



State of Ohio Environmental Protection Agency

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

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

8/25/2009

Certified Mail

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

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0145000213
Permit Number: P0104785
Permit Type: Administrative Modification
County: Licking

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

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of \$70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Central District Office. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page <http://www.epa.state.oh.us/dapc>.

Sincerely,

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

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

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



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

FINAL

**Air Pollution Permit-to-Install
for
Momentive Performance Materials Quartz, Inc.**

Facility ID: 0145000213
Permit Number: P0104785
Permit Type: Administrative Modification
Issued: 8/25/2009
Effective: 8/25/2009



State of Ohio Environmental Protection Agency
 Division of Air Pollution Control

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

Table of Contents

Authorization 1

A. Standard Terms and Conditions 5

 1. Federally Enforceable Standard Terms and Conditions 6

 2. Severability Clause 6

 3. General Requirements 6

 4. Monitoring and Related Record Keeping and Reporting Requirements 7

 5. Scheduled Maintenance/Malfunction Reporting 8

 6. Compliance Requirements 8

 7. Best Available Technology 9

 8. Air Pollution Nuisance 9

 9. Reporting Requirements 9

 10. Applicability 10

 11. Construction of New Sources(s) and Authorization to Install 10

 12. Permit-To-Operate Application 11

 13. Construction Compliance Certification 11

 14. Public Disclosure 11

 15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations 11

 16. Fees 12

 17. Permit Transfers 12

 18. Risk Management Plans 12

 19. Title IV Provisions 12

B. Facility-Wide Terms and Conditions 13

C. Emissions Unit Terms and Conditions 24

 1. Emissions Unit Group - Arc Fusion Crucible Machines: P010, P011, P012, P035, 25

 2. Emissions Unit Group - Crucible Machines High Purity: P009, P025, 34

 3. Emissions Unit Group - Large Diameter Lathes: B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P014, P015, P021, P032, P036, 39



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104785
Facility ID: 0145000213
Effective Date: 8/25/2009

Authorization

Facility ID: 0145000213
Facility Description: Nonmetallic mineral products
Application Number(s): A0037274, M0000485, A0037765
Permit Number: P0104785
Permit Description: Administrative Modification to Permit to Install Nos. 01-08818 and 01-12119.
Permit Type: Administrative Modification
Permit Fee: \$4,800.00
Issue Date: 8/25/2009
Effective Date: 8/25/2009

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 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

Chris Korleski
Director



Authorization (continued)

Permit Number: P0104785
 Permit Description: Administrative Modification to Permit to Install Nos. 01-08818 and 01-12119.

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:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P011
Company Equipment ID:	CM5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P012
Company Equipment ID:	CM8
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P035
Company Equipment ID:	CM9
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Group Name: Crucible Machines High Purity

Emissions Unit ID:	P009
Company Equipment ID:	HP3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P025
Company Equipment ID:	HP1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Group Name: Large Diameter Lathes

Emissions Unit ID:	B001
Company Equipment ID:	LD1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B002
Company Equipment ID:	LD2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B003
Company Equipment ID:	LD3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B004
Company Equipment ID:	LD4



Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B005
Company Equipment ID:	LD#5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B006
Company Equipment ID:	LD6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B023
Company Equipment ID:	LD10
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B024
Company Equipment ID:	LD11
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B025
Company Equipment ID:	LD12
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B026
Company Equipment ID:	LD13
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B027
Company Equipment ID:	LD14
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B028
Company Equipment ID:	LD16
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B029
Company Equipment ID:	LD17
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B030
Company Equipment ID:	LD18
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B031
Company Equipment ID:	LD15
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B032
Company Equipment ID:	LD19
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B033
Company Equipment ID:	LD20
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P014
Company Equipment ID:	LD7



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Final Permit-to-Install
Permit Number: P0104785
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Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P015
Company Equipment ID:	LD8
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P021
Company Equipment ID:	LDR1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P032
Company Equipment ID:	LD9
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P036
Company Equipment ID:	LDR2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104785
Facility ID: 0145000213
Effective Date: 8/25/2009

A. Standard Terms and Conditions



1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
 - (1) Standard Term and Condition A. 2.a), Severability Clause
 - (2) Standard Term and Condition A. 3.c) through A. 3.e) General Requirements
 - (3) Standard Term and Condition A. 6.c) and A. 6.d), Compliance Requirements
 - (4) Standard Term and Condition A. 9., Reporting Requirements
 - (5) Standard Term and Condition A. 10., Applicability
 - (6) Standard Term and Condition A. 11.b) through A. 11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A. 14., Public Disclosure
 - (8) Standard Term and Condition A. 15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A. 16., Fees
 - (10) Standard Term and Condition A. 17., Permit Transfers

2. Severability Clause

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

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



- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Central District Office.



