



State of Ohio Environmental Protection Agency

**RE: DRAFT PERMIT TO INSTALL
LICKING COUNTY**

CERTIFIED MAIL

Street Address:

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:
Lazarus Gov.
Center

**Application No: 01-01308
Fac ID: 0145000213**

DATE: 11/1/2005

G E Quartz Inc
Jeff Blake
22557 West Lunn Road
Strongsville, OH 44149

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$1200** will be due. Please do not submit any payment now.

The Ohio EPA is urging 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 Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

CDO

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

**Permit To Install
Terms and Conditions**

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

DRAFT PERMIT TO INSTALL 01-01308

Application Number: 01-01308
Facility ID: 0145000213
Permit Fee: **To be entered upon final issuance**
Name of Facility: G E Quartz Inc
Person to Contact: Jeff Blake
Address: 22557 West Lunn Road
Strongsville, OH 44149

Location of proposed air contaminant source(s) [emissions unit(s)]:
**611 O'Neill Dr SE
Hebron, Ohio**

Description of proposed emissions unit(s):
Window grade quartz machine number 1, 2, 3, 4, 5 and 6.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) 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 above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

G E Quartz Inc

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Issued: To be entered upon final issuance

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit-To-Install General Terms and Conditions

1. Monitoring and Related Record keeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or record keeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written

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reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.9 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, record keeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - iv. If this permit is for an emissions unit located at a Title V facility, then each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d. The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

2. Scheduled Maintenance/Malfunction Reporting

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

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

3. Risk Management Plans

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

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permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

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

5. Severability Clause

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

6. General Requirements

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

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7. Fees

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

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or

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required under this permit.

- iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit-To-Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this permit is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

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12. Air Pollution Nuisance

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

13. Permit-To-Install

A permit-to-install must be obtained pursuant to OAC Chapter 3745-31 prior to "installation" of "any air contaminant source" as defined in OAC rule 3745-31-01, or "modification", as defined in OAC rule 3745-31-01, of any emissions unit included in this permit.

B. State Only Enforceable Permit-To-Install General Terms and Conditions

1. Compliance Requirements

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

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or record keeping of state-only enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report,

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which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Permit Transfers

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

4. Authorization To Install or Modify

If applicable, authorization to install or modify any new or existing emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

5. Construction of New Sources(s)

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

6. Public Disclosure

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

7. Applicability

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

8. Construction Compliance Certification

If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) that the facility has been constructed in accordance with the permit-to-install application and the terms and conditions of the permit-to-install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

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

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

C. Permit-To-Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

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SUMMARY (for informational purposes only)

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
NOx	39.0
PE	14.5
Ammonia	49.0

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Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

I. Emission Limitations

1. Pursuant to OAC rule 3745-31-05(C), total nitrogen oxides (NOx) emissions from the selective catalytic reduction (SCR) unit stack shall not exceed 39.0 tons per year for emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.

Pursuant to OAC rule 3745-17-07(A), visible particulate emissions (PE) from the SCR unit stack serving emissions units P038, P039, P040, P041, P042, and P043 shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

2. Additional Terms and Conditions

- 2.a The permittee shall control NOx emissions from emissions units P038, P039, P040, P041, P042, and P043 by using a selective catalytic reduction (SCR) unit.
- 2.b The permittee shall install a continuous emissions monitoring system (CEMS) to measure the uncontrolled NOx emission rate from emissions units P038, P039, P040, P041, P042 and P043, combined, prior to its discharge to the main inlet duct to the SCR. This CEMS is hereafter referred to as the Window Grade Quartz (WGQ) CEMS.
- 2.c A continuous emissions monitoring system (CEMS) malfunction is defined as any time in which the WGQ CEMS is not able to sample or analyze the nitrogen oxides in the gas stream exiting the WGQ units.
- 2.d A SCR malfunction is defined as any time that the SCR automatically shuts down due to an internal control system setting. A SCR malfunction will also include instances where the permittee manually determines that the SCR is not operating properly and must be shut down. The malfunction event will begin at the time of automatic shutdown of the SCR (as recorded by the SCR control system) or at the time a malfunction requiring SCR shutdown is manually identified by the permittee.
- 2.e In the event of a WGQ CEMS malfunction, emissions units P038, P039, P040, P041, P042, and P043 shall be shut down after completion of the work in progress at the time the malfunction began. Once the emissions unit(s) is (are) shut down, the emissions unit(s) shall remain shut down until the CEMS is no longer malfunctioning.
- 2.f In order to continue to operate the above emissions units during or after a WGQ CEMS malfunction, the permittee may develop and submit for pre-approval to

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the Ohio EPA, CDO an alternative compliance method for estimating the emissions from the window grade quartz units listed in Section A.I.2.e above.

2.g CEMS Quality Assurance/ Quality Control

Within 180 days of the effective date of this permit, the permittee shall develop a written quality assurance/quality control plan for the WGQ CEMS designed to ensure continuous valid and representative readings of pre-control NOx emissions from the window grade quartz units in units of pounds per hour and tons per month. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the WGQ CEMS must be kept on site and available for inspection during regular office hours.

2.h CEMS Statement of Certification

Within 180 days after startup of the window grade quartz units, the permittee shall conduct certification tests of the WGQ CEMS pursuant to ORC section 3704.03(l) and 40 CFR Part 60, Appendix B, Performance Specification 2.

2.i In the event of an SCR malfunction, emissions units P038, P039, P040, P041, P042, and P043 will be shut down immediately following completion of work-in-process. Work-in-process is defined as follows for each type of emissions unit:

- i. Window grade quartz machines (P038, P039, P040, P041, P042, and P043) - The window grade quartz machines (maximum of one hour of operation after SCR malfunction).

