



State of Ohio Environmental Protection Agency

**RE: FINAL 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: 01-08046

DATE: 10/23/2001

G E Quartz Inc
Lisha Kronmann
611 ONeill Dr SE
Hebron, OH 43025

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

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.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA
XXXX

CDO



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

**Permit To Install
Terms and Conditions**

**Issue Date: 10/23/2001
Effective Date: 10/23/2001**

FINAL PERMIT TO INSTALL 01-08046

Application Number: 01-08046
APS Premise Number: 0145000213
Permit Fee: **\$5200**
Name of Facility: G E Quartz Inc
Person to Contact: Lisha Kronmann
Address: 611 O'Neill Dr SE
Hebron, OH 43025

Location of proposed air contaminant source(s) [emissions unit(s)]:

**611 O'Neill Dr SE
Hebron, Ohio**

Description of proposed emissions unit(s):

This permit to install will cover the modification of 26 emissions units at the facility - (2) high purity crucible machines, (4) arc fusion machines and (20) large diameter lathes.

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

Part I - GENERAL TERMS AND CONDITIONS

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

1. Monitoring and Related Recordkeeping 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 recordkeeping 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 recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous

calendar quarters. See B.10 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., 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. 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.

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

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 this Permit To Install.

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

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 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 To Install 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 thirty (30) 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.

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

1. Compliance Requirements

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

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the 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 recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

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. 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.

5. Termination of Permit To Install

This permit to install shall terminate within eighteen months of the effective date of the permit to install 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.

6. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. 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 the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install 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.

7. 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.

8. Applicability

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

emissions unit(s).

9. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) 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.

10. 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., 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.

G E Quartz Inc
PTI Application: **01-08046**
Issued: **10/23/2001**

Facility ID: **0145000213**

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

| <u>Pollutant</u> | <u>Tons Per Year</u> |
|------------------|-------------------------------|
| Nitrogen Oxide | 228.8 |
| Particulate | 48.63 86.05 |
| <i>Ammonia</i> | 40.4 |

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

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

1. Pursuant to OAC rule 3745-31-05(A), the permittee shall control ~~process~~–nitrogen oxide emissions from B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, **P032**, P035 and P036 by using a selective catalytic reduction unit.

2. Operational Restriction

The maximum ~~process~~ nitrogen oxide emissions for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, **P032**, P035 and P036 shall not exceed 210.7 tons per year, based upon a rolling, 12-month summation of continuous emission monitoring readouts. To ensure enforceability during the first twelve calendar months of operation after issuance of this permit to install, the emissions units listed above shall not exceed the following ~~process~~ nitrogen oxide emission limitations:

| <u>Month</u> | <u>Total Process-NO_x emissions (Tons)</u> |
|--------------|---|
| 1 | 70.0 |
| 1-2 | 82.8 |
| 1-3 | 95.6 |
| 1-4 | 108.4 |
| 1-5 | 121.2 |
| 1-6 | 134 |
| 1-7 | 146.8 |
| 1-8 | 159.6 |
| 1-9 | 172.4 |
| 1-10 | 185.2 |
| 1-11 | 198 |
| 1-12 | 210.7 |

After the first twelve calendar months of operation following the issuance of this permit, compliance with the annual ~~process~~ nitrogen oxide emission limitation shall be used upon rolling, 12-month summation of the ~~process~~ nitrogen oxide emissions.

3. Monitoring and Recordkeeping Requirements

- a. The permittee shall maintain monthly records of the following information:
- i. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of ~~process~~ nitrogen oxide emissions;
 - ii. During the first 12 calendar months of operation following the issuance of this permit, the cumulative ~~process~~ nitrogen oxide emissions for each calendar month;
- b. The permittee shall operate and maintain existing equipment to continuously monitor and record NO_x emissions from emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, **P032**, P035 and P036 in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The permittee shall maintain records of all data obtained by the continuous NO_x monitoring system including, but not limited to, parts per million NO_x on an instantaneous (one-minute) basis, emissions of NO_x in units of the applicable standard in the appropriate averaging period (e.g., hourly, hourly rolling, 3-hour, daily, 30-day rolling, **12-month rolling**, etc.), results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

- c. The permittee shall collect and record the following information for each CEM malfunction:
- i. number of lathes operating;
 - ii. identify each arc fusion machine in operation;
 - iii. the uncontrolled nitrogen oxide emissions from lathe operation by multiplying the number of lathes in operation (from term #.1.a) by the maximum, uncontrolled emission rate of the lathes (7.34 lbs/hr); and
 - iv. the uncontrolled nitrogen oxide emissions from the arc fusion machines* by using the following equation: {arc fusion machine #4 - P010} x 3.59 lbs/hr + {arc fusion machine #5 - P011} x 3.59 lbs/hr + {arc fusion machine #8 - P012} x 4.33 lb/hr + {arc fusion machine #9 - P035} x 4.33 lbs/hr.
- * if the arc fusion machine is not in operation at the time of the CEM malfunction then its emissions are zero
- d. monthly, uncontrolled nitrogen oxide emissions from each CEM malfunction.

4. Statement of Certification

Prior to the installation of the continuous NO_x monitoring system, the permittee shall submit information detailing the proposed location of the sampling site ~~in accordance with~~ *as described* in the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2 for approval by the Ohio EPA, Central Office.

Within *180 days of SCR startup* ~~60 days of the effective date of this permit~~, the permittee shall conduct certification tests of such equipment pursuant to ORC section 3704.03(I) and *as described in* 40 CFR Part 60, Appendix B, Performance Specification 2. Personnel from the appropriate Ohio EPA District Office or local air agency shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. In accordance with OAC rule 3745-15-04, all copies of the test results shall be submitted to the appropriate Ohio EPA District Office or local air agency within 30 days after the test is completed. Copies of the test results shall be sent to the appropriate Ohio EPA District Office or local air agency and the Ohio EPA, Central Office. Certification of the continuous NO_x monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I). *The Ohio EPA recommends that GE Newark Quartz follow the methodology found in* 40 CFR Part 60, Appendix B, Performance Specification 2 *to ensure that certification will be met.*

5. CEM Malfunction

In the event of a CEM malfunction, emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 will be shut down. If these emissions units are in operation when the CEM malfunctions, they are required to be shut down within an hour of the CEM malfunction. Once these emissions units are shut down, they will remain shut down until the CEM is back on-line and operational.

In order for GE to continue to operate the above emissions units after a CEM malfunction, GE may submit an alternative method approved by the Ohio EPA for estimating emissions from the arc fusion machines and large diameter lathes.

6. Reporting Requirements

- a. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month ~~process~~ nitrogen oxide emissions and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable ~~process~~ nitrogen oxide emissions levels.

These reports are due by the dates described in Part 1 - General Terms and Conditions of this permit under A.I.

