permittee shall promptly investigate the cause of the excursion. The permittee shall maintain records of the following information for each investigation:

a. the date and time the excursion is first observed;

b. the magnitude of the excursion at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of anexcursion, the permittee shall take prompt corrective action to bring the operation of the control equipment within the normal range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the excursion ended. The permittee shall maintain records of the following information for each corrective action taken:

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the excursion ended;

i. the total period of time (in minutes) during which there was anexcursion;

j. the pressure drop values immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This normal range for the pressure drop across the baghouses are not an operational restriction or limitation, and is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the normal range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the normal range will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(4) It has been determined that the normal secondary voltage for each field of the ESP is 8 kV or above with a minimum of three fields out of a total of four operating.

(5) The permittee shall properly install, operate, and maintain equipment to continuously monitor the secondary voltage, in kilovolts for each field of the ESP when the emissions unit(s) is/are in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).

The sensors and recorder for voltage shall monitor and record the secondary voltage for each field of the ESP on a daily basis.Whenever the secondary voltage of any field of the ESP falls below the normal value or less than 3 fields are operating, the permittee shall promptly investigate the cause of the excursion. The permittee shall maintain records of the following information for each investigation:

a. the date and time the excursion was first observed;

b. the magnitude of the excursion at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of an excursion, the permittee shall take prompt corrective action to bring the control equipment parameters within the normal range(s) and/or above the minimum value, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the excursion ended. The permittee shall maintain records of the following information for each corrective action taken:

f. a description of the corrective action;

g. the date the corrective action was completed;

h. the date and time the excursion ended;

i. the total period of time (in minutes) during which there was an excursion;

j. the value of the corrected parameter t immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

These normal range(s) and/or value for the secondary voltage and number of fields operating are not operational restrictions or limitations, and are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by Ohio EPA, Central District Office. The permittee may request revisions for the voltage or number of fields based upon information obtained during future performance tests that demonstrate compliance with the allowable PE emission limitation for this emissions unit. In addition, approved revisions to the range(s), minimum value or limitation will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(6) The permittee shall perform checks once each operating day, using either certified or non-certified visible emissions observers, when any 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 emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions 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.

If the 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 this emissions unit is in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to once each operating day until such time as there are 30 consecutive operating days of normal visible emissions.

(7) The CAM plan for P010, P011, P012, and P035 has been developed for particulate emissions. The CAM performance indicator for the baghouse controlling this emissions unit is the static pressure drop across the baghouse, which was established in accordance with the manufacturer's recommendations. The CAM performance indicator for the ESP controlling this emissions unit is secondary voltage. When the static pressure drop or secondary voltage shows operation outside the indicator range(s), the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in Section e) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or the most recent approved revision of the Plan.

e) Reporting Requirements

(1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

(2) The permittee shall submit quarterly excursions reports:

a. The excursion report shall identify the following

i. each excursion from control device operating parameters that have been detected by the monitoring and recordkeeping requirements specified in this permit, excluding excursions resulting from malfunctions reported in accordance with OAC rule 3745-15-06;

ii. period of time for each excursion (initially observed time and date, and end time and date);

iii. the probable cause of such excursions; and

iv. any corrective actions or preventive measures taken.

b. If no excursions occurred during a calendar quarter, the permittee shall submit a report that states that no excursions occurred during the quarter.

c. The written reports shall be submitted electronically through Air Services quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

(3) The permittee shall submit quarterly deviation reports that identify the following:

a. each incident described in Section e)(2)a.i. where a prompt investigation was not conducted;

b. each incident described in Section e)(2)a.i. where prompt corrective action, that would bring the baghouse pressure drop, secondary voltage, and/or number of fields operating into normal ranges or above the minimum value, was determined to be necessary and was not taken; and

c. each incident described in Section e)(2)a.i. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

d. The deviation report shall identify the following:

i. any deviations from federally enforceable emission limitations or operational restrictions, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit;

ii. the probable cause of such deviations, and;

iii. any corrective actions or preventive measures taken, shall be reported to OEPA, DAPC, CDO. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

e. If no deviations occurred during a calendar quarter, the permittee shall submit a report that states that no deviationsoccurred during the quarter.