2.j In the event that the SCR catalyst has degraded to the point that it needs to be replaced, the permittee is still authorized to operate emissions units P038, P039, P040, P041, P042, and P043 for up to 60 days provided the following conditions are met:

- i. The permittee has ordered replacement catalyst no later than 10 business days after the permittee has determined that the catalyst has irreversibly degraded below the acceptable activity level; and
- ii. The permittee shall notify OEPA, CDO, DAPC within 5 business days upon determining the catalyst has irreversibly degraded; and

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iii. Emissions of NOx from the SCR do not exceed 39.0 tons on a rolling, 12-month period; and

iv. emissions of NOx for each emissions unit do not exceed the limits specified in the following table (These limits are based on the maximum hourly MMBtu demand and on the SCR operating at 50 % efficiency):

Emissions Unit	NOx Emissions Limit lbs/hr
P038	4.61
P039	4.61
P040	4.61
P041	4.61
P042	4.61
P043	4.61

II. Operational Restrictions

None

III. Monitoring and Record Keeping Requirements

1. The permittee shall operate and maintain the WGQ CEMS to continuously monitor and record combined NOx emissions from emissions units P038, P039, P040, P041, P042, and P043. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.
2. The permittee shall continue to operate and maintain the SCR control efficiency monitoring system as required by PTI 01-08818 and Final Title V for this facility.
3. The permittee shall maintain records of all data obtained by the WGQ CEMS and the SCR control efficiency monitoring system, including pre-control emissions of NOx for the WGQ units in units of pounds per hour and tons per month, the 3-hour average NOx control efficiency of the SCR, results of daily zero/span calibration checks and magnitude of manual calibration adjustments.
4. The permittee shall calculate emissions of NOx each hour from emissions units P038, P039, P040, P041, P042 and P043 combined from the WGQ CEMS and SCR efficiency data as follows:

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NOx emissions rate = pre-control NOx emissions rate (lb/hr) x (1 – SCR control efficiency).

5. The permittee shall calculate monthly emissions of NOx from emissions units P038, P039, P040, P041, P042 and P043 combined by summing the individual hourly emissions calculated in Section A.III.5 for all hours of operation in the month. The permittee shall also calculate the rolling, 12-month NOx emissions from emissions units P038, P039, P040, P041, P042 and P043.
6. The permittee shall collect and record the following information for each WGQ CEMS malfunction:
 - a. The number of window grade quartz units operating.
 - b. The total duration of the WGQ CEMS malfunction, in hours.
 - c. The estimated NOx emissions from the window grade quartz units in operation calculated by multiplying the number of window grade quartz units in operation in Section A.III.6.a, by the total hours of the WGQ CEMS malfunctions in Section A.III.6.b, by the maximum uncontrolled emission rate of 9.21 lbs NOx/hr by one minus the concurrent 3-hour average SCR control efficiency.
7. The permittee shall collect and record the following information for each SCR CEMS malfunction which causes NOx control efficiency to not be measured:
 - a. The actual uncontrolled NOx emissions from the WGQ CEMS.
 - b. The total duration of the SCR CEMS malfunction, in hours.
 - c. For each hour of the SCR CEMS malfunction, the estimated NOx emissions from the window grade quartz units in operation calculated by multiplying the uncontrolled NOx emissions from the WGQ CEMS in Section A.III.7.a, by one minus the minimum assumed SCR control efficiency of 70%.
8. The permittee shall perform daily checks, using either certified or non-certified visible emissions observers, when any of the emissions units identified in Section A.I.1 are in operation and when the weather conditions allow, for any visible particulate emissions from the SCR unit stack serving these emissions units. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

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- a. The color of the emissions;
- b. Whether the emissions are representative of normal conditions;
- c. If the emissions are not representative of normal conditions, the cause(s) of the abnormal emissions;
- d. The total duration of any visible emission incident; and
- e. Any corrective actions taken to eliminate the visible emissions.

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

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

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month NO_x emission limitation for emissions units P038, P039, P040, P041, P042, and P043, combined.

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

2. WGQ CEMS Data Reporting

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

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

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

3. WGQ CEMS Electronic Data Reporting, Summary Form

Pursuant to OAC rule 3745-15-04 and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report pursuant to 40 CFR Part 60.7. The summary shall be submitted to the Ohio EPA, CDO within the schedule required in Part I, Section A.1.c.ii. of this PTI.

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

V. Testing Requirements

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

a. Emission Limitation:

39.0 tons per year NOx emissions from the SCR unit stack for emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.

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Applicable Compliance Method:

Compliance shall be based on the record keeping in Section III, Monitoring and Recordkeeping, terms 1 through 7.

b. Emission Limitation:

Visible particulate emissions (PE) from the SCR unit stack serving emissions units P038, P039, P040, P041, P042, and P043 shall not exceed 20% opacity, as a 6-minute average, except as provided by OAC rule 3745-17-07.

Applicable Compliance Method:

Compliance shall be based on the record keeping in Section III, Monitoring and Record keeping, term 8.

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

2. Relative Accuracy Test Audit

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

VI. Miscellaneous Requirements

None

G E Quartz Inc**Facility ID: 0145000213****PTI Application: 01-01308****Issued: To be entered upon final issuance****B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions****I. Emission Limitations**

1. Ammonia emissions from the SCR unit stack shall not exceed 11.2 pounds per hour and 49.0 tons per year.

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

2. **Additional Terms and Conditions**

None

II. Operational Restrictions

None

III. Monitoring and Record Keeping Requirements

1. Air Toxics Language

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

Pollutant: ammonia

TLV (mg/m³): 17

Maximum Hourly Emission Rate (lbs/hr): 71.6 *

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 132.5

MAGLC (ug/m³): 404.8

* Includes 11.2 lbs/hr from the window grade quartz units plus 60.4 lbs/hr allowed under PTI 01-08818.

