



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

6/15/2015

Mr. John Nicora  
 Momentive Performance Materials Quartz Inc  
 4901 Campbell Rd.  
 Willoughby, OH 44094

Certified Mail

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0243161415  
 Permit Number: P0107701  
 Permit Type: Renewal  
 County: Lake

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
 77 South High Street, 17th Floor  
 Columbus, OH 43215

## **How to save money, reduce pollution and reduce energy consumption**

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. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/survey.aspx](http://www.epa.ohio.gov/survey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)963-1200 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael E. Hopkins, P.E.  
Assistant Chief, Permitting Section, DAPC

Cc: Ohio EPA-NEDO



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
Momentive Performance Materials Quartz Inc**

Facility ID:	0243161415
Permit Number:	P0107701
Permit Type:	Renewal
Issued:	6/15/2015
Effective:	6/15/2015
Expiration:	6/15/2020





**Division of Air Pollution Control**  
**Permit-to-Install and Operate**  
for  
Momentive Performance Materials Quartz Inc

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**Final Permit-to-Install and Operate**  
Momentive Performance Materials Quartz Inc  
**Permit Number:** P0107701  
**Facility ID:** 0243161415  
**Effective Date:** 6/15/2015

## Authorization

Facility ID: 0243161415  
Application Number(s): A0039888, A0045178, A0052142  
Permit Number: P0107701  
Permit Description: FEPTIO limiting NOx emissions and containing the following non-insignificant sources: boilers, emergency generators, tumblers, and lathes  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 6/15/2015  
Effective Date: 6/15/2015  
Expiration Date: 6/15/2020  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Momentive Performance Materials Quartz Inc  
4901 Campbell Road  
Willoughby, OH 44094

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

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

Ohio EPA DAPC, Northeast District Office  
2110 East Aurora Road  
Twinsburg, OH 44087  
(330)963-1200

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (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 described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Craig W. Butler  
Director



## Authorization (continued)

Permit Number: P0107701

Permit Description: FEPTIO limiting NOx emissions and containing the following non-insignificant sources: boilers, emergency generators, tumblers, and lathes

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

**Emissions Unit ID:** P022  
 Company Equipment ID: P022  
 Superseded Permit Number:  
 General Permit Category and Type: Not Applicable

**Emissions Unit ID:** P043  
 Company Equipment ID: P043  
 Superseded Permit Number:  
 General Permit Category and Type: Not Applicable

**Group Name: Cleaver Brooks Boilers**

<b>Emissions Unit ID:</b>	<b>B003</b>
Company Equipment ID:	B003
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B004</b>
Company Equipment ID:	B004
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

**Group Name: Emergency Generators 1 - 5**

<b>Emissions Unit ID:</b>	<b>B008</b>
Company Equipment ID:	B007
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B009</b>
Company Equipment ID:	B008
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B010</b>
Company Equipment ID:	B010
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B015</b>
Company Equipment ID:	B015
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B016</b>
Company Equipment ID:	B016
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Group Name: LD lathes (22 - 27) 2.21MMBTU/hr**

<b>Emissions Unit ID:</b>	<b>P037</b>
Company Equipment ID:	P037
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P038</b>
Company Equipment ID:	Lathe 23
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P041</b>
Company Equipment ID:	P041
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P042</b>
Company Equipment ID:	Lathe 27
Superseded Permit Number:	
General Permit Category andType:	Not Applicable

**Group Name: Titus Boilers**

<b>Emissions Unit ID:</b>	<b>B001</b>
Company Equipment ID:	B001
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B002</b>
Company Equipment ID:	B002
Superseded Permit Number:	
General Permit Category andType:	Not Applicable

**Group Name: Tumblers 1, 2, 4, 5, and 6**

<b>Emissions Unit ID:</b>	<b>P001</b>
Company Equipment ID:	P001
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P027</b>
Company Equipment ID:	P027
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P029</b>
Company Equipment ID:	P029 Tumbler 6
Superseded Permit Number:	
General Permit Category andType:	Not Applicable



**Final Permit-to-Install and Operate**  
Momentive Performance Materials Quartz Inc  
**Permit Number:** P0107701  
**Facility ID:** 0243161415  
**Effective Date:** 6/15/2015

## **A. Standard Terms and Conditions**

**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions of this permit will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the [DO/LAA] in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means 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.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the



change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



**Final Permit-to-Install and Operate**  
Momentive Performance Materials Quartz Inc  
**Permit Number:** P0107701  
**Facility ID:** 0243161415  
**Effective Date:** 6/15/2015

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

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) See sections B.3, B.4., B.5., B.6., and B.7.
2. The Ohio EPA has determined that this facility is subject to the requirements of 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines at Area Sources. Although Ohio EPA has determined that this NESHAP applies, at this time Ohio EPA does not have the authority to enforce this standard. Instead, U.S. EPA has the authority to enforce this standard. Please be advised, that all requirements associated with this rule are in effect and shall be enforced by U.S. EPA. For more information on the area source rules, please refer to the following U.S. EPA website: <http://www.epa.gov/ttn/atw/area/arearules.html>.
3. Emissions Limitations
  - a) The maximum NO<sub>x</sub> emissions from this facility shall not exceed 98.16 tons per year based upon a rolling, 12-month summation.
  - b) The permittee's calculation of the rolling, 12-month NO<sub>x</sub> emissions for the entire facility shall include NO<sub>x</sub> emissions from all of the emissions units identified in this permit and all other NO<sub>x</sub> emission sources at the facility, including but not limited to de minimis, exempt, and combustion sources. The permittee may calculate emissions based upon actual operating conditions and/or use potential to emit calculations to determine NO<sub>x</sub> emissions from each emissions source.
4. Operational Restrictions
  - a) The maximum annual natural gas usage for calciners numbers 1 through 17 [emissions units P100 through P104 (calciners 1 through 5), emissions unit P022 (calciner 6), and P105 through P114 (calciners 7 through 16)], combined, shall not exceed 300 million standard cubic feet, based on rolling, 12-month summations. In addition, NO<sub>x</sub> emissions from any newly installed calciners shall be included in the rolling summation for the existing calciners.
  - b) The maximum annual natural gas usage for the three emergency natural gas engines designated North, South, and Southwest (emissions units B011, B012, and B100, respectively) shall not exceed 16.5 mmcf, 15.6 mmcf, and 15.6 mmcf, respectively.