- b. The permittee shall also submit annual reports which specify total ~~process~~ nitrogen oxide emissions from emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, **P032**, P035 and P036 combined for the previous calendar year. These reports shall be submitted by January 31 of each year.
- c. Data Reporting

Pursuant to OAC rule 3745-15-04, ~~3745-35-02~~, and ORC sections 3704.03(I) and 3704.031 ~~and 40 CFR Parts 60.7 and 60.13(h)~~, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NO_x values in excess of ~~the applicable limits specified in 40 CFR Part 76 or~~ any limitations specified in the terms and conditions of this permit. These reports shall also contain the total NO_x emissions for the calendar quarter (in tons), **for the first 12 months of operation of the SCR unit.**

The permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency documenting any continuous NO_x monitoring system downtime while the emissions units were on line (date, time, duration and reason) along with any corrective action(s) taken. **During the reporting period**, the permittee shall provide the emissions units 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.** ~~During the reporting period, the permittee shall provide the date, time, reason, and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The permittee shall also provide the total time, during which one or more of the emissions units vented to the SCR unit was online during the previous period. The total operating time of the emissions units and the total operating time of the analyzer while the emissions units were 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 emissions units operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment,~~

~~and/or monitoring system malfunctions. If there are malfunctions of emissions units, control equipment and/or the monitoring system, during the calendar quarter, the permittee shall submit~~ the emissions units operating time during the ~~reporting period malfunction period~~ and the date, time, reason, and corrective action(s) taken for each ~~time period of emissions unit, control equipment, and/or monitoring system~~ malfunction. The ~~total operating time of the emissions units and the~~ total operating time of the analyzer ~~while the emissions units were on line also~~ shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.

d. Electronic Data Reporting, Summary Form

Pursuant to OAC rules 3745-15-04, ~~3745-35-02~~, 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 appropriate Ohio EPA District Office or local air agency within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

7. Quality Assurance/Quality Control

Within 180 days of SCR unit startup ~~of the effective date of this permit~~, the permittee shall develop a written quality assurance/quality control plan for the continuous NO_x monitoring system designed to ensure continuous valid and representative readings of NO_x emissions in units of the applicable standard. The plan shall follow the *methodology and procedure(s) requirements* of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NO_x monitoring system must be kept on site and available for inspection during regular office hours.

8. Testing Requirements

a. Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- i. Emission Limitation: 210.7 tpy ~~process~~ nitrogen oxide emissions from B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, **P032**, P035 and P036 as a rolling 12-month summation.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by adding the uncontrolled, nitrogen oxide emissions (see term A.3.d) to the continuous NO_x monitoring system readout for nitrogen oxide

emissions. To ensure the validity of readouts from this monitoring system, the CEM for NOx emissions will certify compliance annually.

ii. Initial SCR Testing Requirements

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

- a. The emission testing shall be conducted within 3 months after issuance of the permit.
- b. The emission testing shall be conducted to demonstrate compliance with the *overall control efficiency requirement for the selective catalytic reduction unit.*
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1- 4, 7E. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA. *Note: Such an emissions test shall be conducted at the inlet as well as the outlet of the control device for purposes of determining the efficiency of the control device.*
- d. The test(s) shall be conducted while the emissions units are operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

~~Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).~~

~~Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the~~

~~emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.~~

~~A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.~~

iii. Initial dry ESP Testing Requirements

The permittee shall conduct, or have conducted, emission testing for this emissions units P010, P011, P012 and P035 in accordance with the following requirements:

- a. The emission testing shall be conducted within 3 months after issuance of the permit.*
 - b. The emission testing shall be conducted to demonstrate compliance with the hourly limits for representative emissions units listed in this permit.*
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1 - 5. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.*
 - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.*
- b. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District*

Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

B. State Enforceable Permit to Install Facility Specific Terms and Conditions

1. *Ammonia emissions shall not exceed 9.22 pounds per hour and 40.4 tons per year.*
2. *Air Toxics Language*

The permit to install for this facility was evaluated based on the actual materials and the design parameters of the Selective Catalytic Reduction (SCR) unit system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this SCR unit that was required to be modeled using data from the permit to install application 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:

Pollutant: ammonia

TLV (mg/m³): 17

Maximum Hourly Emission Rate (lbs/hr): 9.22

*Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 56.63*

MAGLC (ug/m3): 404.8

Physical changes to or changes in the method of operation of the emissions units ducted to or the method of operation of the SCR 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 still 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:

- i. 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;*
- ii. 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*
- iii. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).*

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

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

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

- ii. *documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and*
- iii. *where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.*

3. *Testing Requirement*

Emission Limitation: Ammonia emissions shall not exceed 9.22 pounds per hour and 40.4 tons per year.

Applicable Compliance Method:

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

- a. *The emission testing shall be conducted three months after SCR unit installation.*
- b. *The emission testing shall be conducted to demonstrate compliance with the allowable, hourly emission rate for ammonia.*
- c. *The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR 60, Appendix A, Methods 1 - 4 and modified Method 5. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.*
- d. *The test(s) shall be conducted while the emissions unit(s) ducted to the SCR unit are operating at or near their maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.*

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the

G E Quartz Inc
PTI Application: **01-08046**
Issued: 10/23/2001

Facility ID: **0145000213**

person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

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> |
|---|--------------------------------------|
| B001 - Large Diameter Lathe #1 - 3.78 mmBtu/hr <i>with SCR unit and CEM</i> | OAC rule 3745-31-05(A)(3) |
| | OAC rule 3745-23-06 |
| | OAC rule 3745-31-05(D) |
| | OAC rule 3745-17-07(A)(1) |
| | OAC rule 3745-17-11(B)(1) |

Applicable Emissions
Limitations/Control
Measures

~~Particulate emissions shall not exceed 0.4 pound per hour and 1.5 tons per year.~~

~~Process nitrogen oxide emissions shall not exceed 6.84 pounds per hour.~~

~~Fugitive nitrogen oxide emissions shall not exceed 0.1 pound per hour and 0.36 ton per year.~~

Nitrogen oxide emissions shall not exceed 6.84 pounds per hour.

Particulate emissions shall not exceed 2.4 tons per year.

See A.I.2.a below.

Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule.

~~The requirements in this rule are less stringent than the best available technology pursuant to OAC rule 3745-31-05(A)(3).~~

Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

~~The requirements in this rule are less stringent than the best available technology pursuant to OAC rule 3745-31-05(A)(3).~~

See A.I.2.b below.

Total ~~process~~—nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, *P032*, P035 and P036 as a rolling 12-month summation.

2. Additional Terms and Conditions

2.a Permittee shall control ~~process~~ nitrogen oxide emissions from B001 by using a selective catalytic reduction unit *with at least 85% control efficiency.*

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

II. Operational Restrictions

~~1. The burner utilization factor (BUF) for this emissions unit shall not exceed 85%.~~
None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation: ~~6.84 lbs/hr process nitrogen oxides~~
Nitrogen oxide emissions shall not exceed 6.84 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (3.78) by the emission factor 12.06 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

~~2. Emission Limitation:~~ ~~0.1 lb/hr fugitive nitrogen oxide~~
~~0.36 tpy fugitive nitrogen oxide~~

~~Applicable Compliance Method:~~

4. ***Emission Limitation:***
Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:
See Part II - State and Federally Enforceable Section A.8.a.i.