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

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

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

- a. A description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. Documentation of its evaluation and determination that the changed emissions

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unit still satisfies the "Air Toxic Policy"; and

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

IV. Reporting Requirements

None

V. Testing Requirements

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

- a. Emission Limitation:
Ammonia emissions from the SCR unit stack shall not exceed 11.2 pounds per hour.

Applicable Compliance Method:

If required by the Ohio EPA and/or U.S. EPA, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and Conditional Test Method 027. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, CDO.

- b. Emission Limitation:
Ammonia emissions from the SCR unit stack shall not exceed 49.0 tons per year.

Applicable Compliance Method:

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

VI. Miscellaneous Requirements

None

G E Q

PTI A

Emissions Unit ID: P038

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P038 - Window Grade Quartz Machine No. 1	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(C). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.
	OAC rule 3745-31-05(C) (synthetic minor to avoid PSD)	Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.41 tons per year.
	OAC rule 3745-17-07(A)	See A.I.2.a below.
	OAC rule 3745-17-11(B)(1)	Total NOx emissions from the SCR unit stack shall not exceed 39.0 tons per year for emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.
	OAC rule 3745-23-06(B)	Visible PE from the SCR unit stack shall

not exceed 20% opacity,
as a 6-minute average,
except as provided by
rule.

PE for this emissions unit
alone from the SCR unit
stack shall not exceed
0.551 pound per hour
based on Table I which is
more stringent than the
allowable PE rate from
Figure II.

See A.I.2.b below.

2. Additional Terms and Conditions

- 2.a** The permittee shall vent the emissions from this emissions unit to a selective catalytic reduction (SCR) unit while operating this emissions unit.
- 2.b** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

- 1.** For monitoring and record keeping requirements for the rolling, 12-month NO_x emission

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limitation, see Part II - Specific Facility Terms and Conditions, Section A.III.1 through 7.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.III.8.
3. For monitoring and record keeping requirements for the hourly NO_x emission limitation, the permittee shall collect and record the rolling, 3-hour average of the NO_x destruction efficiency of the SCR. The efficiency shall be based upon data obtained from the SCR inlet analyzer and the outlet CEMS.
4. For each 3-hour period when the NO_x destruction efficiency is less than 70%, the permittee shall note the following in the operations log:
 - a. The 3-hour average NO_x destruction efficiency;
 - b. The hours included in the 3-hour period;
 - c. For each hour within the period, the window grade quartz units that were operating;
 - d. For each hour within the period, the sum of the hourly NO_x emissions limitations for the window grade quartz units that were operating;
 - e. For each hour within the period, the NO_x emissions in pounds per hour calculated from the uncontrolled emissions measured by WGQ CEMS and the concurrent NO_x destruction efficiency as determined according to Part II - Facility Specific Terms and Conditions, Section A.III.6; and
 - f. For each hour within the period, whether the value for (e) exceeds the value for (d), above.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NO_x emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.IV.1.
2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.IV.4.
3. The permittee shall submit quarterly deviation (excursion) reports that identify all

Emissions Unit ID: P038

exceedances of the hourly NOx emission limitation based on the records required by Part III, Section A.III.4.f above. The quarterly deviation reports shall be submitted in accordance with General Term and Condition A.1.c.ii of this permit.

V. Testing Requirements

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

- a. Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.

Applicable Compliance Method:

This emission limitation was established by multiplying the maximum hourly MMBtu demand (2.05) by an emission factor of 4.50 lbs NOx /MMBtu (derived from emissions tests performed on February 2005) and by (1-0.70) for the control efficiency of the SCR unit. Compliance with this limitation may be demonstrated by showing that the rolling, 3-hour average SCR destruction efficiency is equal to or greater than 70%.

If the rolling, 3-hour average SCR destruction efficiency is less than 70%, compliance with this emission limitation shall be demonstrated by showing that the NOx emission rate determined in Part III, Section III.4.e is less than or equal to the emission limitation determined in Part III, Section III.4.d.

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

- b. Emission Limitation:
39.0 tons per year of NOx from the SCR unit stack serving emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.a.

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

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.b.

GEQ**PTIA**Emissions Unit ID: **P038****Issued: To be entered upon final issuance**

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

Applicable Compliance Method:

If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

- e. Emission Limitation:
PE for this emissions unit alone from the SCR stack shall not exceed 2.41 tons per year.

Applicable Compliance Method:

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

VI. Miscellaneous Requirements

None

**G E Q
PTI A**

Emissions Unit ID: **P038**

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B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P038 - Window Grade Quartz Machine No. 1	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

G E Q

PTI A

Emissions Unit ID: P039

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P039 - Window Grade Quartz Machine No.2	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(C). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.
	OAC rule 3745-31-05(C) (synthetic minor to avoid PSD)	Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.41 tons per year.
	OAC rule 3745-17-07(A)	See A.I.2.a below.
	OAC rule 3745-17-11(B)(1)	Total NOx emissions from the SCR unit stack shall not exceed 39.0 tons per year for emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.
	OAC rule 3745-23-06(B)	Visible PE from the SCR unit stack shall

not exceed 20% opacity,
as a 6-minute average,
except as provided by
rule.

PE for this emissions unit
alone from the SCR unit
stack shall not exceed
0.551 pound per hour
based on Table I which is
more stringent than the
allowable PE rate from
Figure II.

See A.I.2.b below.