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

(3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Ohio EPA DAPC, 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 the Ohio EPA DAPC, Central District Office in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

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

6. Compliance Requirements

a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

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

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



- (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- d) The permittee shall submit progress reports to the Ohio EPA DAPC, 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 the Ohio 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 (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

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

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed through completion of the annual PER covering the last period of operation of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted



for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the PER covering the last period the emissions unit operated.

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

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

12. Permit-To-Operate Application

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

13. Construction Compliance Certification

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

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

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

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

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



16. Fees

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

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Ohio EPA DAPC, Central District Office must be notified in writing of any transfer of this permit.

18. Risk Management Plans

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

19. Title IV Provisions

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



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
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Effective Date: 8/25/2009

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.b)(3), 4.f), 6.a)(3) and (4), 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 (NO_x) emissions from the selective catalytic reduction (SCR) unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NO_x emissions.
 - (2) Pursuant to OAC rule 3745-17-07(A), visible particulate emissions (PE) from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
 - (3) Ammonia emissions from the SCR unit stack shall not exceed 71.6 pounds per hour and 313.6 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) Except as set forth in 2.b)(11), the permittee shall control NO_x emissions from emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 by using a selective catalytic reduction (SCR) unit.
 - (2) 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). Emissions from the ESP vent directly to the SCR unit.
 - (3) A continuous emissions monitoring system (CEMS) malfunction is defined as any time in which the CEMS systems necessary for monitoring emissions in accordance with this permit is not able to sample or analyze the nitrogen oxides in the gas stream exiting the SCR unit.
 - (4) A SCR malfunction is defined as any time that the SCR automatically shuts down due to an internal control system setting. A SCR malfunction will also include instances where 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.

- (5) Except as set forth in 2.b)(6), in the event of a CEMS malfunction, emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 shall be shut down within one hour. Once the emissions unit(s) is (are) shut down, the emissions unit(s) shall remain shut down until the CEMS is no longer malfunctioning.

- (6) In order to continue to operate the above emissions units during or after a CEMS malfunction, the permittee may develop and submit for pre-approval by the Ohio EPA, CDO an alternative compliance method for estimating the emissions from the arc fusion machines and large diameter lathes listed in Section 2.b)(5) above.

- (7) CEMS Quality Assurance/ Quality Control

The permittee shall maintain a copy of the written quality assurance/quality control plan for the CEMS designed to ensure continuous valid and representative readings of NOx emissions in units of pounds per hour and tons per month. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the CEMS must be kept on site and available for inspection during regular office hours.

- (8) CEMS Statement of Certification

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

- (9) Except as set forth in 2.b)(11), in the event of an SCR malfunction, emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 will be shut down immediately following completion of work-in-process. Work-in-process is defined as follows for each type of emissions unit:

- (a) production and repair lathes (B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P014, P015, P021, P032, and P036) - The current lathe pass is a maximum of one hour of operation after SCR malfunction.

- (b) crucible machines (P010, P011, P012, P035) - The crucible being fused inside the blockhouse at the time of the SCR malfunction.