5. Monitoring and/or Recordkeeping Requirements

- a) The permittee shall maintain monthly records of the following information in accordance with OAC rule 3745-31-05(D):
  - (1) the total natural gas usage, in millions of standard cubic feet (mmscf), for emissions units P100 through P104, P022, and P105 through P114;
  - (2) the total NO<sub>x</sub> emissions from all of the emissions units identified in this permit and all other NO<sub>x</sub> emission sources at the facility, including but not limited to de minimis, exempt, and combustion sources;
  - (3) the rolling, 12-month summation of the natural gas usage, in mmscf, for emissions units P100 through P104, P022, and P105 through P114; and
  - (4) the rolling, 12-month summation of the NO<sub>x</sub> emissions from all of the emissions units identified in this permit and all other NO<sub>x</sub> emission sources at the facility, including but not limited to de minimis, exempt, and combustion sources.

6. Reporting Requirements

- a) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
  - (1) the rolling, 12-month natural gas usage limitation, in mmscf, for emissions units P100 through P104, P022, and P105 through P114; and
  - (2) the rolling, 12-month, facility-wide limitation for NO<sub>x</sub> emissions.
- b) These reports shall be submitted in accordance with the General Terms and Conditions of this permit.
- c) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.
- d) All applications, notifications or reports required by the terms and conditions in this permit to be submitted or “reported in writing” are to be submitted to Ohio EPA through Ohio EPA’s eBusiness Center: Air Services web service (“Air Services”). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification, or report is considered to be “submitted” on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established by Air Services.

7. Testing Requirements

- a) Compliance with the emissions limitation in section B.3. of these terms and conditions shall be determined in accordance with the following methods:

(1) Emission Limitation:

The maximum NO<sub>x</sub> emissions from this facility shall not exceed 98.16 tons per year based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in B.5.a) unless specified below.

The NO<sub>x</sub> emission rates for the calciners shall be calculated in accordance with the following formula:

$$\text{NO}_x \text{ emissions (tons)} = \text{annual natural gas usage (mmscf/rolling, 12-month summation)} \times 100 \text{ lbs/mmscf} \times 0.0005 \text{ ton/lb}$$

where:

annual natural gas usage = usage as calculated in B.5.a)(3);

100 lbs/mmscf = the emission factor for NO<sub>x</sub> is based on AP-42, Table 1.4-1, 7/98 (Emission Factors for Small Boilers); and

0.0005 ton/lb = lbs to tons conversion factor.

The heat content of natural gas = 1050 mmBtu/mmscf.

Monthly results from all emissions units identified in section B.5.a) shall be summed to obtain the annual and rolling facility-wide NO<sub>x</sub> emissions.



**Final Permit-to-Install and Operate**  
Momentive Performance Materials Quartz Inc  
**Permit Number:** P0107701  
**Facility ID:** 0243161415  
**Effective Date:** 6/15/2015

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



**1. Emissions Unit – Repair Lathes 1, 3, & 4: P043**

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

Small Heathway Repair Lathe (#1), Large Litton Repair Lathe (#3), and Small Litton Repair Lathe (#4)

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 10.82 pounds per hour and 5 tons per year (5 tons per year is a restricted limit based upon hydrogen usage of 3.61 mmcf/yr) from all repair lathes combined.</p> <p>The total particulate emissions from all lathes comprising this emissions unit shall not exceed 1.85 pounds per hour based on Table I of OAC rule 3745-17-11 (with a maximum process weight rate of 600 pounds per hour for all lathes combined).</p> <p>The total particulate emissions from all lathes comprising this emissions unit shall not exceed 8.1 tons per year.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(D), 3745-17-07(A), 3745-17-11(B), and 3745-18-06.
b.	OAC rule 3745-31-05(D)(1)(b)	NO <sub>x</sub> emissions shall not exceed 65 tons per year based on rolling, 12-month summations for all production and repair lathes (emissions units P037, P038, P041, P042, and P043), combined.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack associated with each lathe shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.
e.	OAC rule 3745-17-11(B)(1)	The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(A)(3).
f.	OAC rule 3745-18-06(E)	See b)(2)a.
g.	OAC rule 3745-17-08(B)	This facility is not located in an Appendix A area; therefore, in accordance with OAC rule 3745-17-08(A)(1), OAC rule 3745-17-08(B) is not applicable to this emissions unit.

(2) Additional Terms and Conditions

- a. Because the process weight rate for each individual lathe is less than 1000 lbs per hour, this emissions unit is exempt from the requirements of this rule.
- b. The three repair lathes that are part of this emissions unit are each vented to a stack.
- c. The permittee operates a ventilation system intended to vent all emissions from the three repair lathes in this emissions unit to their respective stacks. However, it is understood that a small fraction of the NO<sub>x</sub> formed may not be captured and vented to the stack. The permittee assessed the capture efficiency of the capture hoods and ventilation system on the lathes at the GE Quartz Newark Plant, (Momentive) which is similar to the operation at the Willoughby plant\*. NO<sub>x</sub> was measured on March 11, 1999 at the general ventilation exhaust vents for the room containing the lathes. The NO<sub>x</sub> emissions from the room vents were compared to the calculated NO<sub>x</sub> stack emissions for the lathes that were operating on March 11, 1999 (based on representative emission rates from stack

testing of the lathes in 1998). The room vent emissions were a very small fraction, 0.21 percent, of the stack emissions. Therefore, the emission factors for the lathes that are based on the 1998 stack tests have been increased by 0.21 percent to account for the small amount of NO<sub>x</sub> that may not be captured by the local ventilation system and may be emitted through other room vents.

\*The results of this evaluation are described in the report "Emissions Capture Efficiency Assessment for Quartz Crucible Machines and LD Lathes" prepared by Parsons Engineering Science, Inc. (June 1999) submitted to GE Quartz, Inc. Newark Quartz Plant. This report was sent to Ohio EPA on June 9, 1999.

- d. All particulate emissions from the three repair lathes shall be vented to the stacks.
  - e. This emissions unit is capable of burning only hydrogen.
- c) Operational Restrictions
- (1) The maximum annual fuel usage for this emissions unit shall not exceed 3.61 million standard cubic feet of hydrogen, based on rolling, 12-month summations.
  - (2) This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate rolling, 12-month summations of annual NO<sub>x</sub> emissions based on hydrogen usage.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall perform weekly checks, when this emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving the three repair lathes.\* The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
    - a. the color of the emissions;
    - b. whether the emissions are representative of normal operations;
    - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
    - d. the total duration of any visible emission incident; and
    - e. any corrective actions taken to minimize or eliminate the visible emissions.