2. Additional Terms and Conditions

- 2.a** The permittee shall vent the emissions from this emissions unit to a selective catalytic reduction (SCR) unit while operating this emissions unit.
- 2.b** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

- 1.** For monitoring and record keeping requirements for the rolling, 12-month NO_x emission

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limitation, see Part II - Specific Facility Terms and Conditions, Section A.III.1 through 7.

2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.III.8.
3. For monitoring and record keeping requirements for the hourly NO_x emission limitation, the permittee shall collect and record the rolling, 3-hour average of the NO_x destruction efficiency of the SCR. The efficiency shall be based upon data obtained from the SCR inlet analyzer and the outlet CEMS.
4. For each 3-hour period when the NO_x destruction efficiency is less than 70%, the permittee shall note the following in the operations log:
 - a. The 3-hour average NO_x destruction efficiency;
 - b. The hours included in the 3-hour period;
 - c. For each hour within the period, the window grade quartz units that were operating;
 - d. For each hour within the period, the sum of the hourly NO_x emissions limitations for the window grade quartz units that were operating;
 - e. For each hour within the period, the NO_x emissions in pounds per hour calculated from the uncontrolled emissions measured by WGQ CEMS and the concurrent NO_x destruction efficiency as determined according to Part II - Facility Specific Terms and Conditions, Section A.III.6; and
 - f. For each hour within the period, whether the value for (e) exceeds the value for (d), above.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NO_x emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.IV.1.
2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.IV.4.
3. The permittee shall submit quarterly deviation (excursion) reports that identify all

Emissions Unit ID: P039

exceedances of the hourly NOx emission limitation based on the records required by Part III, Section A.III.4.f above. The quarterly deviation reports shall be submitted in accordance with General Term and Condition A.1.c.ii of this permit.

V. Testing Requirements

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

- a. Emission Limitation:
NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.

Applicable Compliance Method:

This emission limitation was established by multiplying the maximum hourly MMBtu demand (2.05) by an emission factor of 4.50 lbs NOx /MMBtu (derived from emissions tests performed on February 2005) and by (1-0.70) for the control efficiency of the SCR unit. Compliance with this limitation may be demonstrated by showing that the rolling, 3-hour average SCR destruction efficiency is equal to or greater than 70%.

If the rolling, 3-hour average SCR destruction efficiency is less than 70%, compliance with this emission limitation shall be demonstrated by showing that the NOx emission rate determined in Part III, Section III.4.e is less than or equal to the emission limitation determined in in Part III, Section III.4.d.

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

- b. Emission Limitation:
39.0 tons per year of NOx from the SCR unit stack serving emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.a.

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

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.b.

GEQ**PTIA**Emissions Unit ID: **P039****Issued: To be entered upon final issuance**

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

Applicable Compliance Method:

If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

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

Applicable Compliance Method:

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

VI. Miscellaneous Requirements

None

**G E Q
PTI A**

Emissions Unit ID: **P039**

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B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P039 - Window Grade Quartz Machine No.2	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P040 - Window Grade Quartz Machine No. 3	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(C). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.
	OAC rule 3745-31-05(C) (synthetic minor to avoid PSD)	Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.41 tons per year.
	OAC rule 3745-17-07(A)	See A.I.2.a below.
	OAC rule 3745-17-11(B)(1)	Total NOx emissions from the SCR unit stack shall not exceed 39.0 tons per year for emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.
	OAC rule 3745-23-06(B)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
		PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551

GEQ**PTI A**Emissions Unit ID: **P040****Issued: To be entered upon final issuance**

pound per hour based on
Table I which is more
stringent than the
allowable PE rate from
Figure II.

See A.I.2.b below.

2. Additional Terms and Conditions

- 2.a** The permittee shall vent the emissions from this emissions unit to a selective catalytic reduction (SCR) unit while operating this emissions unit.
- 2.b** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

- 1.** For monitoring and record keeping requirements for the rolling, 12-month NO_x emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.III.1 through 7.
- 2.** For monitoring and record keeping requirements for the visible PE limitation from the

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SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.III.8.

3. For monitoring and record keeping requirements for the hourly NOx emission limitation, the permittee shall collect and record the rolling, 3-hour average of the NOx destruction efficiency of the SCR. The efficiency shall be based upon data obtained from the SCR inlet analyzer and the outlet CEMS.
4. For each 3-hour period when the NOx destruction efficiency is less than 70%, the permittee shall note the following in the operations log:
 - a. The 3-hour average NOx destruction efficiency;
 - b. The hours included in the 3-hour period;
 - c. For each hour within the period, the window grade quartz units that were operating;
 - d. For each hour within the period, the sum of the hourly NOx emissions limitations for the window grade quartz units that were operating;
 - e. For each hour within the period, the NOx emissions in pounds per hour calculated from the uncontrolled emissions measured by WGQ CEMS and the concurrent NOx destruction efficiency as determined according to Part II - Facility Specific Terms and Conditions, Section A.III.6; and
 - f. For each hour within the period, whether the value for (e) exceeds the value for (d), above.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NOx emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.IV.1.
2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.IV.4.
3. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the hourly NOx emission limitation based on the records required by Part III, Section A.III.4.f above. The quarterly deviation reports shall be submitted in accordance with General Term and Condition A.1.c.ii of this permit.

V. Testing Requirements

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

- a. Emission Limitation:

NOx emissions for this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.

Applicable Compliance Method:

This emission limitation was established by multiplying the maximum hourly MMBtu demand (2.05) by an emission factor of 4.50 lbs NOx /MMBtu (derived from emissions tests performed on February 2005) and by (1-0.70) for the control efficiency of the SCR unit. Compliance with this limitation may be demonstrated by showing that the rolling, 3-hour average SCR destruction efficiency is equal to or greater than 70%.