(4) The quarterly excursion reports and quarterly deviation reports may be combined to fulfill the requirements of Section e)(2) and e)(3).

(5) The quarterly deviation reports and the quarterly excursion reports shall be submitted in accordance with Part A Section 2. of this permit.

(6) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from any stack serving these emissions units 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.

f) Testing Requirements

(1) Compliance with the emission limitations in Section b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

NOx emissions shall not exceed10.8 tons per month averaged over a twelve-month rolling period for emission unit P010, 8.7 tons per month averaged over a twelve-month rolling period for emission unit P011, and16.2 tons per month averaged over a twelve-month rolling period for emission units P012 and P035.

Applicable Compliance Method:

The emission limitationswere established by the following equation:

Emission limitation (EL) = (X crucibles/hr)* x (Y lbs of NOx/crucible)** x 8760 hours per year / 2,000 lbs/ton / 12 months per year, where:

X = 8.57 for emission units P010
X = 10 for emission unit P011;
X = 6.32 for emission units P012 and P035;
Y = 3.44 for emission unit P010
Y = 2.39 for emission unit P011; and
Y = 7.04 for emission units P012 and P035

* Maximum hourly crucible production.
** The emission factor was established through emission tests performed by GE Quartz, Inc. on 12/4/96, 12/5/96 and 12/19/96.

If required by the Ohio EPA and/or U.S. EPA, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

b. Emission Limitation:

249.7 tons per year of NOx from emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035, 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 B – Facility-Wide Terms and Conditions, Section 6.a).

c. Emission Limitation:

Visible PE from any stack serving these emissions units shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the emission limitation based on the record keeping required in section d)(6).

If required by the Ohio EPA and/or U.S. 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).

d. Emission Limitation:

PE for the emissions unit alone from all stacks serving this emissions unit shall not exceed 2.0 pounds per hour for P010, 1.6 pounds per hour for P011, and 1.9 pounds per hour for P012 and P035 based on Table I which is more stringent than the allowable PE rate from Figure II.

Applicable Compliance Method:

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

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

PE = particulate emissions for this emissions unit
L = particulate emissions from loading of sand into crucible pots (lb/hr)
F = particulate emissions from crucible formation through electric arc fusion (lb/hr)
P = particulate emissions from crucible pop-off hood (lb/hr)
C = particulate emissions from hot sand clean out (lb/hr)

For P010:

L = (0.35 tons/hr)* x (0.174 lb/ton)** x (0.01)***

F = (8.57 crucibles/hr)* x (0.595 lb PE/crucible)** x (0.1)***

P = (0.35 tons/hr)* x (0.058 lb/ton)** x (0.01)***

C = (154 lbs/hr)* x (0.75 lb PE /lb sand)** x (0.001)***

For P011:

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

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

For P012 and P035:

L = (631 lbs/hr)* x (0.174 lb/ton)** x (0.01)*** x (1 ton/2000 lbs)

F = (6.32 crucibles/hr)* x (0.952lb PE/crucible)** x (0.1)***

P = (631 lbs/hr)* x (0.058 lb/ton)** x (0.01)*** x (1 ton/2000 lbs)

C = (210 lbs/hr)* x (0.75 lb PE / lb sand)** x (0.001)***

* L - The hourly process weight rate.
F - The maximum hourly crucible production
P - The hourly process weight rate.
C - The maximum hot sand dumped per hour.

** L&P -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.
F -This emission factor was established through emission tests performed by GE Quartz, Inc. Newark Plant from 12/17/96 through 12/19/96.
C - This emission factor was estimated and provided by GE Quartz, Inc. based on engineering judgement.

*** L -The control efficiency of the loading baghouses is assumed to be 99%.
F -The control efficiency of the ESP is assumed to be 90%.
P-The control efficiency ofthebaghouse is assumed to be 99%.
C -The control efficiency of the baghouse is assumed to be 99.9%.