- (10) Except as set forth in 2.b)(11), in the event that the SCR catalyst has degraded to the point that it needs to be replaced, the permittee is still authorized to operate emissions



units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 for up to 60 days provided the following conditions are met:

- (a) the permittee has ordered replacement catalyst no later than 10 business days after the permittee has determined that the catalyst has irreversibly degraded below the acceptable activity level; and
- (b) the permittee shall notify OEPA, CDO, DAPC within 5 business days upon determining the catalyst has irreversibly degraded; and
- (c) emissions of NOx from the SCR do not exceed 210.7 tons on a rolling, 12-month period; and
- (d) emissions of NOx for each emissions unit do not exceed the limits specified in the following table (These limits are based on the maximum hourly MMBtu demand and on the SCR operating at 50 % efficiency):

Emissions Unit	NOx Emission Limit lbs/hr
B001	23.0
B002	23.0
B003	23.0
B004	23.0
B005	23.0
B006	23.0
B023	20.0
B024	20.0
B025	20.0
B026	20.0
B027	20.0
B028	20.0
B029	20.0
B030	25.0
B031	20.0



B032	20.0
B033	20.0
P010	12.0
P011	12.0
P012	22.3
P014	28.0
P015	28.0
P021	3.3
P032	20.0
P035	22.3
P036	4.0

(11) During the period from October 1 to April 30, the permittee is not subject to the SCR operation requirements in 2.b)(1, 9, and 10).

3. Operational Restrictions

None

4. Monitoring and Record Keeping Requirements

- a) The permittee shall maintain monthly records of the tons of NOx per month and of the rolling, 12-month NOx emissions calculated as the summation of the NOx emissions as determined by the CEMS (Section B.4.c) and the NOx emissions from the CEMS malfunctions (Section B.4.d).
- b) The permittee shall operate and maintain the CEMS to continuously monitor and record combined NOx emissions from emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
- c) The permittee shall maintain records of all data obtained by the CEMS 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) The permittee shall collect and record the following information for each CEMS malfunction:



- (1) The number of lathes operating.
- (2) The emissions unit ID for each arc fusion machine in operation.
- (3) The total duration of the CEMS malfunction, in hours.
- (4) The estimated NOx emissions from the lathes in operation calculated by multiplying the number of lathes in operation in Section B.4.d)(1), by the total hours of the CEMS malfunctions in Section B.4.d)(3), by the maximum allowable emission rate of 15.0* lbs NOx/hr when the SCR is in operation and 45.6 lbs NOx/hr when the SCR is not in operation.
- (5) The estimated NOx emissions from the arc fusion machines** calculated using the following equation:

$$\{\text{arc fusion machine \#4 (P010) * 7.2 lbs/hr when the SCR is in operation or 23.9 lbs/hr when the SCR is not in operation}\} + \{\text{arc fusion machine \#5 (P011) * 7.2 lbs/hr when the SCR is in operation or 23.9 lbs/hr when the SCR is not in operation}\} + \{\text{arc fusion machine \#8 (P012) * 14.0 lbs/hr when the SCR is in operation or 44.49 lbs/hr when the SCR is not in operation}\} + \{\text{arc fusion machine \#9 (P035) * 14.0 lbs/hr}\}.$$
- (6) The summation of the NOx emissions from the lathes and from the arc fusion machines, in lbs.

* Allowable emission rate for emissions unit B030.

** If an arc fusion machine is not in operation at the time of the CEMS malfunction then its emissions are assumed to be zero.

- e) The permittee shall perform daily checks, using either certified or non-certified visible emissions observers, when any of the emissions units identified in Section B.2.a)(2) are in operation and when the weather conditions allow, for any visible particulate emissions from the SCR unit stack serving these emissions units. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - (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.

Note: The presence of any visible particulate emissions may or may not indicate a violation of the particulate mass emission limitation and/or visible emission limitation. If required, compliance with the particulate mass emission limitation and the visible emission limitation shall be determined by performing concurrent mass emission tests and visible emissions observations, using USEPA approved



methods and procedures. The results of any required mass emission tests and visible emissions observations shall be used in determining whether or not the presence of any visible particulate emissions is indicative of a possible violation of the particulate mass emission limitation and/or visible emission limitation and/or visible emission limitation.

If the daily checks show visible emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when any of the emissions units identified in Section B.2.a)(2) are in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of normal visible emissions.

f) Air Toxics Language

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

Pollutant: ammonia

TLV (mg/m³): 17

Maximum Hourly Emission Rate (lbs/hr): 60.4

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 111.8

MAGLC (ug/m³): 404.8

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

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



- (2) changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- (3) physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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

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

- (1) a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- (2) documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- (3) where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

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, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined.

The quarterly deviation reports shall be submitted in accordance with the requirements specified in Part 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 NO_x, and excess NO_x emissions in units of pounds per hour and rolling, 12-month limitation (in tons) for the previous calendar quarter.