5. ***Emission Limitation:***
Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:
Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. ***Emission Limitation:***
85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:
Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

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> |
|---|--------------------------------------|--|
| B001 - Large Diameter Lathe #1 - 3.78 mmBtu/hr <i>with SCR unit and CEM</i> | | |

2. Additional Terms and Conditions

- 2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

29

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Issued: 10/23/2001

Emissions Unit ID: B001

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> |
|--|--------------------------------------|--|
| B002 - Large Diameter Lathe #2 - 3.78 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 6.84 pounds per hour. Particulate emissions shall not exceed 2.4 tons per year. See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

Issued: 10/23/2001

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from B002 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- 1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 6.84 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (3.78) by the emission factor 12.06 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

- 2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation

in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:
 Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. Emission Limitation:
 Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. Emission Limitation:
 Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. Emission Limitation:
 85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

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> |
|--|--------------------------------------|--|
| B002 - Large Diameter Lathe #2 - 3.78 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

- 2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: B003

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> |
|--|--------------------------------------|--|
| B003 - Large Diameter Lathe #3 - 3.78 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 6.84 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

Applicable Compliance Method:

If required, 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

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Facility ID: 0145000213

Emissions Unit ID: B003

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> |
|--|--------------------------------------|--|
| B003 - Large Diameter Lathe #3 - 3.78 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: B004

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> |
|--|--------------------------------------|--|
| B004 - Large Diameter Lathe #4 - 3.78 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 6.84 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from B004 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 6.84 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (3.78) by the emission factor 12.06 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

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Emissions Unit ID: B004

3. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. Emission Limitation:
Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. Emission Limitation:
Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. Emission Limitation:
85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

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> |
|--|--------------------------------------|--|
| B004 - Large Diameter Lathe #4 - 3.78 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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PTI A_j

Emissions Unit ID: B005

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> |
|--|--------------------------------------|--|
| B005 - Large Diameter Lathe #5 - 3.78 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 6.84 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

G E Quartz Inc

PTI A] 11-11-11 01-00-10

Facility ID: **0145000213**

Emissions Unit ID: B005

Applicable Compliance Method:

If required, 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: B005

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> |
|--|--------------------------------------|--|
| B005 - Large Diameter Lathe #5 - 3.78 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B006

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> |
|--|--------------------------------------|--|
| B006 - Large Diameter Lathe #6 - 3.78 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 6.84 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from B006 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 6.84 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (3.78) by the emission factor 12.06 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

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> |
|--|--------------------------------------|--|
| B006 - Large Diameter Lathe #6 - 3.78 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: B023

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> |
|---|--------------------------------------|--|
| B023 - Large Diameter Lathe #10 - 5.04 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 5.87 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from B023 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (5.04) by the emission factor 7.77 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:

Emissions Unit ID: B023

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

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. Emission Limitation:

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. Emission Limitation:

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. Emission Limitation:

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

G E Q

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Emissions Unit ID: B023

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> |
|---|--------------------------------------|--|
| B023 - Large Diameter Lathe #10 - 5.04 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: B024

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> |
|---|--------------------------------------|--|
| B024 - Large Diameter Lathe #11 - 5.04 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 5.87 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour, based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

G E Quartz Inc

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Facility ID: 0145000213

Emissions Unit ID: B024

- 2.a. Permittee shall control nitrogen oxide emissions from B024 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (5.04) by the emission factor 7.77 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Emissions Unit ID: B024

Applicable Compliance Method:

If required, 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B024

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> |
|---|--------------------------------------|--|
| B024 - Large Diameter Lathe #11 - 5.04 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B025

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> |
|---|--------------------------------------|--|
| B025 - Large Diameter Lathe #12 - 5.04 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 5.87 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

Applicable Compliance Method:

If required, 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B025

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> |
|---|--------------------------------------|--|
| B025 - Large Diameter Lathe #12 - 5.04 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping 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> |
|---|--------------------------------------|--|
| B026 - Large Diameter Lathe #13 - 5.04 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 5.87 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from B026 by using a selective catalytic reduction unit with at least 85% control efficiency.

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

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (5.04) by the emission factor 7.77 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

G E Quartz Inc

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Facility ID: 0145000213

Emissions Unit ID: B026

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> |
|---|--------------------------------------|--|
| B026 - Large Diameter Lathe #13 - 5.04 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B027

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> |
|---|--------------------------------------|--|
| B027 - Large Diameter Lathe #14 - 5.04 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 5.87 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from B027 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (5.04) by the emission factor 7.77 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:

Emissions Unit ID: B027

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

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. Emission Limitation:

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. Emission Limitation:

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. Emission Limitation:

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B027

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> |
|---|--------------------------------------|--|
| B027 - Large Diameter Lathe #14 - 5.04 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B028

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> |
|---|--------------------------------------|--|
| B028 - Large Diameter Lathe #16 - 5.04 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 5.87 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

Applicable Compliance Method:

If required, 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B028

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> |
|---|--------------------------------------|--|
| B028 - Large Diameter Lathe #16 - 5.04 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping 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> |
|---|--------------------------------------|--|
| B029 - Large Diameter Lathe #17 - 5.04 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 5.87 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from B029 by using a selective catalytic reduction unit with at least 85% control efficiency.

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

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (5.04) by the emission factor 7.77 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

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> |
|---|--------------------------------------|--|
| B029 - Large Diameter Lathe #17 - 5.04 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B030

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> |
|--|--------------------------------------|--|
| B030 - Large Diameter Lathe #18 - 6.3 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 7.34 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a.** Permittee shall control nitrogen oxide emissions from B030 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- 1.** Emission Limitation:
Nitrogen oxide emissions shall not exceed 7.34 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (6.3) by the emission factor 7.77 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

- 2.** Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

G E Q

PTI A_j

Emissions Unit ID: B030

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> |
|--|--------------------------------------|--|
| B030 - Large Diameter Lathe #18 - 6.3 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B031

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> |
|---|--------------------------------------|--|
| B031 - Large Diameter Lathe #15 - 5.04 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 5.87 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a.** Permittee shall control nitrogen oxide emissions from B031 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b** The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- 1. Emission Limitation:**
Nitrogen oxide emissions shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (5.04) by the emission factor 7.77 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

- 2. Emission Limitation:**
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

- 3. Emission Limitation:**
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: B031

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> |
|---|--------------------------------------|--|
| B031 - Large Diameter Lathe #15 - 5.04 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping 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> |
|---|--------------------------------------|---|
| P009 - High Purity Crucible Machine #3 | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 3.3 pounds per hour. <i>Particulate emissions shall not exceed 3.25 tons per year.</i> The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-11(B)(1). |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, <i>except as provided by rule.</i> |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.74 pounds per hour and 3.25 tons per year. <i>based on Table I.</i> |
| | OAC rule 3745-23-06 | The requirements specified in this rule are less stringent than the best available technology pursuant to OAC rule 3745-31-05(A)(3). <i>See A.I.2.a below.</i> |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 18.1 tons per year for emissions units P008, P009 and P025 as rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a** ~~Permittee shall only burn natural gas.~~ *The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.*

II. Operational Restrictions

1. The maximum production for P008, P009 and P025 shall not exceed 18.1 tons of nitrogen oxide and 75,416 crucibles, based upon a rolling, 12-month summation of the crucible production figures. To ensure enforceability during the first twelve calendar months of operation after issuance of this permit to install, emissions units P008, P009 and P025 shall not exceed the following nitrogen oxide emission limitations and crucible production limitations:

Maximum Allowable Cumulative Emission(s) and Production For:

| Month(s) | Nitrogen Oxide (lbs) | Crucible Production (#) |
|-----------------|-----------------------------|--------------------------------|
| 1 | 12,000 | 25,000 |
| 1-2 | 14,200 | 29,538 |
| 1-3 | 16,400 | 34,166 |
| 1-4 | 18,600 | 38,750 |
| 1-5 | 20,800 | 43,333 |
| 1-6 | 23,000 | 47,916 |
| 1-7 | 25,200 | 52,500 |
| 1-8 | 27,400 | 57,083 |
| 1-9 | 29,600 | 61,666 |
| 1-10 | 31,800 | 66,250 |
| 1-11 | 34,000 | 70,833 |
| 1-12 | 36,200 | 75,416 |

After the first twelve calendar months of operation following the issuance of this permit, compliance with the annual nitrogen oxide emission limitation and crucible production limitation shall be based upon rolling, 12-month summations of the nitrogen oxide emissions and crucible production.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information:
- a. the total number of crucibles produced in P008, P009 and P025;

- b. the total uncontrolled nitrogen oxide emissions, in pounds per month which are calculated using the following formula:

$$\{\text{number of crucibles produced monthly in P008}\} * \{1.02 \text{ lbs/crucible}\} + \{\text{number of crucibles produced monthly in P025}\} * \{1.02 \text{ lbs/crucible}\} + \{\text{number of crucibles produced monthly in P009}\} * \{0.48 \text{ lb/crucible}\}$$
- c. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of nitrogen oxide emissions and number of crucibles produced; and
- d. during the first 12 calendar months of operation following the issuance of this permit, the cumulative nitrogen oxide emissions and number of crucibles produced for each calendar month.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month crucible production and nitrogen oxide emissions and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable crucible production and nitrogen oxide emissions levels.