If the rolling, 3-hour average SCR destruction efficiency is less than 70%, compliance with this emission limitation shall be demonstrated by showing that the NOx emission rate determined in Part III, Section III.4.e is less than or equal to the emission limitation determined in Part III, Section III.4.d.

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

- b. Emission Limitation:

39.0 tons per year of NOx from the SCR unit stack serving emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.a.

- c. Emission Limitation:

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

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.b.

- d. Emission Limitation:

PE for this emissions unit alone from the SCR stack shall not exceed 0.551

GEQ**PTIA**Emissions Unit ID: **P040****Issued: To be entered upon final issuance**

pound per hour.

Applicable Compliance Method:

If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

- e. Emission Limitation:
PE for this emissions unit alone from the SCR stack shall not exceed 2.41 tons per year.

Applicable Compliance Method:

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

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P040 - Window Grade Quartz Machine No. 3	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

**GEQ
PTI A**

Emissions Unit ID: **P041**

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P041 - Window grade Quartz Machine No. 4	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(C). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.
	OAC rule 3745-31-05(C) (synthetic minor to avoid PSD)	Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.41 tons per year.
	OAC rule 3745-17-07(A)	See A.I.2.a below.
	OAC rule 3745-17-11(B)(1)	Total NOx emissions from the SCR unit stack shall not exceed 39.0 tons per year for emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.
	OAC rule 3745-23-06(B)	Visible PE from the SCR unit stack shall

GEQ**PTI A**Emissions Unit ID: **P041****Issued: To be entered upon final issuance**

not exceed 20% opacity,
as a 6-minute average,
except as provided by
rule.

PE for this emissions unit
alone from the SCR unit
stack shall not exceed
0.551 pound per hour
based on Table I which is
more stringent than the
allowable PE rate from
Figure II.

See A.I.2.b below.

2. Additional Terms and Conditions

- 2.a** The permittee shall vent the emissions from this emissions unit to a selective catalytic reduction (SCR) unit while operating this emissions unit.
- 2.b** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NO_x emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.III.1 through 7.
2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.III.8.
3. For monitoring and record keeping requirements for the hourly NO_x emission limitation, the permittee shall collect and record the rolling, 3-hour average of the NO_x destruction efficiency of the SCR. The efficiency shall be based upon data obtained from the SCR inlet analyzer and the outlet CEMS.
4. For each 3-hour period when the NO_x destruction efficiency is less than 70%, the permittee shall note the following in the operations log:
 - a. The 3-hour average NO_x destruction efficiency;
 - b. The hours included in the 3-hour period;
 - c. For each hour within the period, the window grade quartz units that were operating;
 - d. For each hour within the period, the sum of the hourly NO_x emissions limitations for the window grade quartz units that were operating;
 - e. For each hour within the period, the NO_x emissions in pounds per hour calculated from the uncontrolled emissions measured by WGQ CEMS and the concurrent NO_x destruction efficiency as determined according to Part II - Facility Specific Terms and Conditions, Section A.III.6; and
 - f. For each hour within the period, whether the value for (e) exceeds the value for (d), above.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NO_x emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.IV.1.
2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.IV.4.
3. The permittee shall submit quarterly deviation (excursion) reports that identify all

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exceedances of the hourly NO_x emission limitation based on the records required by Part III, Section A.III.4.f above. The quarterly deviation reports shall be submitted in accordance with General Term and Condition A.1.c.ii of this permit.

V. Testing Requirements

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

- a. Emission Limitation:

NO_x emissions for this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.

Applicable Compliance Method:

This emission limitation was established by multiplying the maximum hourly MMBtu demand (2.05) by an emission factor of 4.50 lbs NO_x /MMBtu (derived from emissions tests performed on February 2005) and by (1-0.70) for the control efficiency of the SCR unit. Compliance with this limitation may be demonstrated by showing that the rolling, 3-hour average SCR destruction efficiency is equal to or greater than 70%.

If the rolling, 3-hour average SCR destruction efficiency is less than 70%, compliance with this emission limitation shall be demonstrated by showing that the NO_x emission rate determined in Part III, Section III.4.e is less than or equal to the emission limitation determined in Part III, Section III.4.d.

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

- b. Emission Limitation:

39.0 tons per year of NO_x from the SCR unit stack serving emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NO_x emissions.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.a.

- c. Emission Limitation:

Visible PE from the SCR stack shall not exceed 20% opacity, as a 6-minute

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PTI A**

Emissions Unit ID: **P041**

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average, except as provided by rule.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.b.

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

Applicable Compliance Method:

If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

- e. **Emission Limitation:**
PE for this emissions unit alone from the SCR stack shall not exceed 2.41 tons per year.

Applicable Compliance Method:

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

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P041 - Window grade Quartz Machine No. 4	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

**G E Q
PTI A**

Emissions Unit ID: **P042**

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P042 - Window Grade Quartz Machine No. 5	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(C). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.
	OAC rule 3745-31-05(C) (synthetic minor to avoid PSD)	Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.41 tons per year.
	OAC rule 3745-17-07(A)	See A.I.2.a below.
	OAC rule 3745-17-11(B)(1)	Total NOx emissions from the SCR unit stack shall not exceed 39.0 tons per year for emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.
	OAC rule 3745-23-06(B)	Visible PE from the SCR unit stack shall

G E Q**PTI A**Emissions Unit ID: **P042****Issued: To be entered upon final issuance**

not exceed 20% opacity,
as a 6-minute average,
except as provided by
rule.