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

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 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 serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to Ohio EPA, CDO by January 31 and July 31 of each year and shall cover the previous 6-month period.

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) Emission Limitation:

210.7 tons per year NO_x emissions from the SCR unit stack for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NO_x emissions.



Applicable Compliance Method:

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

(2) Emission Limitation:

Visible particulate emissions (PE) from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 shall not exceed 20% opacity, as a 6-minute average, except as provided by OAC rule 3745-17-07.

Applicable Compliance Method:

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

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 71.6 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 313.6 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 Momentive performance Materials Quartz, Inc.'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 the CEMS, the permittee shall certify the accuracy of the CEMS annually pursuant to provisions for a relative accuracy test audit (RATA) in 40 CFR Part 60, Appendix F.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104785
Facility ID: 0145000213
Effective Date: 8/25/2009

C. Emissions Unit Terms and Conditions



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

EU ID	Operations, Property and/or Equipment Description
P010	P-14 Arc Fusion Machine no. 4 controlled with a SCR unit and dust collection system - 4 baghouses and a ESP - and monitored by a NOx CEMS.
P011	P-14 Arc Fusion Machine No. 5 controlled with a SCR unit and dust collection system - 4 baghouses and ESP - and monitored by a NOx CEMS.
P012	P-272 Arc Fusion Machine No. 8 controlled with a SCR unit and dust collection system - 4 baghouses and ESP - and monitored by a NOx CEMS.
P035	P-272 Arc Fusion Machine No. 9 controlled with a SCR unit and dust collection system - 4 baghouses and an ESP- and monitored by a NOx CEMS.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
- (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>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).</p> <p><u>For emission units P010 and P011:</u> Nitrogen oxides (NOx) emissions for each of these individual emissions units from the SCR unit stack shall not exceed 7.2 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 23.9 pounds per hour.</p> <p><u>For emission units P012 and P035:</u> Nitrogen oxides (NOx) emissions for each of these individual emissions units from the SCR unit stack shall not exceed 14.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>from the unit shall not exceed 44.49 pounds per hour.</p> <p><u>For emission units P010 and P011:</u> Particulate emissions (PE) for each of these individual emissions unit alone from all stacks serving these emissions unit shall not exceed 7.0 tons per year.</p> <p><u>For emission units P012 and P035:</u> Particulate emissions (PE) for each of these individual emissions unit alone from all stacks serving these emissions unit shall not exceed 8.3 tons per year.</p> <p>See 1.b)(2)a. and 1.b)(2)b. below.</p>
b.	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 year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions
	OAC rule 3745-17-11(B)(1)	<p><u>For emission units P010 and P011:</u> PE for these individual emissions units alone from all stacks serving these 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.</p> <p><u>For emission units P012 and P035:</u> PE for these individual emissions units alone from all stacks serving these emissions unit shall not exceed 1.9 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.</p>
	OAC rule 3745-17-07(B)	See 1.b)(2)f. below.
	OAC rule 3745-17-08(B)	See 1.b)(2)e. below.



(2) Additional Terms and Conditions

- a. Except for the time period set forth in B. Facility-Wide Terms and Conditions – Section 2.b)(11), the emissions generated during the crucible formation shall be vented to the ESP. The emissions from the ESP shall be vented directly to the SCR unit.
- b. The permittee shall vent the emissions from this emissions unit through a dust collection system consisting of: baghouse no. 15, baghouse no. 3, baghouse no. 6 and baghouse no. 9, and a dry electrostatic precipitator (ESP) and shall operate the dust collection system (4 baghouses and ESP) at all times while operating this emissions unit.
- c. 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 any additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.
- d. The NOx pounds per hour limitation for this emissions unit was established to reflect the potential to emit for the unit after control for the time period of May 1 to September 30. For the remainder of the year, the NOx pound per hour limitation for the 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 this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.
- f. Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.

c) Operational Restrictions

- (1) The pressure drop across the baghouses which make up a portion of the dust collection system shall be maintained within the following pressure drop ranges while the emissions unit is in operation:
 - a. for baghouse no. 15, within the range of 1 to 6 inches of water;
 - b. for baghouse no. 3, within the range of 1 to 6 inches of water;
 - c. for baghouse no. 6, within the range of 1 to 6 inches of water; and
 - d. for baghouse no. 9, within the range of 1 to 6 inches of water.
- (2) The permittee shall operate the ESP during any operation of this emissions unit.
- (3) Except as set forth in B. Facility-Wide Terms and Conditions Section 2.b)(11), the permittee shall operate the SCR during any operation of this emissions unit.