Compliance with this emission limitation was demonstrated through emission tests performed on January 30, 2002. If required by the Ohio EPA and/or U.S. EPA, compliance shall be determined through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

e. Emission Limitation:

PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 0.6tons per month averaged over a twelve-month rolling period for P011 and 0.7tons per month averaged over a twelve-month rolling period for P012 and P035.

Applicable Compliance Method:

Compliance with the monthly emission limitation for PE shall be assumed provided compliance is maintained with the pound per hour emission limitation for PE, as calculated in f)(1)d. above. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

g) Miscellaneous Requirements

(1) None.

2. Emissions Unit Group - Large Diameter Lathes: B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P014, P015, P021, and P032

EU ID	Operations, Property and/or Equipment Description
B001	Large Diameter Lathe No. 1 - 3.78 MMBtu/hr
B002	Large Diameter Lathe No. 2 - 3.78 MMBtu/hr
B003	Large Diameter Lathe No. 3 - 3.78 MMBtu/hr
B006	Large Diameter Lathe No. 6 - 3.78 MMBtu/hr
B023	Large Diameter Lathe No. 10 - 5.04 MMBtu/hr
B024	Large Diameter Lathe No. 11 - 5.04 MMBtu/hr
B025	Large Diameter Lathe No. 12 - 5.04 MMBtu/hr
B026	Large Diameter Lathe No. 13 - 5.04 MMBtu/hr
B027	Large Diameter lathe No. 14 - 5.04 MMBtu/hr
B028	Large Diameter Lathe No. 16 - 5.04 MMBtu/hr
B029	Large Diameter Lathe No. 17 - 5.04 MMBtu/hr
B030	Large Diameter Lathe - No. 18 - 6.3 MMBtu/hr
B031	Large Diameter Lathe No. 15 - 5.04 MMBtu/hr
B032	Large Diameter Lathe No. 19 - 5.04 MMBtu/hr
B033	Large Diameter Lathe No. 20 - 5.04 MMBtu/hr
P014	Large Diameter Lathe No. 7 - 4.56 MMBtu/hr
P015	Large Diameter Lathe No. 8 - 4.56 MMBtu/hr
P021	Large Diameter Repair Lathe No. 1 - 0.78 MMBtu/hr
P032	Large Diameter Lathe No. 9 - 5.04 MMBtu/hr

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	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). <u>For emission units B001 – B003 and B006:</u> Nitrogen oxides (NOx) emissions for each emissions unit shall not exceed 16.6 tons

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		per month averaged over a twelve-month rolling period. <u>For emission units B023 – B029, B031 - B033 and P032:</u> NOx emissions for each emissions unit 14.3 tons per month averaged over a twelve-month rolling period. <u>For emission unit B030:</u> NOx emissions shall not exceed 17.8 tons per month averaged over a twelve-month rolling period. <u>For emission units P014 and P015:</u> NOx emissions for each emissions unit shall not exceed 20.1 tons per month averaged over a twelve-month rolling period . <u>For emission unit P021:</u> NOx emissions for this emissions unit shall not exceed 2.4 tons per month averaged over a twelve-month rolling period . <u>For emission units B001 – B003, B006, B023-B033, P014, P015,P021, and P032:</u> Particulate emissions (PE) for each emissions unit shall not exceed 0.2 tons per month averaged over a twelve-month rolling period . See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3)(b) as effective 12/01/06	See b)(2)b. below.
c.	OAC rule 3745-31-05(D) (synthetic minor to avoid PSD)	Total NOx emissions shall not exceed 249.7 tons per year for emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035, combined, as a rolling, 12-month summation of the NOx emissions.
d.	OAC rule 3745-17-07(A)	Visible PE shall not exceed 20% opacity, as a 6-minute average, except as

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		provided by rule.
e.	OAC rule 3745-17-11(B)(1)	<u>For emission units B001-B003, B006, B023-B033, P014, P015, P021, and P032:</u> PE for each emissions unit shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE emissions from this air contaminant source since the uncontrolled potential to emit for PE is less than 10 tons/year.

c. The PE monthly emissions averaged over a twelve-month rolling period emission limitations for these emissions units were established to reflect the potentials to emit for these emissions units after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

d. The NOxmonthly emissions averaged over a twelve-month rolling period limitation for these emissions unitswere established to reflect the potential to emit for these units without control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part B. – Facility-Wide Terms and Conditions, Section 4.a).