These reports are due by the dates described in Part 1 - General Terms and Conditions of this permit under A.I.

2. The permittee shall also submit annual reports which specify total nitrogen oxide emissions and total crucible production from emissions units P008, P009 and P025 combined for the previous calendar year. These reports shall be submitted by January 31 of each year.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation: ~~2.88 lbs/hr nitrogen oxides~~
~~18.1 tons/yr nitrogen oxides~~

Nitrogen oxide emissions shall not exceed 3.3 pounds per hour.

Applicable Compliance Method:

~~For the pound per hour limitation, Multiply the *maximum* number of crucibles produced in emissions units P009 *hourly (6) daily* by the emission factor 0.48 lbs/crucible (derived from stack test performed by GE Newark Quartz Plant in 3/98) and then divide by the daily hours of~~

operation.

~~For the ton per year limitation, multiply the total number of crucibles produced in emissions units P008 and P025 in a year by the emission factor 1.02 lbs/crucible (derived from stack test) and total number of crucibles produced in emissions units P009 in a year by the emission factor 0.48 lb/crucible (derived from stack test). Convert to tons by dividing by 2000.~~

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1 through 4 and 7E.

2. Emission Limitation:

Visible emissions shall not exceed 20% opacity, as a six-minute average, *except as provided by rule.*

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40CFRPart60, Method 9 and the procedures in OAC rule 3745-17-03(A)(1).

3. Emission Limitation: ~~0.74 lbs/hr particulate emissions~~

3.25 tons/yr particulate emissions

Particulate emissions shall not exceed 0.74 pound per hour based on Table I.

Applicable Compliance Method:

A maximum particulate emission rate of 0.017 lb/hr was determined in a stack test performed 8/99 at the GE Newark Quartz Plant. ~~For the ton per year limitation, multiply the hourly emission rate derived from the stack test by the maximum hours in a year (8760).~~

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1 - 5.

4. *Emission Limitation:*

Particulate emissions shall not exceed 3.25 tons per year.

Applicable Compliance Method:

Multiply the hourly emission rate (0.017 lb/hr) derived from a stack test performed in 8/99 by the maximum hours in a year (8760) and divide by 2000 to convert to tons per year.

5. *Emission Limitation:*

Nitrogen oxide emissions shall not exceed 18.1 tons per year.

Applicable Compliance Method:

Multiply the total number of crucibles produced in emissions units P008 and P025 in a year by the emission factor 1.02 lbs/crucible (derived from stack test) and total number of crucibles produced in emissions units P009 in a year by the emission factor 0.48 lb/crucible (derived from stack test). To convert to ton(s), divide by 2000.

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Emissions Unit ID: P009

VI. Miscellaneous Requirements

None.

G E Q

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Emissions Unit ID: P009

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> |
|---|--------------------------------------|--|
| P009 - High Purity Crucible Machine #3 | | |

2. Additional Terms and Conditions

- 2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping 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> |
|---|--------------------------------------|
| P010: P-14 Arc Fusion Machine #4 <i>with SCR unit, CEM, dry ESP and supplemental dust control systems</i> | OAC rule 3745-31-05(A)(3) |
| | OAC rule 3745-23-06 |
| | OAC rule 3745-31-05(D) |
| | OAC rule 3745-17-07(A)(1) |
| | OAC rule 3745-17-11(B)(1) |

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Applicable Emissions
Limitations/Control
Measures

Emissions Unit ID: P010

~~Particulate emissions shall not exceed 0.6 pound per hour and 2.54 tons per year.~~

~~Process nitrogen oxide emissions shall not exceed 3.59 pounds per hour.~~

~~Fugitive nitrogen oxide emissions shall not exceed 0.18 pound per hour and 0.78 ton per year.~~

Nitrogen oxide emissions shall not exceed 3.59 pounds per hour.

Particulate emissions shall not exceed 7.0 tons per year.

See A.I.2.a - b below.

Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, *except as provided by rule.*

~~The requirements in this rule are less stringent than the best available technology pursuant to OAC rule 3745-31-05(A)(3).~~

Particulate emissions shall not exceed 1.6 pounds per hour ~~and 7.0 tons per year~~ *based on Table I.*

~~The requirements in this rule are less stringent than the best available technology pursuant to OAC rule 3745-31-05(A)(3).~~

See A.I.2.c below.

Total ~~process~~ nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, **P032**, P035 and P036 as a rolling 12-month summation.

2. Additional Terms and Conditions

- 2.a** Permittee shall control ~~process~~ nitrogen oxide emissions from P010 by using a selective catalytic reduction unit with at least a 85% control efficiency.
- 2.b** Permittee shall control particulate emissions from P010 using a ~~Spencer System with at least a 99% control efficiency, a dry electrostatic precipitator with at least a 90% control efficiency, a American Air Filter with at least a 99% control efficiency and a Torit baghouse with at least a 99.9% control efficiency.~~ *series of dust collection systems and a dry electrostatic precipitator (electric arc fusion blockhouse).*
- 2.c** *The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.*

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for P010:
 - a. the number of crucibles produced per emissions unit;
 - b. monthly hours of operation.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation: ~~3.78 lbs/hr process nitrogen oxides~~

Nitrogen oxide emissions shall not exceed 3.59 pounds per hour.

Applicable Compliance Method:

Multiply the total number of crucibles produced in emissions unit P010 monthly by the emission factor 2.4 lbs/crucible (derived from a stack test performed by GE Newark Quartz in 12/96), then divide by the monthly hours of operation and multiply by the uncontrolled factor of the SCR unit

(0.15).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-4, 7E.

2. Emission Limitation: ~~0.18 lb/hr fugitive nitrogen oxide~~
~~0.78 tpy fugitive nitrogen oxide~~

Applicable Compliance Method:

~~For the pound per hour limitation, multiply the total number of crucibles produced in emissions unit P010 monthly by the emission factor 0.0179 lb/crucible (derived from a stack test performed by GE Newark Quartz in 12/96), then divide by the monthly hours of operation.~~

~~For the ton per year limitation, multiply the total number of crucibles produced in emissions unit P010 annually by the emission factor 0.0179 lb/crucible (derived from a stack test performed by GE Newark Quartz in 12/96), then divide by the annual hours of operation.~~

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-4, 7E.

2. ***Emission Limitation:***
Visible emissions shall not exceed 20% opacity, as a six-minute average, ***except as provided by rule.***

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40CFRPart60, Method 9 and the procedures in OAC rule 3745-17-03(A)(1).