- (4) The secondary voltage recorded at each field within the ESP shall be maintained within the manufacturer's recommended ranges:
 - a. a minimum of three fields out of a total of four must be operating; and
 - b. the secondary voltage of at least three operating fields shall not drop below 8 kV, for each field, for a period exceeding five minutes.

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

- (5) The operation of the control equipment outside the range specified above may or may not indicate a mass emission and/or visible emission violation. If required by the Ohio EPA and/or U.S. EPA, compliance with the mass emission limitation and visible emission limitations shall be determined by performing concurrent mass emission tests and visible emissions readings, using USEPA-approved methods and procedures. The results of any required emission tests and visible emission readings shall be used in determining whether or not the operation of the control equipment outside the range specified above is indicative of a possible violation of the mass emission limitation and/or visible emission limitations.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall operate and maintain equipment to monitor the pressure drops across the dust collection system baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The permittee shall monitor the pressure drops across baghouse no. 15, baghouse no. 3, baghouse no. 6, and baghouse no. 9 on a daily basis.
- (2) The permittee shall monitor and record, once each day, the secondary voltage, in kilovolts, to each field and the number of fields operating in the ESP when the emissions unit is in operation.
- (3) The permittee shall perform daily checks, using either certified or non-certified visible emissions observers, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;



- c. the total duration of any visible emission incident; and
- d. any corrective actions taken to eliminate the visible emissions.

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

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

- (4) During the period of May 1 to September 30, for monitoring and record keeping requirements for the hourly NO_x emission limitation, the permittee shall collect and record the rolling, 3-hour average of the NO_x destruction efficiency of the SCR. The efficiency shall be based upon data obtained from the SCR inlet analyzer and the outlet CEMS.
- (5) During the period of May 1 to September 30, for each 3-hour period when the NO_x destruction efficiency is less than 70%, the permittee shall note the following in the operations log:
 - a. the 3-hour average NO_x destruction efficiency;
 - b. the hours included in the 3-hour period;
 - c. for each hour within the period, the production lathes, repair lathes and arc fusion machines that were operating;
 - d. for each hour within the period, the sum of the hourly NO_x emissions limitations for the production lathes, repair lathes and arc fusion machines that were operating;
 - e. for each hour within the period, the NO_x emissions in pounds per hour measured by the SCR outlet CEMS; and
 - f. for each hour within the period, whether the value for (e) exceeds the value for (d), above

e) Reporting Requirements

- (1) The permittee shall submit quarterly reports that identify all periods of time during which the pressure drop across the baghouse was outside the operating range specified above. The quarterly and semiannual reports shall be submitted in accordance with Part A - Standard Terms and Conditions 4.c).



- (2) The permittee shall submit quarterly deviation (excursion) reports that identify any deviations from the operational parameters specified in section 1.c).
 - (3) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stacks and SCR unit stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to Ohio EPA, Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
 - (4) The quarterly deviation reports shall be submitted in accordance with the requirements specified in Part A - Standard Terms and Conditions, Section 4.c).
 - (5) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the hourly NOx emission limitation based on the records required by Section 1.d)(5)f. above. The quarterly deviation reports shall be submitted in accordance with Part A - Standard Terms and Conditions, Section 4.c) of this permit.
- f) Testing Requirements
- (1) Compliance with the emission limitations in Section 1.b)(1) of these terms and conditions shall be determined in accordance with the following methods: Compliance with the emission limitations in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

NOx emissions for the emissions unit alone from the SCR unit stack shall not exceed 7.2 pounds per hour for emission units P010 and P011 and 14.0 pounds per hour for emission units P012 and P035 from May 1 to September 30.