PE for this emissions unit
alone from the SCR unit
stack shall not exceed
0.551 pound per hour
based on Table I which is
more stringent than the
allowable PE rate from
Figure II.

See A.I.2.b below.

2. Additional Terms and Conditions

- 2.a** The permittee shall vent the emissions from this emissions unit to a selective catalytic reduction (SCR) unit while operating this emissions unit.
- 2.b** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NO_x emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.III.1 through 7.
2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.III.8.
3. For monitoring and record keeping requirements for the hourly NO_x emission limitation, the permittee shall collect and record the rolling, 3-hour average of the NO_x destruction efficiency of the SCR. The efficiency shall be based upon data obtained from the SCR inlet analyzer and the outlet CEMS.
4. For each 3-hour period when the NO_x destruction efficiency is less than 70%, the permittee shall note the following in the operations log:
 - a. The 3-hour average NO_x destruction efficiency;
 - b. The hours included in the 3-hour period;
 - c. For each hour within the period, the window grade quartz units that were operating;
 - d. For each hour within the period, the sum of the hourly NO_x emissions limitations for the window grade quartz units that were operating;
 - e. For each hour within the period, the NO_x emissions in pounds per hour calculated from the uncontrolled emissions measured by WGQ CEMS and the concurrent NO_x destruction efficiency as determined according to Part II - Facility Specific Terms and Conditions, Section A.III.6; and
 - f. For each hour within the period, whether the value for (e) exceeds the value for (d), above.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NO_x emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.IV.1.
2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.IV.4.
3. The permittee shall submit quarterly deviation (excursion) reports that identify all

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exceedances of the hourly NO_x emission limitation based on the records required by Part III, Section A.III.4.f above. The quarterly deviation reports shall be submitted in accordance with General Term and Condition A.1.c.ii of this permit.

V. Testing Requirements

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

- a. Emission Limitation:

NO_x emissions for this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.

Applicable Compliance Method:

This emission limitation was established by multiplying the maximum hourly MMBtu demand (2.05) by an emission factor of 4.50 lbs NO_x /MMBtu (derived from emissions tests performed on February 2005) and by (1-0.70) for the control efficiency of the SCR unit. Compliance with this limitation may be demonstrated by showing that the rolling, 3-hour average SCR destruction efficiency is equal to or greater than 70%.

If the rolling, 3-hour average SCR destruction efficiency is less than 70%, compliance with this emission limitation shall be demonstrated by showing that the NO_x emission rate determined in Part III, Section III.4.e is less than or equal to the emission limitation determined in Part III, Section III.4.d.

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

- b. Emission Limitation:

39.0 tons per year of NO_x from the SCR unit stack serving emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NO_x emissions.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.a.

- c. Emission Limitation:

Visible PE from the SCR stack shall not exceed 20% opacity, as a 6-minute

Emissions Unit ID: **P042**

average, except as provided by rule.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.b.

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

Applicable Compliance Method:

If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

- e. **Emission Limitation:**
PE for this emissions unit alone from the SCR stack shall not exceed 2.41 tons per year.

Applicable Compliance Method:

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

VI. Miscellaneous Requirements

None

G E Q

PTI A

Emissions Unit ID: **P042****Issued: To be entered upon final issuance****B. State Only Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P042 - Window Grade Quartz Machine No. 5	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

G E Q

PTI A

Emissions Unit ID: P043

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P043 - Window Grade Quartz Machine No. 6	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(C). Nitrogen oxides (NOx) emissions from this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.
	OAC rule 3745-31-05(C) (synthetic minor to avoid PSD)	Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.41 tons per year.
	OAC rule 3745-17-07(A)	See A.I.2.a below.
	OAC rule 3745-17-11(B)(1)	Total NOx emissions from the SCR unit stack shall not exceed 39.0 tons per year for emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NOx emissions.
	OAC rule 3745-23-06(B)	Visible PE from the SCR unit stack shall

GEQ**PTI A**Emissions Unit ID: **P043****Issued: To be entered upon final issuance**

not exceed 20% opacity,
as a 6-minute average,
except as provided by
rule.

PE for this emissions unit
alone from the SCR unit
stack shall not exceed
0.551 pound per hour
based on Table I which is
more stringent than the
allowable PE rate from
Figure II.

See A.I.2.b below.

2. Additional Terms and Conditions

- 2.a** The permittee shall vent the emissions from this emissions unit to a selective catalytic reduction (SCR) unit while operating this emissions unit.
- 2.b** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and therefore no longer a part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

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

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

1. For monitoring and record keeping requirements for the rolling, 12-month NO_x emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.III.1 through 7.
2. For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.III.8.
3. For monitoring and record keeping requirements for the hourly NO_x emission limitation, the permittee shall collect and record the rolling, 3-hour average of the NO_x destruction efficiency of the SCR. The efficiency shall be based upon data obtained from the SCR inlet analyzer and the outlet CEMS.
4. For each 3-hour period when the NO_x destruction efficiency is less than 70%, the permittee shall note the following in the operations log:
 - a. The 3-hour average NO_x destruction efficiency;
 - b. The hours included in the 3-hour period;
 - c. For each hour within the period, the window grade quartz units that were operating;
 - d. For each hour within the period, the sum of the hourly NO_x emissions limitations for the window grade quartz units that were operating;
 - e. For each hour within the period, the NO_x emissions in pounds per hour calculated from the uncontrolled emissions measured by WGQ CEMS and the concurrent NO_x destruction efficiency as determined according to Part II - Facility Specific Terms and Conditions, Section A.III.6; and
 - f. For each hour within the period, whether the value for (e) exceeds the value for (d), above.