- 4.3. Emission Limitation: ~~0.6 lb/hr particulate emissions-~~
~~2.54 tons/yr particulate emissions~~
Particulate emissions shall not exceed 1.6 pounds per hour based on Table I.

Applicable Compliance Method:

Compliance with the hourly particulate emission limit shall be determined by using the following equation:

$L + F + P + C + V$ where

| | | | | |
|---|---|--------------------------|---|--|
| L | = | 0.0005 lb/hr | = | loading of sand into crucible pots (lb/hr) |
| F | = | 0.37 lb/hr | = | crucible formation through electric arc fusion (lb/hr) |
| P | = | 0.00017 lb/hr | = | crucible pop-off hood (lb/hr) |
| C | = | 0.1125 lb/hr | = | hot sand clean out (lb/hr) |
| V | = | 0.1 lb/hr | = | vacuum maintains sand in pot during preparation and fusion |

(lb/hr)

To calculate L,

multiply the hourly process weight rate (484 lbs/hr) by the transfer emission factor (0.174 lb/ton) and the uncontrolled factor of the Spencer *baghouse* system (0.01) and then divide by 2000 to convert to pound(s).

The transfer emission factor was derived from using an AP-42 emission factor from Table 11.12-2 for sand and aggregate transfer to elevated bin for concrete batching (0.029 lb/ton).—~~This factor was multiplied by the number of transfer points (6) which are (2) sand loading hopper to crucible furnace cart, (2) crucible cutting and reclaim station and (2) hot sand clean out fines.~~

To calculate F,

multiply the maximum, hourly crucible production (10) by the particulate emission factor of 0.37 lb/crucible (derived from a stack test performed in 12/96) and the uncontrolled factor of the electrostatic precipitator (0.1).

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

- i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit expiration.***
- ii. The emission testing shall be conducted to demonstrate compliance with the maximum hourly particulate emissions from crucible formation through arc fusion.***
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Methods 1 through 5. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.***
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.***

To calculate P,

multiply the hourly process weight rate (484 lbs/hr) by the transfer emission factor (0.058 lb/ton) and the uncontrolled factor of the American Air Filter (0.01) and then divide by 2000 to convert to pound(s).

The transfer emission factor was derived from using an AP-42 emission factor from Table 11.12-2 for sand and aggregate transfer to elevated bin for concrete batching (0.029 lb/ton). This factor

was multiplied by the number of transfer points 2 - crucible pop-off hoods.

To calculate C,

multiply the maximum hot sand dumped per hour (150 lbs/hr) by the collected emission factor (0.75 lb/lb) and the uncontrolled factor of the Torit baghouse (0.001).

For collected emission factor, the company estimates that 75% of the hot sand recovered goes to the baghouse while the other 25% remains in the crucible processing area.

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

- i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit expiration.
- ii. The emission testing shall be conducted to demonstrate compliance maximum hourly particulate emissions (0.1125 lb/hr) from hot sand clean out.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Methods 1 through 5. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

To calculate V,

the particulate emission contribution from V is based on the company's assumption all makeup oil addition is released as particulate; approximately 0.05 lb/hr of oil is added to each of the two pumps.

~~Annual particulate emissions are calculated by summing maximum L + F + P + C + V values and then multiplying by 8760 hours per year and dividing by 2000 to convert to ton(s).~~

~~The permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1 - 5.~~

4. ***Emission Limitation:***
85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - A.8.a.ii.

5. *Emission Limitation:*

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation.

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - A.8.a.i.

6. *Emission Limitation:*

Particulate emissions shall not exceed 7.0 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying the pound per hour emission rate in A.V.3 by 8760 hours of operation and dividing by 2000 pounds to convert ton ton(s).

7. *Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).*

Personnel from the appropriate Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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

VI. Miscellaneous Requirements

G E Quartz Inc

PTI A1 01 00010

Facility ID: **0145000213**

Emissions Unit ID: P010

None.

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Emissions Unit ID: P010

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> |
|---|--------------------------------------|--|
| P010: P-14 Arc Fusion Machine #4 <i>with SCR unit, CEM, dry ESP and supplemental dust control systems</i> | | |

2. Additional Terms and Conditions

- 2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: P010

G E Q

PTI A_j

Emissions Unit ID: P011

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> |
|--|--------------------------------------|--|
| P011: P-14 Arc Fusion Machine #5 with SCR unit, CEM, dry ESP and supplemental dust control systems | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 3.59 pounds per hour. Particulate emissions shall not exceed 7.0 tons per year. See A.I.2.a - b. below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 1.6 pounds per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.c below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from P011 by using a selective catalytic reduction unit with at least a 85% control efficiency.
- 2.b. Permittee shall control particulate emissions from P011 using a series of dust collection systems and a dry electrostatic precipitator (electric arc fusion blockhouse).
- 2.c. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for P011:
 - a. the number of crucibles produced per emissions unit;
 - b. monthly hours of operation.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 3.59 pounds per hour.

Applicable Compliance Method:

Multiply the total number of crucibles produced in emissions unit P011 monthly by the emission factor 2.4 lbs/crucible (derived from a stack test performed by GE Newark Quartz in 12/96), then divide by the monthly hours of operation and multiply by the uncontrolled factor of the SCR unit (0.15).

2. Emission Limitation:
Visible emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40CFRPart60, Method 9 and the procedures in OAC rule 3745-17-03(A)(1).

3. **Emission Limitation:**

Particulate emissions shall not exceed 1.6 pounds per hour based on Table I.

Applicable Compliance Method:

Compliance with the hourly particulate emission limit shall be determined by using the following equation:

$L + F + P + C + V$ where

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

To calculate L,

multiply the hourly weight rate (484 lbs/hr) by the transfer emission factor (0.174 lb/ton) and the uncontrolled factor of the Spencer baghouse system (0.01) and then divide by 2000 to convert to pound(s).

The transfer emission factor was derived from using an AP-42 emission factor from Table 11.12-2 for sand and aggregate transfer to elevated bin for concrete batching (0.029 lb/ton).

To calculate F,

multiply the maximum, hourly crucible production (10) by the particulate emission factor of 0.37 lb/crucible (derived from a stack test performed in 12/96) and the uncontrolled factor of the electrostatic precipitator (0.1).

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

- i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit expiration.
- ii. The emission testing shall be conducted to demonstrate compliance with the maximum hourly particulate emissions from crucible formation through arc fusion.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Methods 1 through 5.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

To calculate P,

multiply the hourly weight rate (484 lbs/hr) by the transfer emission factor (0.058 lb/ton) and the uncontrolled factor of the American Air Filter (0.01) and then divide by 2000 to convert to pound(s).

The transfer emission factor was derived from using an AP-42 emission factor from Table 11.12-2 for sand and aggregate transfer to elevated bin for concrete batching (0.029 lb/ton). This factor was multiplied by the number of transfer points, two crucible pop-off hoods.

To calculate C,

multiply the maximum hot sand dumped per hour (150 lbs/hr) by the collected emission factor (0.75 lb/lb) and the uncontrolled factor of the Torit baghouse (0.001).

For collected emission factor, the company estimates that 75% of the hot sand recovered goes to the baghouse while the other 25% remains in the crucible processing area.

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

- i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit expiration.
- ii. The emission testing shall be conducted to demonstrate compliance maximum hourly particulate emissions (0.1125 lb/hr) from hot sand clean out.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Methods 1 through 5. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

To calculate V,

the particulate emission contribution from V is based on the company's assumption all makeup oil addition is released as particulate; approximately 0.05 lb/hr of oil is added to each of the two pumps.