Applicable Compliance Method:

The emission limitation during the period of May 1 to September 30 was established by the following equation:

$$\text{Emission limitation (EL)} = (X \text{ crucibles/hr})^* \times (Y \text{ lbs of NOx/crucible})^{**} \times (0.30)^{***}$$

where:

- X = 10 for emission units P010 and P011;
- X = 6.32 for emission units P012 and P035;
- Y = 2.39 for emission units P010 and 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.

*** The control efficiency of the SCR unit is assumed to be 70% for the purpose of this calculation.

Compliance with this limitation may be demonstrated by showing that the rolling, 3-hour average SCR destruction efficiency is equal to or greater than 70%.



During the period of May 1 to September 30, if the rolling, 3-hour average SCR destruction efficiency is less than 70%, compliance with this emission limitation shall be demonstrated by showing that the NOx emission rate determined in Section 1.d)(5)e. is less than or equal to the emission limitation determined in Section 1.d)(5)d.

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:
210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Part 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 1.d)(3).

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 1.6 pounds per hour for units P010 and P011 and 1.9 pounds per hour for units 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 emission units P010 and P011:

$$L = (484 \text{ lbs/hr})^* \times (0.174 \text{ lb/ton})^{**} \times (0.01)^{***} \times (1 \text{ ton}/2000 \text{ lbs})$$

$$F = (10 \text{ crucibles/hr})^* \times (0.37 \text{ lb PE/crucible})^{**} \times (0.1)^{***}$$

$$P = (484 \text{ lbs/hr})^* \times (0.058 \text{ lb/ton})^{**} \times (0.01)^{***} \times (1 \text{ ton}/2000 \text{ lbs})$$

$$C = (150 \text{ lbs/hr})^* \times (0.75 \text{ lb PE / lb sand})^{**} \times (0.001)^{***}$$

For emission units P012 and P035:

$$L = (484 \text{ lbs/hr})^* \times (0.174 \text{ lb/ton})^{**} \times (0.01)^{***} \times (1 \text{ ton}/2000 \text{ lbs})$$

$$F = (6.32 \text{ crucibles/hr})^* \times (0.952 \text{ lb PE/crucible})^{**} \times (0.1)^{***}$$

$$P = (631 \text{ lbs/hr})^* \times (0.058 \text{ lb/ton})^{**} \times (0.01)^{***} \times (1 \text{ ton}/2000 \text{ lbs})$$

$$C = (210 \text{ lbs/hr})^* \times (0.75 \text{ lb PE / lb sand})^{**} \times (0.001)^{***}$$

- * 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 baghouse Nos. 6 and 9 are assumed to be 99%.
F -The control efficiency of the ESP is assumed to be 90%.
P -The control efficiency of baghouse No. 15 is assumed to be 99%.
C -The control efficiency of baghouse No. 3 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 7.0 tons per year for P010 and P011 and 8.3 tons per year for P012 and P035.

Applicable Compliance Method:

Compliance with the annual emission limitation for PE shall be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual 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 - Crucible Machines High Purity: P009, P025,

EU ID	Operations, Property and/or Equipment Description
P009	High Purity Crucible Machine No. 3 (uncontrolled)
P025	High Purity Crucible Machine No. 1 – (uncontrolled)

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
- (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>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).</p> <p><u>For emission unit P009:</u> Nitrogen oxides (NOx) emissions shall not exceed 3.3 pounds per hour from the stack serving this emissions unit.</p> <p><u>For emission unit P025:</u> Nitrogen oxides (NOx) emissions shall not exceed 4.13 pounds per hour from the stack serving this emissions unit.</p> <p><u>For emission unit P009:</u> Particulate emissions (PE) shall not exceed 3.25 tons per year from the stack serving this emissions unit.</p> <p><u>For emission unit P025:</u> Particulate emissions (PE) shall not exceed 4.6 tons per year from the stack serving this emissions unit.</p>
b.	OAC rule 3745-31-05(D) (synthetic minor to avoid PSD)	Total NOx emissions shall not exceed 18.1 tons per year, from the two high



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>purity crucible machine stacks, for emissions units P009 and P025, combined, as a rolling, 12-month summation of the NOx emissions.</p> <p>See 1.c)(1) below.</p>
c.	OAC rule 3745-17-07(A)	Visible PE from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
d.	OAC rule 3745-17-11(B)(1)	<p><u>For emission unit P009:</u> PE from the stack serving this emissions unit shall not exceed 0.74 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.</p> <p><u>For emission unit P025:</u> PE from the stack serving this emissions unit shall not exceed 1.042 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.</p>