IV. Reporting Requirements

1. For reporting requirements for the rolling, 12-month NO_x emission limitation, see Part II - Specific Facility Terms and Conditions, Section A.IV.1.
2. For reporting requirements for the visible PE limitation from the SCR unit stack, see Part II - Specific Facility Terms and Conditions, Section A.IV.4.
3. The permittee shall submit quarterly deviation (excursion) reports that identify all

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exceedances of the hourly NO_x emission limitation based on the records required by Part III, Section A.III.4.f above. The quarterly deviation reports shall be submitted in accordance with General Term and Condition A.1.c.ii of this permit.

V. Testing Requirements

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

- a. Emission Limitation:

NO_x emissions for this emissions unit alone from the SCR unit stack shall not exceed 2.77 pounds per hour.

Applicable Compliance Method:

This emission limitation was established by multiplying the maximum hourly MMBtu demand (2.05) by an emission factor of 4.50 lbs NO_x /MMBtu (derived from emissions tests performed on February 2005) and by (1-0.70) for the control efficiency of the SCR unit. Compliance with this limitation may be demonstrated by showing that the rolling, 3-hour average SCR destruction efficiency is equal to or greater than 70%.

If the rolling, 3-hour average SCR destruction efficiency is less than 70%, compliance with this emission limitation shall be demonstrated by showing that the NO_x emission rate determined in Part III, Section III.4.e is less than or equal to the emission limitation determined in Part III, Section III.4.d.

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

- b. Emission Limitation:

39.0 tons per year of NO_x from the SCR unit stack serving emissions units P038, P039, P040, P041, P042, and P043, combined, as a rolling, 12-month summation of the NO_x emissions.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.a.

- c. Emission Limitation:

Visible PE from the SCR stack shall not exceed 20% opacity, as a 6-minute

G E Quartz Inc
PTI Application: 01-01200
Issue

Facility ID: 0145000213

Emissions Unit ID: P043

average, except as provided by rule.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part II - Facility Specific Terms and Conditions, Section A.V.1.b.

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

Applicable Compliance Method:

If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

- e. **Emission Limitation:**
PE for this emissions unit alone from the SCR stack shall not exceed 2.41 tons per year.

Applicable Compliance Method:

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

VI. Miscellaneous Requirements

None

G E Q

PTI A

Emissions Unit ID: **P043****Issued: To be entered upon final issuance****B. State Only Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P043 - Window Grade Quartz Machine No. 6	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

NEW SOURCE REVIEW FORM B

PTI Number: 01-01308 Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

FACILITY DESCRIPTION Manufacturer of quartz crucibles and glass tubing. CITY/TWP Hebron

SIC CODE 3299 SCC CODE 30501401 EMISSIONS UNIT ID P038

EMISSIONS UNIT DESCRIPTION Window Grade Quartz Machine No. 1

DATE INSTALLED January 2006

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment			0.551 lb/hr	2.41
PM ₁₀					
Sulfur Dioxide					
Organic Compounds					
Nitrogen Oxides	non-attainment			2.77 lbs/hr	39.0
Carbon Monoxide					
Lead					
Other: Air Toxics	attainment			11.2 lbs/hr	49.0

APPLICABLE FEDERAL RULES:

NSPS? No

NESHAP? No

PSD? No

OFFSET POLICY? No

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: BAT is compliance with emissions limitations, rolling 12-month NOx limit, visible emissions (VE) limit. A selective catalytic reduction (SCR) unit is used to control NOx emissions. Emissions from the SCR stack are monitored with a NOx CEM. Monitoring and recordkeeping is required to demonstrate ongoing compliance with limits. The basis for the determination is OAC rules 3745-17-07; 3745-17-11; 3745-23-06; 3745-31-05 (A)(3); and 3745-31-05 (C).

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes.

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*?

X

YES

NO

IDENTIFY THE AIR CONTAMINANTS:

ammonia

NEW SOURCE REVIEW FORM B

PTI Number: 01-01308 Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

FACILITY DESCRIPTION Manufacturer of quartz crucibles and glass CITY/TWP Hebron

Emissions Unit ID: **P043**SIC CODE 3299 SCC CODE 30501401 EMISSIONS UNIT ID P039EMISSIONS UNIT DESCRIPTION Window Grade Quartz Machine No.2DATE INSTALLED January 2006

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment			0.551 lb/hr	2.41
PM ₁₀					
Sulfur Dioxide					
Organic Compounds					
Nitrogen Oxides	non-attainment			2.77 lbs/hr	39.0
Carbon Monoxide					
Lead					
Other: Air Toxics	attainment			11.2 lbs/hr	49.0

NSPS? No

NESHAP? No

PSD? No

APPLICABLE FEDERAL RULES:
OFFSET POLICY? No**WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?**

Enter Determination: BAT is compliance with emissions limitations, rolling 12-month NOx limit, visible emissions (VE) limit. A selective catalytic reduction (SCR) unit is used to control NOx emissions. Emissions from the SCR stack are monitored with a NOx CEM. Monitoring and recordkeeping is required to demonstrate ongoing compliance with limits. The basis for the determination is OAC rules 3745-17-07; 3745-17-11; 3745-23-06; 3745-31-05 (A)(3); and 3745-31-05 (C).

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes.