4. Emission Limitation:
85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - A.8.a.ii.

5. Emission Limitation:
Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation.

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - A.8.a.i.

6. Emission Limitation:
Particulate emissions shall not exceed 7.0 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying the pound per hour emission rate in A.V.3 by 8760 hours of operation and dividing by 2000 pounds to convert ton ton(s).

7. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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

District Office.

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> |
|--|--------------------------------------|--|
| P011: P-14 Arc Fusion Machine #5 with SCR unit, CEM, dry ESP and supplemental dust control systems | | |

2. Additional Terms and Conditions

- 2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

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Emissions Unit ID: P011

None.

VI. Miscellaneous Requirements

None.

G E Q

PTI A_j

Emissions Unit ID: P012

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> |
|--|--------------------------------------|--|
| P012 - P-272 Arc Fusion Machine #8 with SCR unit, CEM, dry ESP and supplemental dust control systems | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 4.33 pounds per hour. Particulate emissions shall not exceed 8.10 tons per year. See A.I.2.a - b below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 1.9 pounds per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.c below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

G E Quartz Inc

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Facility ID: **0145000213**

Emissions Unit ID: P012

- 2.a. Permittee shall control nitrogen oxide emissions from P012 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. Permittee shall control particulate emissions from P012 using a series of dust collection systems and a dry electrostatic precipitator (electric arc fusion blockhouse).
- 2.c. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for P012:
 - a. the number of crucibles produced per emissions unit;
 - b. monthly hours of operation.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 4.33 pounds per hour.

Applicable Compliance Method:

Multiply the total number of crucibles produced in emissions unit P012 monthly by the emission factor 4.81 lbs/crucible (derived from a stack test performed by GE NEWark Quartz in 12/96), then divide by the monthly hours of operation and multiply by the uncontrolled factor of the SCR unit (0.15).

2. Emission Limitation:
Visible emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance

with 40CFRPart60, Method 9 and the procedures in OAC rule 3745-17-03(A)(1).

3. Emission Limitation:
Particulate emissions shall not exceed 1.9 pounds per hour based on Table I.

Applicable Compliance Method:

Compliance with the hourly particulate emission limit shall be determined by using the following equation:

$L + F + P + C + V$ where

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

To calculate L,

multiply the hourly weight rate (600 lbs/hr) by the transfer emission factor (0.174 lb/ton) and the uncontrolled factor of the Spencer baghouse system (0.01) and then divide by 2000 to convert to pound(s).

The transfer emission factor was derived from using an AP-42 emission factor from Table 11.12-2 for sand and aggregate transfer to elevated bin for concrete batching (0.029 lb/ton).

To calculate F,

multiply the maximum, hourly crucible production (6) by the particulate emission factor of 0.774 lb/crucible (derived from a stack test performed in 12/96) and the uncontrolled factor of the electrostatic precipitator (0.1).

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

- i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit expiration.
- ii. The emission testing shall be conducted to demonstrate compliance with the maximum hourly particulate emissions from crucible formation through arc fusion.
- iii. The following test method(s) shall be employed to demonstrate compliance with the

Emissions Unit ID: P012

allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Methods 1 through 5. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

To calculate P,

multiply the hourly weight rate (600 lbs/hr) by the transfer emission factor (0.058 lb/ton) and the uncontrolled factor of the American Air Filter (0.01) and then divide by 2000 to convert to pound(s).

The transfer emission factor was derived from using an AP-42 emission factor from Table 11.12-2 for sand and aggregate transfer to elevated bin for concrete batching (0.029 lb/ton). This factor was multiplied by the number of transfer points, two crucible pop-off hoods.

To calculate C,

multiply the maximum hot sand dumped per hour (210 lbs/hr) by the collected emission factor (0.75 lb/lb) and the uncontrolled factor of the Torit baghouse (0.001).

For collected emission factor, the company estimates that 75% of the hot sand recovered goes to the baghouse while the other 25% remains in the crucible processing area.

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

- i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit expiration.
- ii. The emission testing shall be conducted to demonstrate compliance maximum hourly particulate emissions (0.1125 lb/hr) from hot sand clean out.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Methods 1 through 5. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

To calculate V,

the particulate emission contribution from V is based on the company's assumption all makeup oil

addition is released as particulate; approximately 0.05 lb/hr of oil is added to each of the two pumps.

4. Emission Limitation:
85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - A.8.a.ii.

5. Emission Limitation:
Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation.

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - A.8.a.i.

6. Emission Limitation:
Particulate emissions shall not exceed 7.0 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying the pound per hour emission rate in A.V.3 by 8760 hours of operation and dividing by 2000 pounds to convert ton ton(s).

7. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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

G E Quartz Inc

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Facility ID: **0145000213**

Emissions Unit ID: P012

Ohio EPA, Central District Office.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: P012

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> |
|--|--------------------------------------|--|
| P012 - P-272 Arc Fusion Machine #8 with SCR unit, CEM, dry ESP and supplemental dust control systems | | |

2. Additional Terms and Conditions

- 2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: P012

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Emissions Unit ID: P014

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> |
|--|--------------------------------------|--|
| P014 - Large Diameter Lathe #7 - 4.56 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 8.25 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from P014 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 8.25 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (4.56) by the emission factor 12.06 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:

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Emissions Unit ID: P014

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> |
|--|--------------------------------------|--|
| P014 - Large Diameter Lathe #7 - 4.56 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: P015

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> |
|--|--------------------------------------|--|
| P015 - Large Diameter Lathe #8 - 4.56 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 8.25 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from P015 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (4.56) by the emission factor 12.06 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: P015

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> |
|--|--------------------------------------|--|
| P015 - Large Diameter Lathe #8 - 4.56 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping 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> |
|--|--------------------------------------|--|
| P021 - 0.78 mmBtu Large Diameter Repair Lathe #1 with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 1.00 pound per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from P021 by using a selective catalytic reduction unit with at least 85% control efficiency.

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

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 1.00 pound per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (0.78) by the emission factor 8.5 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. **Emission Limitation:**

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. **Emission Limitation:**

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. **Emission Limitation:**

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

G E Quartz Inc

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Facility ID: 0145000213

Emissions Unit ID: P021

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> |
|--|--------------------------------------|--|
| P021 - 0.78 mmBtu Large Diameter Repair Lathe #1 with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: P025

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> |
|---|--------------------------------------|---|
| P025 - High Purity Crucible Machine #1 | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 4.13 pounds per hour. |
| | OAC rule 3745-17-07(A)(1) | Particulate emissions shall not exceed 4.6 tons per year. |
| | OAC rule 3745-17-11(B)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-23-06 | Particulate emissions shall not exceed 1.042 pounds per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.a below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 18.1 tons per year for emissions units P008, P009 and P025 as rolling 12-month summation |