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

operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

\*NOTE: Weekly visual emissions checks are not required for the three repair lathes when only the torches associated with these lathes are in operation.

- (2) The permittee shall maintain monthly records of the following information for this emissions unit:
- a. the total hydrogen usage;
  - b. the rolling, 12-month hydrogen usage;
  - c. the rolling, 12-month NO<sub>x</sub> emissions from this emissions unit; and
  - d. the rolling, 12-month NO<sub>x</sub> emissions from all lathes (emissions units P037, P038, P041, P042, and P043) combined.

- (3) Total NO<sub>x</sub> monthly emissions, in tons, resulting from hydrogen usage from the three repair lathes, combined, shall be calculated using the following equation:

$$\text{NO}_x, \text{ in tons} = \text{total hydrogen usage (mmscf/month)} \times 8.53 \text{ lbs/mmBtu} \times 325 \text{ mmBtu/mmscf} \times 1 \text{ ton/2000 lbs}$$

where:

The emission factor for NO<sub>x</sub> is based on a 1998 stack test and equals 8.53 lbs/mmBtu, including fugitive emissions not captured by local exhaust ventilation (see explanation in b)(2)d). The hydrogen usage is for the three repair lathes, combined;

The heat content of hydrogen = 325 mmBtu/mmscf; and

Monthly results for the hydrogen usage shall be summed to obtain the annual and rolling NO<sub>x</sub> emissions.

e) Reporting Requirements

- (1) The permittee shall submit semiannual written reports that:
- a. identify all days during which any visible particulate emissions were observed from the stacks serving the three repair lathes; and
  - b. describe any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Northeast District Office of the Ohio EPA in accordance with the requirements in the General Terms and Conditions of this permit.

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

- a. the rolling, 12-month limitations for hydrogen usage for all repair lathes, combined; and
  - b. the monthly allowable cumulative fuel usage for hydrogen for all repair lathes, combined.
- (3) The permittee shall submit annual reports that specify the total amount of hydrogen used and the total amount of NO<sub>x</sub> emitted from emissions units P037, P038, P041, P042, and P043, combined, for the previous calendar year by April 15 of the following year.
  - (4) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.
  - (5) All applications, notifications or reports required by the terms and conditions in this permit to be submitted or “reported in writing” are to be submitted to Ohio EPA through Ohio EPA’s eBusiness Center: Air Services web service (“Air Services”). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification, or report is considered to be “submitted” on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established by Air Services.
- f) **Testing Requirements**
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Emission Limitations:

NO<sub>x</sub> emissions shall not exceed 10.82 pounds per hour and 5 tons per year (5 tons per year is a restricted limit based upon hydrogen usage of 3.61 mmcf/yr) from all repair lathes combined.

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the hourly NO<sub>x</sub> emission limitation shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 7.



Compliance with the annual NO<sub>x</sub> emissions limitation shall be assumed provided that hydrogen usage does not exceed 3.61 mmcf/yr.

b. Emission Limitation:

The total particulate emissions from all lathes comprising this emissions unit shall not exceed 8.1 tons per year.

Applicable Compliance Method:

The tpy emission limitation was developed by multiplying the short-term allowable particulate emission limitation (1.85 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

c. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 65 tons per year based on rolling, 12-month summations for all production and repair lathes (emissions units P037, P038, P041, P042, and P043), combined.

Applicable Compliance Method:

Compliance with the rolling, 12-month NO<sub>x</sub> emission limitation shall be demonstrated using the equations and record keeping requirements specified in d)(2) and summing the rolling, 12-month NO<sub>x</sub> emissions from emissions units P037, P038, P041, P042, and P043.

d. Emission Limitation:

Visible particulate emissions from the stack associated with each lathe shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required by the Ohio EPA, compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in Method 9, Visible Determination of the Opacity of Emissions from Stationary Sources, 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

The total particulate emissions from all lathes comprising this emissions unit shall not exceed 1.85 pounds per hour based on Table I of OAC rule 3745-17-11 (with a maximum process weight rate of 600 pounds per hour for all lathes combined).

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the hourly particulate emission limitation shall be demonstrated in accordance with the methods and procedures specified in OAC rule 3745-17-03 and 40 CFR Part 60, Appendix A, Methods 1 through 5.

- (2) The permittee shall conduct, or have conducted, emission testing of the mass emission rates for particulate and NO<sub>x</sub> emissions for one of the repair lathes in this emissions unit in accordance with the following:
- a. The emission testing for NO<sub>x</sub> and particulate emissions shall be conducted within 5 years of the last emission testing that demonstrated compliance with the emission limitation required by this permit or within 12 months of resuming operation that support at least 85% of the emissions unit's maximum capacity to be sustained for the duration of emission testing.\*

\*NOTE: This emissions unit is not currently in operation and/or operates intermittently and it is not known when its full operation will resume. Therefore, testing may not be possible within 5 years of the last emission testing if the emissions unit is not operating and/or is not operating at full capacity.

The permittee has demonstrated that all 3 repair lathes range in size and capacity from 0.48 to 0.78 mmBtu/hr and are similar in operation, configuration and product line. Therefore, the Ohio EPA is allowing the permittee to test any of the largest units (i.e., 0.78 mmBtu/hr), at or near maximum capacity, to demonstrate compliance for each of these 3 lathes.

- b. The emission testing shall be conducted to determine compliance with the allowable emission rates for particulate emissions and NO<sub>x</sub>.
- c. The following test methods from 40 CFR Part 60, Appendix A, shall be employed to determine compliance with the allowable emission rates for particulate and NO<sub>x</sub>, respectively:  

Method 5, "Determination of Particulate Emissions from Stationary Sources", and Method 7, "Determination of Nitrogen Oxide Emissions from Stationary Sources".
- d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified by the Northeast District Office of the Ohio EPA.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emissions test.



- f. Personnel from the Ohio EPA Northeast District Office 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.
- g. A comprehensive written report of the results of the emissions tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

g) Miscellaneous Requirements

- (1) None.

**2. Emissions Unit Group -Cleaver Brooks Boilers: B003 and B004**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
B003	CB Boiler 1
B004	CB Boiler 2

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)(1)	The combined nitrogen oxides (NO <sub>x</sub> ) emissions from emissions units B003 and B004 shall not exceed 3.7 tons per year based on rolling, 12-month summations.  See c)(1).
b.	OAC rule 3745-17-10(B)(1)	Particulate emissions from this boiler shall not exceed 0.020 pound per million Btu of actual heat input.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-110-03(A)	Exempt per OAC rule 3745-110-03(K)(1).
e.	OAC rule 3745-18-06	See b)(2)a.