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$ N/A**TOXIC AIR CONTAMINANTS**

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NOIDENTIFY THE AIR CONTAMINANTS: ammonia

NEW SOURCE REVIEW FORM B

PTI Number: 01-01308

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

FACILITY DESCRIPTION Manufacturer of quartz crucibles and glass CITY/TWP Hebron

Emissions Unit ID: **P043**

SIC CODE 3299

SCC CODE 30501401

EMISSIONS UNIT ID P040

EMISSIONS UNIT DESCRIPTION Window Grade Quartz Machine No. 3

DATE INSTALLED January 2006

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment			0.551 lb/hr	2.41
PM ₁₀					
Sulfur Dioxide					
Organic Compounds					
Nitrogen Oxides	non-attainment			2.77 lbs/hr	39.0
Carbon Monoxide					
Lead					
Other: Air Toxics	attainment			11.2 lbs/hr	49.0

NSPS? No

NESHAP? No

PSD? No

APPLICABLE FEDERAL RULES:
OFFSET POLICY? No**WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?**

Enter Determination: BAT is compliance with emissions limitations, rolling 12-month NOx limit, visible emissions (VE) limit. A selective catalytic reduction (SCR) unit is used to control NOx emissions. Emissions from the SCR stack are monitored with a NOx CEM. Monitoring and recordkeeping is required to demonstrate ongoing compliance with limits. The basis for the determination is OAC rules 3745-17-07; 3745-17-11; 3745-23-06; 3745-31-05 (A)(3); and 3745-31-05 (C).

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes.

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*?

X

YES

NO

IDENTIFY THE AIR CONTAMINANTS:

ammonia

NEW SOURCE REVIEW FORM B

PTI Number: 01-01308

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

FACILITY DESCRIPTION Manufacturer of quartz crucibles and glass CITY/TWP Hebron

Emissions Unit ID: **P043**

SIC CODE 3299

SCC CODE 30501401

EMISSIONS UNIT ID P041

EMISSIONS UNIT DESCRIPTION Window grade Quartz Machine No. 4

DATE INSTALLED January 2006

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment			0.551 lb/hr	2.41
PM ₁₀					
Sulfur Dioxide					
Organic Compounds					
Nitrogen Oxides	non-attainment			2.77 lbs/hr	39.0
Carbon Monoxide					
Lead					
Other: Air Toxics	attainment			11.2 lbs/hr	49.0

NSPS? No

NESHAP? No

PSD? No

APPLICABLE FEDERAL RULES:
OFFSET POLICY? No**WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?**

Enter Determination: BAT is compliance with emissions limitations, rolling 12-month NOx limit, visible emissions (VE) limit. A selective catalytic reduction (SCR) unit is used to control NOx emissions. Emissions from the SCR stack are monitored with a NOx CEM. Monitoring and recordkeeping is required to demonstrate ongoing compliance with limits. The basis for the determination is OAC rules 3745-17-07; 3745-17-11; 3745-23-06; 3745-31-05 (A)(3); and 3745-31-05 (C).

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*?

X

YES

NO

IDENTIFY THE AIR CONTAMINANTS:

ammonia

NEW SOURCE REVIEW FORM B

PTI Number: 01-01308 Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

FACILITY DESCRIPTION Manufacturer of quartz crucibles and glass CITY/TWP Hebron

Emissions Unit ID: **P043**SIC CODE 3299 SCC CODE 30501401 EMISSIONS UNIT ID P042EMISSIONS UNIT DESCRIPTION Window Grade Quartz Machine No. 5DATE INSTALLED January 2006

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment			0.551 lb/hr	2.41
PM ₁₀					
Sulfur Dioxide					
Organic Compounds					
Nitrogen Oxides	non-attainment			2.77 lbs/hr	39.0
Carbon Monoxide					
Lead					
Other: Air Toxics	attainment			11.2 lbs/hr	49.0

NSPS? No

NESHAP? No

PSD? No

APPLICABLE FEDERAL RULES:
OFFSET POLICY? No**WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?**

Enter Determination: BAT is compliance with emissions limitations, rolling 12-month NOx limit, visible emissions (VE) limit. A selective catalytic reduction (SCR) unit is used to control NOx emissions. Emissions from the SCR stack are monitored with a NOx CEM. Monitoring and recordkeeping is required to demonstrate ongoing compliance with limits. The basis for the determination is OAC rules 3745-17-07; 3745-17-11; 3745-23-06; 3745-31-05 (A)(3); and 3745-31-05 (C).

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes.

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$ N/A**TOXIC AIR CONTAMINANTS**

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? X YES NOIDENTIFY THE AIR CONTAMINANTS: ammonia

6 NEW SOURCE REVIEW FORM B

PTI Number: 01-01308

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

FACILITY DESCRIPTION Manufacturer of quartz crucibles and glass CITY/TWP Hebron

Emissions Unit ID: **P043**

SIC CODE 3299

SCC CODE 30501401

EMISSIONS UNIT ID P043

EMISSIONS UNIT DESCRIPTION Window Grade Quartz Machine No. 6

DATE INSTALLED January 2006

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment			0.551 lb/hr	2.41
PM ₁₀					
Sulfur Dioxide					
Organic Compounds					
Nitrogen Oxides	non-attainment			2.77 lbs/hr	39.0
Carbon Monoxide					
Lead					
Other: Air Toxics	attainment			11.2 lbs/hr	49.0

NSPS? No

NESHAP? No

PSD? No

APPLICABLE FEDERAL RULES:
OFFSET POLICY? No**WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?**

Enter Determination: BAT is compliance with emissions limitations, rolling 12-month NOx limit, visible emissions (VE) limit. A selective catalytic reduction (SCR) unit is used to control NOx emissions. Emissions from the SCR stack are monitored with a NOx CEM. Monitoring and recordkeeping is required to demonstrate ongoing compliance with limits. The basis for the determination is OAC rules 3745-17-07; 3745-17-11; 3745-23-06; 3745-31-05 (A)(3); and 3745-31-05 (C).

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? Yes

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$ N/A

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*?

X

YES

NO

IDENTIFY THE AIR CONTAMINANTS:

ammonia