2. Additional Terms and Conditions

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

II. Operational Restrictions

1. The maximum production for P008, P009 and P025 shall not exceed 18.1 tons of nitrogen oxide and 75,416 crucibles, based upon a rolling, 12-month summation of the crucible production figures. To ensure enforceability during the first twelve calendar months of operation after issuance of this permit to install, emissions units P008, P009 and P025 shall not exceed the following nitrogen oxide emission limitations and crucible production limitations:

| Maximum Allowable Cumulative Emission(s) and Production For: | | |
|--|----------------------|-------------------------|
| Month(s) | Nitrogen Oxide (lbs) | Crucible Production (#) |
| 1 | 12,000 | 25,000 |
| 1-2 | 14,200 | 29,538 |
| 1-3 | 16,400 | 34,166 |
| 1-4 | 18,600 | 38,750 |
| 1-5 | 20,800 | 43,333 |
| 1-6 | 23,000 | 47,916 |
| 1-7 | 25,200 | 52,500 |
| 1-8 | 27,400 | 57,083 |
| 1-9 | 29,600 | 61,666 |
| 1-10 | 31,800 | 66,250 |
| 1-11 | 34,000 | 70,833 |
| 1-12 | 36,200 | 75,416 |

After the first twelve calendar months of operation following the issuance of this permit, compliance with the annual nitrogen oxide emission limitation and crucible production limitation shall be based upon rolling, 12-month summations of the nitrogen oxide emissions and crucible production.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information:
 - a. the total number of crucibles produced in P008, P009 and P025;
 - b. the total uncontrolled nitrogen oxide emissions, in pounds per month which are calculated using the following formula:

$$\{\text{number of crucibles produced monthly in P008}\} * \{1.02 \text{ lbs/crucible}\} + \{\text{number of crucibles produced monthly in P025}\} * \{1.02 \text{ lbs/crucible}\} + \{\text{number of crucibles produced monthly in P009}\} * \{0.48 \text{ lb/crucible}\}$$

Emissions Unit ID: P025

- c. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of nitrogen oxide emissions and number of crucibles produced; and
- d. during the first 12 calendar months of operation following the issuance of this permit, the cumulative nitrogen oxide emissions and number of crucibles produced for each calendar month.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month crucible production and nitrogen oxide emissions and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable crucible production and nitrogen oxide emissions levels.

These reports are due by the dates described in Part 1 - General Terms and Conditions of this permit under A.I.

2. The permittee shall also submit annual reports which specify total nitrogen oxide emissions and total crucible production from emissions units P008, P009 and P025 combined for the previous calendar year. These reports shall be submitted by January 31 of each year.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 4.13 pounds per hour.

Applicable Compliance Method:

Multiply the maximum number of crucibles produced in emissions unit P025 hourly (3.5) by the emission factor 1.02 lbs/crucible (derived from stack test performed by GE Newark Quartz Plant in 3/98).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Method 1-4, 7E.

2. Emission Limitation:
Visible emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40CFRPart60, Method 9 and the procedures in OAC rule 3745-17-03(A)(1).

3. Emission Limitation:
Particulate emissions shall not exceed 1.042 pounds per hour based on Table I.

Applicable Compliance Method:

A maximum particulate emission rate of 0.057 lb/hr was determined in a stack test performed 8/99 at the GE Newark Quartz Plant.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1 - 5.

4. Emission Limitation:
Particulate emissions shall not exceed 4.6 tons per year.

Applicable Compliance Method:

Multiply the hourly emission rate (0.057 lb/hr) derived from a stack test performed in 8/99 by the maximum hours in a year (8760) and divide by 2000 to convert to tons per year.

5. Emission Limitation:
Nitrogen oxide emissions shall not exceed 18.1 tons per year.

Applicable Compliance Method:

Multiply the total number of crucibles produced in emissions units P008 and P025 in a year by the emission factor 1.02 lbs/crucible (derived from stack test) and total number of crucibles produced in emissions units P009 in a year by the emission factor 0.48 lb/crucible (derived from stack test). Convert to tons by dividing by 2000.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: P032

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> |
|--|--------------------------------------|--|
| P032 - Large Diameter Lathe #9 - 5.04 mmBtu/hr with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 5.87 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from P032 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 5.87 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (5.04) by the emission factor 7.77 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:

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

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. Emission Limitation:

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. Emission Limitation:

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. Emission Limitation:

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

G E Quartz Inc

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Facility ID: 0145000213

Emissions Unit ID: P032

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> |
|--|--------------------------------------|--|
| P032 - Large Diameter Lathe #9 - 5.04 mmBtu/hr with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: P035

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> |
|---|--------------------------------------|--|
| P035 - P272 Arc Fusion Machine #9 with SCR unit, CEM, dry ESP and supplemental dust control systems | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 4.33 pounds per hour. Particulate emissions shall not exceed 8.1 tons per year. See A.I.2.a - A.I.2.b below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 1.9 pounds per hour, based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.c below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from P035 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. Permittee shall control particulate emissions from P035 using a series of dust collection systems and a dry electrostatic precipitator (electric arc fusion blockhouse).
- 2.c. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for P035:
 - a. the number of crucibles produced per emissions unit;
 - b. monthly hours of operation.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 4.33 pounds per hour.

Applicable Compliance Method:

Multiply the total number of crucibles produced in emissions unit P012 monthly by the emission factor 4.81 lbs/crucible (derived from a stack test performed by GE Newark Quartz in 12/96), then divide by the monthly hours of operation and multiply by the uncontrolled factor of the SCR unit (0.15).

2. Emission Limitation:

Emissions Unit ID: P035

Visible emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined through visible emissions observations performed in accordance with 40CFRPart60, Method 9 and the procedures in OAC rule 3745-17-03(A)(1).

3. Emission Limitation:

Particulate emissions shall not exceed 1.90 pounds per hour based on Table I.

Applicable Compliance Method:

Compliance with the hourly particulate emission limit shall be determined by using the following equation:

$L + F + P + C + V$ where

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

To calculate L,

multiply the hourly weight rate (600 lbs/hr) by the transfer emission factor (0.174 lb/ton) and the uncontrolled factor of the Spencer baghouse system (0.01) and then divide by 2000 to convert to pound(s).

The transfer emission factor was derived from using an AP-42 emission factor from Table 11.12-2 for sand and aggregate transfer to elevated bin for concrete batching (0.029 lb/ton).

To calculate F,

multiply the maximum, hourly crucible production (6) by the particulate emission factor of 0.774 lb/crucible (derived from a stack test performed in 12/96) and the uncontrolled factor of the electrostatic precipitator (0.1).

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

- i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit expiration.
- ii. The emission testing shall be conducted to demonstrate compliance with the maximum hourly particulate emissions from crucible formation through arc fusion.

- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Methods 1-4 and 5. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

To calculate P,

multiply the hourly weight rate (600 lbs/hr) by the transfer emission factor (0.058 lb/ton) and the uncontrolled factor of the American Air Filter (0.01) and then divide by 2000 to convert to pound(s).

The transfer emission factor was derived from using an AP-42 emission factor from Table 11.12-2 for sand and aggregate transfer to elevated bin for concrete batching (0.029 lb/ton). This factor was multiplied by the number of transfer points, two crucible pop-off hoods.

To calculate C,

multiply the maximum hot sand dumped per hour (210 lbs/hr) by the collected emission factor (0.75 lb/lb) and the uncontrolled factor of the Torit baghouse (0.001).

For collected emission factor, the company estimates that 75% of the hot sand recovered goes to the baghouse while the other 25% remains in the crucible processing area.

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

- i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit expiration.
- ii. The emission testing shall be conducted to demonstrate compliance maximum hourly particulate emissions (0.1125 lb/hr) from hot sand clean out.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Methods 1-4 and 5. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum

Emissions Unit ID: P035

capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

To calculate V,

the particulate emission contribution from V is based on the company's assumption all makeup oil addition is released as particulate; approximately 0.05 lb/hr of oil is added to each of the two pumps.