- (2) Additional Terms and Conditions
- a. Per OAC rule 3745-18-06(A), this emissions unit is exempt from paragraphs (D), (F), and (G) because the emissions unit only burns natural gas as fuel. OAC rule 3745-18-06 imposes no requirements on fuel burning equipment that burns only natural gas.
  - b. This emissions unit is capable of burning only natural gas. Any change to an alternate fuel will require the permittee to obtain a permit modification.
- c) Operational Restrictions
- (1) The maximum quantity of natural gas burned in emissions units B003 and B004, combined, shall not exceed 74 million standard cubic feet of natural gas per year, based on rolling, 12-month summations of the fuel usages. This is the equivalent, based on emission factors, of the allowable combined NO<sub>x</sub> emissions limitation for emissions units B003 and B004 of 3.7 tons per year.
  - (2) This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate rolling, 12-month summations of annual NO<sub>x</sub> emissions based on natural gas usage.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall install and maintain a natural gas flow meter on the natural gas supply line for this emissions unit to allow for monitoring and recording the natural gas fuel consumption.
  - (2) The permittee shall monitor and record the following information for emissions units B003 and B004, combined, on a monthly basis:
    - a. the total amount of natural gas used;
    - b. the total amount of NO<sub>x</sub> emitted per month;
    - c. the total amount of natural gas used based on a rolling, 12-month summation; and
    - d. the total amount of NO<sub>x</sub> emitted, in tons, based on a rolling, 12-month summations of the monthly emissions.

The NO<sub>x</sub> emissions shall be calculated by multiplying the total amount of natural gas used, in mmscf, by 100 lbs of NO<sub>x</sub> per mmscf of natural gas, which is the emission factor from Table 1.4-1 of AP-42 (7/98), and dividing by 2000 lbs per ton.

The rolling, 12-month summation of individual NO<sub>x</sub> emissions shall be calculated by adding the individual NO<sub>x</sub> emissions for the preceding 11 calendar months plus the total NO<sub>x</sub> emissions for the current calendar month.

e) Reporting Requirements

- (1) All reports or notifications shall be submitted to the Northeast District Office of the Ohio EPA as required in the General Terms and Conditions of this permit unless otherwise stated.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify for emissions units B003 and B004, combined, each record showing an exceedance of:
  - a. the rolling, 12-month restriction for fuel usage; and/or
  - b. the rolling, 12-month NO<sub>x</sub> emission limitation.
- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.
- (4) All applications, notifications or reports required by the terms and conditions in this permit to be submitted or “reported in writing” are to be submitted to Ohio EPA through Ohio EPA’s eBusiness Center: Air Services web service (“Air Services”). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification, or report is considered to be “submitted” on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established by Air Services.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:

The combined NO<sub>x</sub> emissions from emissions units B003 and B004 shall not exceed 3.7 tons per year based on rolling, 12-month summations.

Applicable Compliance Method:

Compliance with the tons per year limitation shall be demonstrated based on the record keeping requirements specified in d)(2).



Compliance with the annual NO<sub>x</sub> emission limitation shall be assumed provided that natural gas usage from emissions units B003 and B004, combined, does not exceed 74 mmscf/yr.

b. Emission Limitation:

Particulate emissions from this boiler shall not exceed 0.020 pound per million Btu of actual heat input.

Applicable Compliance Method:

For the use of natural gas, compliance shall be demonstrated by dividing the AP-42 (Fifth Edition, Table 1.4-2, 7/98) emission factor for natural gas combustion (1.9 lbs/mmcf) by the heating value of natural gas (1050 Btu/cu ft).

If required by the Ohio EPA, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

c. Emission Limitation:

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

Applicable Compliance Method:

If required by the Ohio EPA, compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in Method 9, Visible Determination of the Opacity of Emissions from Stationary Sources, 40 CFR, Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

- (1) None.



**3. Emissions Unit Group -Emergency Generators 1 - 5: B008, B009, B010, B015, and B016**

EU ID	Operations, Property and/or Equipment Description
B008	Emergency Generator #1
B009	Emergency Generator #2
B010	Emergency Generator #3
B015	Emergency Generator #4
B016	Emergency Generator #5

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	B008 and B009:  Nitrogen oxides (NO <sub>x</sub> ) emissions from generators 1 and 2 shall not exceed 15.62 pounds per hour and 22.53 pounds per hour, respectively.  B010, B015, and B016:  NO <sub>x</sub> emissions from generators 3, 4, and 5 shall not exceed 36.03, 37.54, and 37.54 pounds per hour, respectively.  The requirements of this rule also include compliance with OAC rules 3745-31-

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		05(D), 3745-17-07, 3745-17-11, and 3745-18-06.
b.	OAC rule 3745-31-05(D)(1)(b)	Combined NO <sub>x</sub> emissions from emissions units B008, B009, B010, B015, and B016 shall not exceed 5.0 tons per year based on a rolling, 12-month summation.
c.	OAC rule 3745-17-11(B)(5)(b)	Particulate emissions from each generator shall not exceed 0.062 lb/mmBtu.  See b)(2)a.
d.	OAC rule 3745-18-06(G)	Emissions units B008 and B009 are exempt, pursuant to OAC rule 3745-18-06(B).  Sulfur dioxide (SO <sub>2</sub> ) emissions from each of emissions units B010, B015, and B016 shall not exceed 0.5 pound per mmBtu actual heat input.
e.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack serving these emissions units shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

(2) Additional Terms and Conditions

a. The emission limitation specified in this rule citation has been revised based upon a change in the applicable emission factor contained in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors. The revised rule was adopted by the Director of Ohio EPA in December, 1997. The USEPA has agreed to consider this revised rule as federally enforceable during the time from the effective date of USEPA approval of this limitation as a revision to the Ohio SIP for particulate matter.

c) Operational Restrictions

- (1) The permittee shall burn only diesel fuel in these emissions units.
- (2) The quality of diesel fuel burned in these emissions units shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.5 pound SO<sub>2</sub> per mmBtu actual heat input.
- (3) Emergency Diesel Generators 1, 2, 3, 4, and 5 shall operate such that the maximum quantity of diesel fuel burned in these emissions units combined, shall not exceed 7,299 gallons based on a rolling, 12-month summation of fuel usage.