(2) For monitoring and record keeping requirements for the visible PE limitation, see Part B. – Facility-Wide Terms and Conditions, Section 4.e).

e) Reporting Requirements

(1) For reporting requirements for the rolling, 12-month NOx emission limitation, see Part B. – Facility-Wide Terms and Conditions, Section 5.a).

(2) For reporting requirements for the visible PE limitation,see Part B. – Facility-Wide Terms and Conditions, Section 5.d).

f) Testing Requirements

(1) Compliance with the emission limitations in Section b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

NOx emissions for each emissions unit alone shall not exceed 16.6 tons per month averaged over a twelve-month rolling period for emissions units B001 – B003 and B006, 14.3tons per month averaged over a twelve-month rolling period for emissions units B023 - B029, B031 - B033, and P032, 17.8 tons per month averaged over a twelve-month rolling period for B030, 20.1 tons per month averaged over a twelve-month rolling period for emissions units P014 and P015, and 2.4 tons per month averaged over a twelve-month rolling period for emissions unit P021.

Applicable Compliance Method:

The emission limitations were established by multiplying the maximum hourly MMBTU demand (X), by an emission factor of (Y) lbs/MMBTU (derived from emissions tests performed on March 25, 1998), by 8760 hours/yr, dividing by 2000 lbs/ton, and dividing by 12 months per year, where:

X = 3.78 and Y= 12.06 for emissions units B001 – B003 and B006;
X = 5.04 and Y = 7.77 for emissions units B023 – B029, B031, B033 and P032;
X = 6.3 and Y = 7.77 for emissions unit B030;
X = 4.56 and Y = 12.06 for emissions units P014 and P015; and
X = 0.78 and Y = 8.5 for emissions units P021;

If required by the Ohio EPA and/or U.S. EPA, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

b. Emission Limitation:

249.7 tons per year of NOxfrom emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032, and P035, 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 B – Facility-Wide Terms and Conditions, Section 6.a)(1).

c. Emission Limitation:

Visible PE 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 B – Facility-Wide Terms and Conditions, Section 6.a)(2).

d. Emission Limitation:

PE for each emissions unit shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
Compliance with this emission limitation was 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 by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

e. Emission Limitation:

PE for each emissions unit shall not exceed 0.2 tons per month averaged over a twelve-month rolling period.

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, as calculated in in f)(1)d. above. The annual emission limitation was established by

multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

g) Miscellaneous Requirements

(1) None.

3. Emissions Unit Group - Large Diameter Lathes: B034, B035, B036, B037

EU ID	Operations, Property and/or Equipment Description
B034	Large Diameter Lathe No. 21
B035	Large Diameter Lathe No. 22
B036	Large Diameter Lathe No. 23
B037	Large Diameter Lathe No. 24

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(D), 3745-17-07(A) and 3745-17-11(B)(1). Nitrogen oxides (NOx) emissions for this emissions unit alone shall not exceed 32.3 tons per month averaged over a twelve-month rolling period. Particulate emissions (PE) for this emissions unit shall not exceed 0.15 tons per month averaged over a twelve-month rolling period. Carbon monoxide emissions for this emissions unit shall not exceed 0.11 tons per month averaged over a twelve-month rolling period. See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. below.
c.	OAC rule 3745-31-05(D) (synthetic minor to avoid PSD)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		year for emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035, combined, as a rolling, 12-month summation of the NOx emissions. Total NOx emissions from emissions units B034, B035, B036 and B037 shall not exceed 39.0 tons per year combined, as a rolling 12-month summation of the NOx emissions.
d.	OAC rule 3745-17-07(A)	Visible PE from any stack serving theses emission units shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
e.	OAC rule 3745-17-11(B)(1)	PE for this emissions unit alone shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II. [See b)(2)c] The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 375-31-05(A)(3).