(2) Additional Terms and Conditions

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

c) Operational Restrictions

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

The permittee has existing crucible production records and therefore this emissions unit does not need to be limited to a monthly production limitation during the first year after issuance of this permit.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the following information:



- a. the total number of crucibles produced in emissions units P009 and P025;
 - b. the total NOx emission rate from emissions units P009 and P025, combined, in pounds, calculated using the following formula:
 $\{\text{number of crucibles produced monthly in P025}\} \times \{1.02 \text{ lbs/crucible}\} + \{\text{number of crucibles produced monthly in P009}\} \times \{0.48 \text{ lb/crucible}\}$; and
 - c. the rolling, 12-month summation of NOx emissions and the rolling, 12-month summation of crucibles produced from emissions units P009 and P025, combined.
- (2) The permittee shall perform daily checks, using either certified or non-certified visible emissions observers, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

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

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

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month crucible production restriction and NOx emission limitation. The quarterly deviation reports shall be submitted in accordance with Standard Term and Condition 4.c) of this permit.



- (2) The permittee shall submit annual reports that specify the total NOx emissions from emissions units P009 and P025 combined for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for these emissions units in the annual Fee Emission Report.
 - (3) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to 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 exceed 3.3 pounds per hour for P009 and 4.13 pounds per hour from P025 from the stack serving these emission units.

Applicable Compliance Method:
Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly number of crucibles produced in these emissions units (6 for P009 and 3.5 for P025) by an emission factor of 0.48 lb/crucible for P009 and 1.02 for P025 (based on emission tests performed by GE Quartz, Inc. Newark Plant on 3/24/98).

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

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation based on the record keeping required in section 1.d)(1).
 - c. Emission Limitation:

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

Applicable Compliance Method:
The permittee shall demonstrate compliance with the emission limitation based on the record keeping required in section 1.d)(2).



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 shall not exceed 0.74 pounds per hour from the stack serving this emissions unit.

Applicable Compliance Method:
Compliance with this emission limitation was established through emission tests performed on August 2, 1999 that demonstrated an hourly emission rate of 0.017 lb/hr. If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

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

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

g) Miscellaneous Requirements

- (1) None.



3. Emissions Unit Group - Large Diameter Lathes: B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P014, P015, P021, P032, P036,

EU ID	Operations, Property and/or Equipment Description
B001	Large Diameter Lathe No. 1 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B002	Large Diameter Lathe No. 2 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B003	Large Diameter Lathe No. 3 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B004	Large Diameter Lathe No. 4 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B005	Large Diameter Lathe No. 5 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B006	Large Diameter Lathe No. 6 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B023	Large Diameter Lathe No. 10 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B024	Large Diameter Lathe No. 11 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B025	Large Diameter Lathe No. 12 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B026	Large Diameter Lathe No. 13 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B027	Large Diameter lathe No. 14 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B028	Large Diameter Lathe No. 16 - 5.04 MMBtu/hr controlled with a SCR unit monitored by a NOx CEMS
B029	Large Diameter Lathe No. 17 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B030	Large Diameter Lathe - No. 18 - 6.3 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B031	Large Diameter Lathe No. 15 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B032	Large Diameter Lathe No. 19 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B033	Large Diameter Lathe No. 20 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
P014	Large Diameter Lathe No. 7 - 4.56 MMBtu/hr controlled with a SCR unit and controlled by a NOx CEMS
P015	Large Diameter Lathe No. 8 - 4.56 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
P021	Large diameter repair lathe No. 1 - 0.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
P032	Large Diameter Lathe No. 9 - 5.04 MMBtu/hr controlled with a SCR unit and monitored with a NOx CEMS.
P036	Large diameter repair lathe No. 2 - 0.88 MMBtu/hr controlled with a SCR unit and monitored with a NOx CEMS.



- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>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).</p> <p><u>For emission units B001 – B006:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 14.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 45.6 pounds per hour.</p> <p><u>For emission units B023 – B029 and B031 - B033:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 12.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 39.2 pounds per hour.</p> <p><u>For emission unit B030:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 15.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 49.0 pounds per hour.</p> <p><u>For emission units P014 and P015:</u> Nitrogen oxides (NOx) emissions for this</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>emissions unit alone from the SCR unit stack shall not exceed 17.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 55.0 pounds per hour.</p> <p><u>For emission units P021:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 2.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 6.60 pounds per hour.</p> <p><u>For emission units P036:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 3.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 7.50 pounds per hour.</p> <p><u>For emission units B001-B006, B023-B033, P014, P015, P021, and P036:</u> Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.</p> <p>See 3.b)(2)a. below.</p>
b.	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 year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.
c.	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-11(B)(1)	For emission units <u>B001-B006, B023-B033, P014, P015, P021, and P036:</u> PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.

(2) Additional Terms and Conditions

- a. Except for the time period set forth in B. Facility-Wide Terms and Conditions – Section 2.b)(11), the permittee shall vent the emissions from this emissions unit to a selective catalytic reduction (SCR) unit while operating this emissions unit.
- b. 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.
- c. The NOx pounds per hour limitation for this emissions unit was established to reflect the potential to emit for the unit after control for the time period of May 1 to September 30. For the remainder of the year, the NOx pound per hour limitation for the 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) 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 from the SCR unit stack, see Part B. – Facility-Wide Terms and Conditions, Section 4.e).
- (3) During the period of May 1 to September 30, for monitoring and record keeping requirements for the hourly NOx emission limitation, the permittee shall collect and record the rolling, 3-hour average of the NOx destruction efficiency of the SCR. The efficiency shall be based upon data obtained from the SCR inlet analyzer and the outlet CEMS.



- (4) During the period of May 1 to September 30, for each 3-hour period when the NOx destruction efficiency is less than 70%, the permittee shall note the following in the operations log:
 - a. the 3-hour average NOx destruction efficiency;
 - b. the hours included in the 3-hour period;
 - c. for each hour within the period, the production lathes, repair lathes and arc fusion machines that were operating;
 - d. for each hour within the period, the sum of the hourly NOx emissions limitations for the production lathes, repair lathes and arc fusion machines that were operating;
 - e. for each hour within the period, the NOx emissions in pounds per hour measured by the SCR outlet CEMS; and
 - f. for each hour within the period, whether the value for (e) exceeds the value for (d), above.

- 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 from the SCR unit stack, see Part B. – Facility-Wide Terms and Conditions, Section 5.d).
 - (3) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the hourly NOx emission limitation based on the records required by Section A.III.4.f above. The quarterly deviation reports shall be submitted in accordance with Standard Term and Condition 4.c) 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. Emission Limitation:
NOx emissions for the emissions unit alone from the SCR unit stack shall not exceed 14.0 pounds per hour for emissions units B001 – B006, 12.0 pounds per hour for emissions units B023 - B029 and B031 - B033, 15.0 pounds per hour for B030, 17.0 pounds per hour for emissions units P014 and P015, and 2.0 pounds per hour for emissions units P021 and P036.

Applicable Compliance Method:
The emission limitations during the period of May 1 to September 30 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) and by (1-0.70) for the control efficiency of the SCR unit where:



X = 3.78 and Y = 12.06 for emissions units B001 – B006;
X = 5.04 and Y = 7.77 for emissions units B023 – B029, B031, and B032;
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 and P036.

Compliance with this limitation may be demonstrated by showing that the rolling, 3-hour average SCR destruction efficiency is equal to or greater than 70%.

During the period of May 1 to September 30, if the rolling, 3-hour average SCR destruction efficiency is less than 70%, compliance with this emission limitation shall be demonstrated by showing that the NO_x emission rate determined in Section 3.d)(4)e. is less than or equal to the emission limitation determined in Section 3.d)(4)d.

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

- (2) Emission Limitation:
210.7 tons per year of NO_x from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NO_x 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).

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

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part B – Facility-Wide Terms and Conditions, Section 6.a)(2).

- (4) Emission Limitation:
PE for the emissions unit alone from the SCR unit stack 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).



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: P0104785
Facility ID: 0145000213
Effective Date: 8/25/2009

- (5) Emission Limitation:
PE for the emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:

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

g) Miscellaneous Requirements

- (1) None.