This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate rolling, 12-month summations of diesel fuel usage.

- (4) In the event of an extended public electric utility service outage (longer than 16 hours total), the permittee may operate any and all of the emergency generators (B008, B009, B010, B015, and B016) in excess of the diesel fuel oil use limit in section c)(3) as an emergency provision of this permit. During any time of such operation under this emergency provision, the permittee shall not operate any production lathes, or repair lathes. Regardless of an emergency condition, the permittee shall continue to comply with the facility-wide NO<sub>x</sub> emission limit in B.3.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall monitor and record the following information for this emissions unit on a monthly basis:
  - a. the total amount of diesel fuel used in gallons per month in emissions units B008, B009, B010, B015, and B016, combined (this may be monitored/based upon the hours operated multiplied by the maximum fuel consumption/hr);
  - b. the total amount of NO<sub>x</sub> emitted per month from emissions units B008, B009, B010, B015, and B016, combined;
  - c. the total amount of diesel fuel used based on a rolling, 12-month summation in gallons/year in emissions units B008, B009, B010, B015, and B016, combined; and
  - d. the total amount of NO<sub>x</sub> emitted per year based on a rolling, 12-month summation from emissions units B008, B009, B010, B015, and B016, combined.
- (2) For each day during which the permittee burns a fuel other than diesel fuel, the permittee shall maintain a record of the type and quantity of fuel burned in the emissions unit(s).
- (3) The permittee shall maintain records of the diesel fuel burned in the emissions units in accordance with either Alternative 1 or Alternative 2 described below:
  - a. **Alternative 1:**

For each shipment of diesel fuel received for burning in the emissions units, the permittee shall collect or require the diesel fuel supplier to collect a representative grab sample of diesel fuel and maintain records of the total quantity of diesel fuel received, the permittee's diesel fuel supplier's analyses for sulfur content and heat content, and the calculated SO<sub>2</sub> emissions rate (in lbs/mmBtu). The SO<sub>2</sub> emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F). A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the

quality of the diesel fuel for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

b. Alternative 2:

The permittee shall collect a representative grab sample of diesel fuel that is burned in the emissions units for each day when the emissions unit(s) is (are) in operation. If additional diesel fuel is added to the tank serving the emissions unit(s) on a day when the emissions unit(s) is (are) in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the diesel fuel burned in the emissions unit(s). A representative grab sample of diesel fuel does not need to be collected on days when the emissions unit is only operated for the purpose of "test-firing". The permittee shall maintain records of the total quantity of diesel fuel burned each day, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated SO<sub>2</sub> emission rate (in lbs/mmBtu). The SO<sub>2</sub> emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).

The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods, such as ASTM methods D240 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter and D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or equivalent methods as approved by the Director.

e) Reporting Requirements

- (1) All reports or notifications shall be submitted to the Northeast District Office of the Ohio EPA as required in the General Terms and Conditions of this Permit unless otherwise stated.
- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than diesel fuel was burned in the emissions units. Each report shall be submitted to the Ohio EPA Northeast District Office within 30 days after the deviation occurs.
- (3) The permittee shall notify the Ohio EPA Northeast District Office in writing of any record which shows a deviation of the allowable SO<sub>2</sub> emission limitation based upon the calculated SO<sub>2</sub> emission rates from d)(3) above. The notification shall include a copy of such record and shall be sent to the Ohio EPA Northeast District Office within 45 days after the deviation occurs.
- (4) The permittee shall submit quarterly deviation (excursion) reports that identify any record showing an exceedance of the rolling, 12-month limitation for fuel usage in emissions units B008, B009, B010, B015 and B016, combined.
- (5) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this

permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.

- (6) All applications, notifications or reports required by the terms and conditions in this permit to be submitted or “reported in writing” are to be submitted to Ohio EPA through Ohio EPA’s eBusiness Center: Air Services web service (“Air Services”). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification, or report is considered to be “submitted” on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established by Air Services.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

B008 and B009: NO<sub>x</sub> emissions from generators 1 and 2 shall not exceed 15.62 pounds per hour and 22.53 pounds per hour, respectively.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the maximum rated heat input of the generator by the emission factor from "Compilation of Air Pollutant Emission Factors" Table 3.4-1(10/96) for NO<sub>x</sub> (3.2 lbs/mmBtu) and the record keeping and monitoring requirements specified in d)(2).

If required by the Ohio EPA, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A Methods 1 through 4 and Method 7.

b. Emission Limitations:

B010, B015, and B016: NO<sub>x</sub> emissions from generators 3, 4, and 5 shall not exceed 36.03, 37.54, and 37.54 pounds per hour, respectively.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the maximum rated heat input of the generator by the emission factor from "Compilation of Air Pollutant

Emission Factors" Table 3.4-1(10/96) for NO<sub>x</sub> (3.2 lbs/mmBtu) and the record keeping and monitoring requirements specified in d)(2).

If required by the Ohio EPA, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A Methods 1 through 4 and Method 7.

c. Emission Limitation:

Combined NO<sub>x</sub> emissions from emissions units B008, B009, B010, B015, and B016 shall not exceed 5.0 tons per year based on a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the maximum rated heat input of the generator by the emission factor from "Compilation of Air Pollutant Emission Factors" Table 3.4-1(10/96) for NO<sub>x</sub> (3.2 lbs/mmBtu) and the record keeping and monitoring requirements specified in d)(1).

If required by the Ohio EPA, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A Methods 1 through 4 and Method 7.

d. Emission Limitation:

Particulate emissions from each generator shall not exceed 0.062 lb/mmBtu.

Applicable Compliance Method:

Compliance with this emission limitation for generator 1 (4.88 mmBtu/hr), generator 2 (7.04 mmBtu/hr), 3 (11.26 mmBtu/hr), 4 (11.73 mmBtu/hr), 5 (11.73 mmBtu/hr), shall be determined by the emission factor found in "Compilation of Air Pollutant Emission Factors", Table 3.4-2 (10/96) for diesel (0.062 lb PM/mmBtu).

If required by the Ohio EPA, the permittee shall demonstrate compliance with this emissions limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

e. Emission Limitation:

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

Applicable Compliance Method:

If required by the Ohio EPA, compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in Method 9, Visible Determination of the Opacity of



Emissions from Stationary Sources, 40 CFR, Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

SO<sub>2</sub> emissions from each of emissions units B010, B015, and B016 shall not exceed 0.5 pound per mmBtu actual heat input.