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006, version of 3745-31-05, then these emission limits/control measures no longer apply.

b. This rule paragraph applies once U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE and CO emissions from this air contaminant source since the uncontrolled potential to emit for PE and CO is less than 10 tons/yr.

c. Once US EPA approves the December 1, 2006 version of 3745-31-05, then the requirements of OAC rule 3745-17-11(B)(1) become effective.

d. The PE pounds per hour and 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.

e. The NOx monthly emissions averaged over a twelve-month rolling period limitation for this emissions unit was established to reflect the potential to emit for the unit without control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) None

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records of the natural gas usage (mmscf) by emissions units B034, B035, B036 and B037 combined.

(2) The permittee shall maintain daily records of the hours when emissions units B034, B035, B036, or B037 were operated.

(3) The permittee shall calculate emissions of NOx each day from emissions units B034, B035, B036, and B037 combined based on the record keeping in Part B. – Facility-Wide Terms and Conditions, Section 4.d) or from the natural gas usage and SCR efficiency data as follows:

NOx emissions rate = natural gas usage (mmscf/day) x 1050 mmbtu/mmscf x 11.7 lb/mmbtu x (1 – daily average SCR control efficiency as determined by the CEMs when the SCR is in operation).

(4) The permittee shall calculate monthly emissions of NOx from emissions units B034, B035, B036, and B037 combined by summing the individual daily emissions calculated in d)(3) for all hours of operation in the month. The permittee shall also calculate the rolling, 12-month NOx emissions from emissions units B034, B035, B036, and B037 combined.

(5) For monitoring and record keeping requirements for the visible PE, see Part B. – Facility-Wide Terms and Conditions, Section 4.e).

e) Reporting Requirements

(1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

(2) For reporting requirements for the rolling, 12-month NOx emission limitation, see Part B. – Facility-Wide Terms and Conditions, Section 5.a).

(3) For reporting requirements for the visible PE limitation , see Part B. – Facility-Wide Terms and Conditions, Section 5.d).

(4) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month NOx emission limitation for emissions units B034, B035, B036, and B037 combined.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in Section b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation</u>:

NOx emissions for the emissions unit alone shall not exceed 32.3 tons per month averaged over a twelve-month rolling period.

<u>Applicable Compliance Method</u>:

The emission limitations were established by multiplying the maximum hourly MMBTU demand 7.56, by an emission factor of 11.7lbs/MMBTU (derived from emissions tests performed on March 25, 1998), by 8760 hours/yr, divided by 2000 lbs/ton, and dividing by 12 months/yr.

If required by the Ohio EPA and/or U.S. EPA, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.Miscellaneous Requirements

b. <u>Emission Limitation</u>:

249.7 tons per year of NOx from emissions units B001, B002, B003, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, B034, B035, B036, B037, B038, B039, P010, P011, P012, P014, P015, P021, P032,and P035 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 B – Facility-Wide Terms and Conditions, Section 6.a)(1).

c. Emission Limitation:

Visible PE from any stack serving these emission units 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 B – Facility-Wide Terms and Conditions, Section 6.a)(2).

d. Emission Limitation:

Particulate emissions (PE) for this emissions unit shall not exceed 0.15 tons per month averaged over a twelve-month rolling period.

Applicable Compliance Method:

Compliance with this emission limitation was 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 by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

e. Emission Limitation:

Carbon monoxide emissions for this emissions unit shall not exceed 0.11 tons per month averaged over a twelve-month rolling period.

Applicable Compliance Method:

Compliance with this emission limitation was demonstrated based upon the AP-42 emission factors. If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 – 4 and 10.

g) Miscellaneous Requirements

(1) None.