Applicable Compliance Method:

Compliance with the allowable lb/mmBtu SO<sub>2</sub> emission limitation shall be demonstrated by the diesel fuel monitoring and record keeping requirements specified in d)(3).

g) Miscellaneous Requirements

- (1) None.



**4. Emissions Unit Group -LD lathes (22 - 27) 2.21MMBTU/hr: P037, P038, P041, and P042**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P037	LD Lathe 22
P038	LD Lathe 23
P041	LD Lathe 26
P042	LD Lathe 27

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 26.72 pounds per hour from each of these emissions units. (The 26.72 pounds per hour limitation is the potential to emit for this emissions unit; therefore, monitoring, record keeping, and reporting requirements are not needed for this emission limitation).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B), and 3745-18-06.</p> <p>The total particulate emissions from the stack serving each of these emissions units shall not exceed 2.4 tons per year.</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(D)(1)(b)	NO <sub>x</sub> emissions shall not exceed 65 tons per year based on rolling, 12-month summations for all production and repair lathes (emissions units P037, P038, P041, P042, and P043), combined.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack associated with each of these emissions units shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-17-11(B)(1)	The total particulate emissions from the stack serving each of these emissions units shall not exceed 0.551 pound per hour based on Table I of OAC rule 3745-17-11 (with a maximum process weight rate of 100 pounds per hour).
e.	OAC rule 3745-18-06(E)	See b)(2)a.

(2) Additional Terms and Conditions

- a. Because the process weight rate for each individual lathe is less than 1000 lbs per hour, this emissions unit is exempt from the requirements of this rule.
- b. The permittee operates a ventilation system intended to vent all emissions from this emissions unit to the stack. However, it is understood that a small fraction of the NO<sub>x</sub> formed may not be captured and vented to the stack. The permittee assessed the capture efficiency of the capture hoods and ventilation system on the lathes at the GE Quartz Newark Plant, (Momentive) which is similar to the operation at the Willoughby plant\*. NO<sub>x</sub> was measured on March 11, 1999 at the general ventilation exhaust vents for the room containing the lathes. The NO<sub>x</sub> emissions from the room vents were compared to the calculated NO<sub>x</sub> stack emissions for the lathes that were operating on March 11, 1999 (based on representative emission rates from stack testing of the lathes in 1998). The room vent emissions were a very small fraction, 0.21 percent, of the stack emissions. Therefore, the emission factors for the lathes that are based on the 1998 stack tests have been increased by 0.21 percent to account for the small amount of NO<sub>x</sub> that may not be captured by the local ventilation system and may be emitted through other room vents.  
  
 \*The results of this evaluation are described in the report "Emissions Capture Efficiency Assessment for Quartz Crucible Machines and LD Lathes" prepared by Parsons Engineering Science, Inc. (June 1999) submitted to GE Quartz, Inc. Newark Quartz Plant. This report was sent to Ohio EPA on June 9, 1999.
- c. All particulate emissions from all of these emissions units shall be vented to the stack.

- d. These emissions units are capable of burning only natural gas and hydrogen.
- c) Operational Restrictions
- (1) The maximum annual fuel usage for this emissions unit and all the 4 production lathes (emissions units P037, P038, P041, and P042), combined, shall not exceed 9.453 million standard cubic feet of natural gas based on rolling, 12-month summations.
  - (2) This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate rolling, 12-month summations of annual NO<sub>x</sub> emissions based on natural gas usage.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall perform weekly checks, when this emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving each of these emissions. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
    - a. the color of the emissions;
    - b. whether the emissions are representative of normal operations;
    - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
    - d. the total duration of any visible emission incident; and
    - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.
  - (2) The permittee shall maintain monthly records of the following information for this emissions unit:
    - a. the total natural gas usage;
    - b. the rolling, 12-month natural gas usage;
    - c. the rolling, 12-month NO<sub>x</sub> emissions; and

- d. the rolling, 12-month NO<sub>x</sub> emissions from all lathes (emissions units P037, P038, P041, P042, and P043) combined.
- (3) Total NO<sub>x</sub> monthly emissions, in tons, resulting from the natural gas usage in all production lathes (emissions unit P037, P038, P041, and P042), combined, shall be calculated using the following equation:

$$\text{NO}_x, \text{ in tons} = \text{total natural gas usage (mmscf/month)} \times 12.09 \text{ lbs/mmBtu} \times 1050 \text{ mmBtu/mmscf} \times 1 \text{ ton}/2000 \text{ lbs}$$

where:

The emission factor for NO<sub>x</sub> is based on a 1998 stack test and equals 12.09 lbs/mmBtu, including fugitive emissions not captured by local exhaust ventilation (see explanation in b)(2)b. The natural gas usage is for emissions units P037, P038, P041, and P042, combined;

The heat content of natural gas = 1050 mmBtu/mmscf; and

Monthly results shall be summed to obtain the annual and rolling NO<sub>x</sub> emissions.

e) Reporting Requirements

- (1) The permittee shall submit semiannual written reports that:
  - a. identify all days during which any visible particulate emissions were observed from any stack serving this emissions unit; and
  - b. describe any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Northeast District Office of the Ohio EPA in accordance with the requirements in the General Terms and Conditions of this permit.

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:
  - a. the rolling, 12-month limitations for natural gas fuel usage for all production lathes (emissions units P037, P038, P041, and P042), combined; and
  - b. the monthly allowable cumulative fuel usage for natural gas for all production lathes (emissions units P037, P038, P041, and P042), combined.
- (3) The permittee shall submit annual reports that specify the total amount of natural gas used in emissions units P037, P038, P041, and P042, combined, and the total amount of NO<sub>x</sub> emitted from emissions units P037, P038, P041, P042, and P043, combined, for the previous calendar year by April 15 of the following year.
- (4) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this

permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.

- (5) All applications, notifications or reports required by the terms and conditions in this permit to be submitted or “reported in writing” are to be submitted to Ohio EPA through Ohio EPA’s eBusiness Center: Air Services web service (“Air Services”). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification, or report is considered to be “submitted” on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established by Air Services.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 26.72 pounds per hour from each of these emissions units.

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the hourly NO<sub>x</sub> emission limitation shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 7.

b. Emission Limitation:

The total particulate emissions from the stack serving each of these emissions units shall not exceed 2.4 tons per year.

Applicable Compliance Method:

The tpy emission limitation was developed by multiplying the short-term allowable particulate emission limitation (0.551 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

c. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 65 tons per year based on rolling, 12-month summations for all production and repair lathes (emissions units P037, P038, P041, P042, and P043), combined.

Applicable Compliance Method:

Compliance with the rolling, 12-month NO<sub>x</sub> emission limitation shall be demonstrated using the equations and record keeping requirements in d)(2) and summing the rolling, 12-month NO<sub>x</sub> emissions from emissions units P037, P038, P041, P042, and P043.

d. Emission Limitation:

Visible particulate emissions from the stack associated with each of these emissions units shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required by the Ohio EPA, compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in Method 9, Visible Determination of the Opacity of Emissions from Stationary Sources, 40 CFR Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

The total particulate emissions from the stack serving each of these emissions units shall not exceed 0.551 pound per hour based on Table I of OAC rule 3745-17-11 (with a maximum process weight rate of 100 pounds per hour).

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the hourly particulate emission limitation shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and OAC rule 3745-17-03.

(2) Emissions units P037, P038, P041, and P042 are essentially identical and may be used interchangeably. The permittee shall conduct, or have conducted, emission testing of the mass emission rates for particulate and NO<sub>x</sub> emissions for one of these 4 emissions units in accordance with the following:

a. The emission testing for NO<sub>x</sub> and particulate emissions shall be conducted within 5 years of the last emission testing that demonstrated compliance with the emission limitation required by this permit or within 12 months of resuming operation.\*

\*NOTE: This emissions unit is not currently in operation and/or operates intermittently and it is not known when its full operation will resume. Therefore, testing may not be possible within 5 years of the last emission testing if the emissions unit is not operating and/or is not operating at full capacity.

The permittee has demonstrated that all 4 production lathes rated at 2.21 mmBtu/hr (emissions units P037, P038, P041, and P042) are essentially identical in operation, size and capacity, configuration and product line; therefore, the Ohio EPA is allowing the permittee to test one representative unit, at or near maximum capacity, to demonstrate compliance for each of these 4 emissions units.

- b. The emission testing shall be conducted to determine compliance with the allowable emission rates for particulate emissions and NO<sub>x</sub>.
- c. The following test methods from 40 CFR Part 60, Appendix A, shall be employed to determine compliance with the allowable emission rates for particulate and NO<sub>x</sub>, respectively:

Method 5, "Determination of Particulate Emissions from Stationary Sources", and Method 7, "Determination of Nitrogen Oxide Emissions from Stationary Sources".
- d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified by the Northeast District Office of the Ohio EPA.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emissions test.
- f. Personnel from the Ohio EPA Northeast District Office 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.
- g. A comprehensive written report of the results of the emissions tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.



**Final Permit-to-Install and Operate**  
Momentive Performance Materials Quartz Inc  
**Permit Number:** P0107701  
**Facility ID:** 0243161415  
**Effective Date:** 6/15/2015

- g) Miscellaneous Requirements
  - (1) None.

**5. Emissions Unit Group -Titus Boilers: B001 and B002**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
B001	Titusville Boiler 1
B002	Titusville Boiler 2

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)(1)	The combined nitrogen oxides (NO <sub>x</sub> ) emissions from emissions units B001 and B002 shall not exceed 6.1 tons per year based on rolling, 12-month summations.
b.	OAC rule 3745-17-10(B)(1)	Particulate emissions from this boiler shall not exceed 0.020 pound per million Btu of actual heat input.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-110-03(A)	Exempt per OAC rule 3745-110-03(K)(1).
e.	OAC rule 3745-18-06	See b(2)a.

- (2) Additional Terms and Conditions
- a. Per OAC rule 3745-18-06(A), this emissions unit is exempt from paragraphs (D), (F), and (G) because the emissions unit only burns natural gas as fuel. OAC rule 3745-18-06 imposes no requirements on fuel burning equipment that burns only natural gas.
  - b. This emissions unit is capable of burning only natural gas. Any change to an alternate fuel will require the permittee to obtain a permit modification.
- c) Operational Restrictions
- (1) The maximum quantity of natural gas burned in emissions units B001 and B002, combined, shall not exceed 122 million standard cubic feet of natural gas per year, based on rolling, 12-month summations of the fuel usages. This is the equivalent, based on emission factors, of the allowable combined NO<sub>x</sub> emission limitation for emissions units B001 and B002 of 6.1 tons per year.
  - (2) This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate rolling, 12-month summations of annual NO<sub>x</sub> emissions based on natural gas usage.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall install and maintain a natural gas flow meter on the natural gas supply line for this emissions unit to allow for monitoring and recording the natural gas fuel consumption.
  - (2) The permittee shall monitor and record the following information for emissions units B001 and B002, combined, on a monthly basis:
    - a. the total amount of natural gas used;
    - b. the total amount of NO<sub>x</sub> emitted per month;
    - c. the total amount of natural gas used based on a rolling, 12-month summation; and
    - d. the total amount of NO<sub>x</sub> emitted, in tons, based on a rolling, 12-month summations of the monthly emissions.

The NO<sub>x</sub> emissions shall be calculated by multiplying the total amount of natural gas used, in mmscf, by 100 lbs of NO<sub>x</sub> per mmscf of natural gas, which is the emission factor from Table 1.4-1 of AP-42 (7/98), and dividing by 2000 lbs per ton.

The rolling, 12-month summation of individual NO<sub>x</sub> emissions shall be calculated by adding the individual NO<sub>x</sub> emissions for the preceding 11 calendar months plus the total NO<sub>x</sub> emissions for the current calendar month.

e) Reporting Requirements

- (1) All reports or notifications shall be submitted to the Northeast District Office of the Ohio EPA as required in the General Terms and Conditions of this Permit unless otherwise stated.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify for emissions units B001 and B002, combined, each record showing an exceedance of:
  - a. the rolling, 12-month restriction for fuel usage; and/or
  - b. the rolling, 12-month NO<sub>x</sub> emission limitation.
- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.
- (4) All applications, notifications or reports required by the terms and conditions in this permit to be submitted or “reported in writing” are to be submitted to Ohio EPA through Ohio EPA’s eBusiness Center: Air Services web service (“Air Services”). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification, or report is considered to be “submitted” on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established by Air Services.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:

The combined NO<sub>x</sub> emissions from emissions units B001 and B002 shall not exceed 6.1 tons per year based on rolling, 12-month summations.

Applicable Compliance Method:

Compliance with the tons per year emission limitation shall be demonstrated based upon the record keeping requirements specified in d)(2).



Compliance with the annual NO<sub>x</sub> emission limitation shall be assumed provided that natural gas usage from emissions units B001 and B002, combined, does not exceed 122 mmscf/yr.

b. Emission Limitation:

Particulate emissions from this boiler shall not exceed 0.020 pound per million Btu of actual heat input.

Applicable Compliance Method:

For the use of natural gas, compliance shall be demonstrated by dividing the AP-42 (Fifth Edition, Table 1.4-2, 7/98) emission factor for natural gas combustion (1.9 lbs/mmcf) by the heating value of natural gas (1050 Btu/cu ft).

If required by the Ohio EPA, the permittee shall determine compliance with this emission limitation in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

c. Emission Limitation:

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

Applicable Compliance Method:

If required by the Ohio EPA, compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specified in Method 9, Visible Determination of the Opacity of Emissions from Stationary Sources, 40 CFR, Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

- (1) None.

**6. Emissions Unit Group -Tumblers 1, 2, 4, 5, and 6: P001, P027, and P029**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P001	Tumblers #2 and #4
P027	Tumbler #5
P029	Tumbler #6

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	<b>Applicable Rules/Requirements</b>	<b>Applicable Emissions Limitations/Control Measures</b>
a.	OAC rule 3745-31-05(A)(3)	The total particulate emissions from P001, P027, and P029, the four tumblers, combined, shall not exceed 0.030 grain/dscf, 3.84 pounds per hour, and 16.82 tons per year. Particulate emissions shall include hydrochloric (HCl) and hydrofluoric (HF) acid mist, hydrofluorosilicic (HFS) acid, and sand.  The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

- a. Emissions unit P001 includes tumblers numbers 2 and 4. Emissions unit P027 includes tumbler number 5. Emissions unit P029 includes tumbler number 6. All of the tumblers (numbers 2, 4, 5, and 6) are vented to the packed bed scrubber.
- b. All particulate emissions from this emissions unit shall be vented to the packed bed scrubber.

c) Operational Restrictions

- (1) The permittee shall install, operate, and regularly calibrate a conductivity meter within 6 months of the issuance date of this permit. Conductivity and pH shall be continuously monitored for a period of 12 months in order to establish an allowable conductivity range based on the correlation with the allowable pH range established during the last emissions testing that demonstrated the emissions unit was in compliance.
- (2) The permittee shall operate the packed bed scrubber associated with this emissions unit at all times while the emissions unit is in operation such that:
  - a. the minimum scrubber recirculating water flow rate is continually maintained at or above 150 gallons per minute or the water flow rate during the most recent emissions testing that demonstrated that the emissions unit was in compliance;
  - b. the pH of the scrubber liquor is continually maintained in the range established during the last emissions testing that demonstrated that the emissions unit was in compliance\*; and
  - c. the conductivity of the scrubber liquor is continually maintained in the range established based on the pH of the last emissions testing that demonstrated that the emissions unit was in compliance and the manufacturer’s technical advisement.

The permittee may petition the Ohio EPA Northeast District Office for reestablishment of the water flow rate, pH ranges, and conductivity ranges at any time, provided the permittee can demonstrate that the operating conditions upon which these ranges were previously established are no longer appropriate.

\*NOTE: The permittee is required to continuously monitor pH and conductivity for a period of 12 months in order to establish an allowable conductivity range based on the correlation with the allowable pH range. After 12 months, when an allowable conductivity range is established, the permittee is not required to monitor pH. See c)(1) above.

d) **Monitoring and/or Recordkeeping Requirements**

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

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

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

(2) The permittee shall properly operate and maintain equipment to monitor and continuously record the scrubber recirculating water flow rate and the pH and/or the conductivity of the scrubber water while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

(3) The permittee shall continuously record the following information each day the emissions unit is in operation:

- a. the scrubber recirculating water flow rate, in gallons per minute; and
- b. the pH and/or the conductivity of the scrubber liquor.

The permittee also shall document each day the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

e) Reporting Requirements

- (1) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term e)(1) above:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained within the required levels:
  - a. the scrubber recirculating water flow rate; and
  - b. the pH and/or the conductivity of the scrubber water.
- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.
- (4) All applications, notifications or reports required by the terms and conditions in this permit to be submitted or “reported in writing” are to be submitted to Ohio EPA through Ohio EPA’s eBusiness Center: Air Services web service (“Air Services”). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification, or report is considered to be “submitted” on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established by Air Services.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

The total particulate emissions from P001, P027, and P029, the four tumblers, combined, shall not exceed 0.030 grain/dscf, 3.84 pounds per hour, and 16.82 tons per year. Particulate emissions shall include HCl and HF acid mist, HFS acid, and sand.

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the hourly particulate emission limitation shall be demonstrated in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 and Method 26A and OAC rule 3745-17-02.

The tpy emission limitation was developed by multiplying the short-term allowable particulate emission limitation (3.84 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

b. Emission Limitation:

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

Applicable Compliance Method:

If required by the Ohio EPA, compliance shall be demonstrated through visible particulate emission observations performed in accordance with the methods and procedures specific in Method 9, Visible Determination of the Opacity of Emissions from Stationary Sources, 40 CFR, Part 60, Appendix A, and the procedures specified in OAC rule 3745-17-03(B)(1).

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

- a. The emission testing for particulate emissions shall be conducted within 5 years of the last emission testing that demonstrated compliance with the emission limitation required by this permit or within 12 months of resuming operation that support at least 85% of the emissions unit's maximum capacity to be sustained for the duration of emission testing.
- b. The emission testing shall be conducted to determine compliance with the allowable emission rates for particulate emissions, including emissions of acid mists, and the uncontrolled mass emission rate.
- c. The following test methods from 40 CFR Part 60, Appendix A, shall be employed to determine compliance with the allowable emission rates for particulate:

Method 5, "Determination of Particulate Emissions from Stationary Sources"; and Method 26A, "Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources".

- d. The permittee shall measure and continuously record the pressure drop across the scrubber, in inches of water, the scrubber water flow rate, and the scrubber water pH and conductivity within the scrubber for this emissions unit during each test run.
- e. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified by the Northeast District Office of the Ohio EPA.
- f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emissions test.
- g. Personnel from the Ohio EPA Northeast District Office 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.
- h. A comprehensive written report of the results of the emissions tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

g) Miscellaneous Requirements

- (1) None.