4. Emission Limitation:
85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

5. Emission Limitation:
Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation.

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - A.8.a.i.

6. Emission Limitation:
Particulate emissions shall not exceed 8.1 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying the pound per hour emission rate in A.V.3 by 8760 hours of operation and dividing by 2000 pounds to convert ton ton(s).

7. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Central District Office within

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Emissions Unit ID: P035

30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Central District Office.

VI. Miscellaneous Requirements

None.

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Emissions Unit ID: P035

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> |
|--|--------------------------------------|--|
| P035 - P-272 Arc Fusion Machine #9 with SCR unit, CEM, dry ESP and supplemental dust collection system | | |

2. Additional Terms and Conditions

- 2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

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G E Quartz Inc

PTI A] 01 00010

Facility ID: **0145000213**

Emissions Unit ID: P035

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Emissions Unit ID: P036

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> |
|--|--------------------------------------|--|
| P036 - 0.88 Large Diameter Repair Lathe #2 with SCR unit and CEM | OAC rule 3745-31-05(A)(3) | Nitrogen oxide emissions shall not exceed 1.1 pounds per hour. |
| | | Particulate emissions shall not exceed 2.4 tons per year. |
| | | See A.I.2.a below. |
| | OAC rule 3745-17-07(A)(1) | Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule. |
| | OAC rule 3745-17-11(B)(1) | Particulate emissions shall not exceed 0.55 pound per hour based on Table I. |
| | OAC rule 3745-23-06 | See A.I.2.b below. |
| | OAC rule 3745-31-05(D) | Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 as a rolling 12-month summation. |

2. Additional Terms and Conditions

- 2.a. Permittee shall control nitrogen oxide emissions from P036 by using a selective catalytic reduction unit with at least 85% control efficiency.
- 2.b. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology requirements.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

1. Emission Limitation:
Nitrogen oxide emissions shall not exceed 1.1 pounds per hour.

Applicable Compliance Method:

Multiply the hourly mmBtu demand (0.88) by the emission factor 8.5 lb/mmBtu (derived from stack test performed in March of 1998) and the uncontrolled factor of the SCR unit (15%), then divide by 100.

2. Emission Limitation:
Particulate emissions shall not exceed 0.55 pound per hour based on Table I.

Applicable Compliance Method:

The maximum, actual hourly emission rate (0.4 lb/hr) was derived from a stack test performed in May of 1998. If required, the permittee shall demonstrate compliance with this emission limitation in accordance with 40 CFR Part 60, Methods 1-5.

3. Emission Limitation:

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

Applicable Compliance Method:

If required, compliance shall be determined through visible 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).

4. Emission Limitation:

Total nitrogen oxide emissions shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P010, P011, P012, P014, P015, P021, P032, P035 and P036 combined as a rolling 12-month summation.

Applicable Compliance Method:

See Part II - State and Federally Enforceable Section A.8.a.i.

5. Emission Limitation:

Particulate emissions shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual limit shall be demonstrated by multiplying either the pound per hour emission rate established from the May 1998 stack test or an hourly emission rate derived from an approved compliance test in A.V.2 by 8760 hours of operation and dividing by 2000 pounds per ton.

6. Emission Limitation:

85% control efficiency for nitrogen oxide emissions

Applicable Compliance Method:

Compliance with this control efficiency will be determined by the testing requirement in Part II - State and Federally Enforceable Section A.8.a.ii.

VI. Miscellaneous Requirements

None.

G E Quartz Inc

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Facility ID: 0145000213

Emissions Unit ID: P036

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> |
|--|--------------------------------------|--|
| P036 - 0.88 Large Diameter Repair Lathe #2 with SCR unit and CEM | | |

2. Additional Terms and Conditions

2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046 Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

SIC CODE 3299 SCC CODE 1-03-006-03 EMISSIONS UNIT ID B001

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #1 - 3.78 mmBtu/hr

DATE INSTALLED 6/82

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 | | | | | |
| PM ₁₀ | Attainment | 0.4 | 1.5 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | Attainment | 6.84 | ----- | 6.84 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$ not given

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*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046 Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299 SCC CODE 1-03-006-03 EMISSIONS UNIT ID B002

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #2 - 3.78 mmBtu/hr

DATE INSTALLED 6/82

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.5 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 6.84 | ----- | 6.84 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID B003

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #3 - 3.78 mmBtu/hr

DATE INSTALLED 12/83

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.5 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 6.84 | ----- | 6.84 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID B004

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #4 - 3.78 mmBtu/hr

DATE INSTALLED 12/83

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.5 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 6.84 | ----- | 6.84 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$ not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SC

PTI Num

FACILITY

Emissions Unit ID: P036

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

SIC CODE 3299 SCC CODE 1-03-006-03 EMISSIONS UNIT ID B005

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #5 - 3.78 mmBtu/hr

DATE INSTALLED 12/83

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.5 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 6.84 | ----- | 6.84 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? YES X NO

IDENTIFY THE AIR CONTAMINANTS:

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID B006

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #6 - 3.78 mmBtu/hr

DATE INSTALLED 12/83

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.5 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 6.84 | ----- | 6.84 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID B023

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #10 - 5.04 mmBtu/hr

DATE INSTALLED 3/96 (mod. 12/97)

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 5.87 | ----- | 5.87 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SC

PTI Num

FACILITY

Emissions Unit ID: P036

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

SIC CODE 3299 SCC CODE 1-03-006-03 EMISSIONS UNIT ID B024

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #11 - 5.04 mmBtu/hr

DATE INSTALLED 3/96 (mod. 8/97)

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 5.87 | ----- | 5.87 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a
OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID B025

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #12 - 5.04 mmBtu/hr

DATE INSTALLED 3/96 (mod. 8/97)

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 5.87 | ----- | 5.87 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID B026

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #13 - 5.04 mmBtu/hr

DATE INSTALLED 3/96 (mod. 12/97)

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 5.87 | ----- | 5.87 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NPSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SC

PTI Num

FACILITY

Emissions Unit ID: P036

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

SIC CODE 3299 SCC CODE 1-03-006-03 EMISSIONS UNIT ID B027

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #14 - 5.04 mmBtu/hr

DATE INSTALLED 11/96

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 5.87 | ----- | 5.87 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a
OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID B028

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #16 - 5.04 mmBtu/hr

DATE INSTALLED 2/97

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 5.87 | ----- | 5.87 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID B029

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #17 - 5.04 mmBtu/hr

DATE INSTALLED 2/97

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 5.87 | ----- | 5.87 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SC

PTI Num

FACILITY

Emissions Unit ID: P036

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

SIC CODE 3299 SCC CODE 1-03-006-03 EMISSIONS UNIT ID B030

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe - 6.3 mmBtu/hr

DATE INSTALLED 2/97

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.63 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 7.34 | ----- | 7.34 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a
OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID B031

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #15 - 5.04 mmBtu/hr

DATE INSTALLED 10/93

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 5.87 | ----- | 5.87 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID P009

EMISSIONS UNIT DESCRIPTION High Purity Crucible Machine #3

DATE INSTALLED 12/90

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 | | | | | |
| PM ₁₀ | attainment | 0.742 | 3.25 | 0.742 | 3.25 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 3.3 | ----- | 3.3 | 18.1 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

Not given

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*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SC

PTI Num

FACILITY

Emissions Unit ID: P036

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

SIC CODE 3299 SCC CODE ----- EMISSIONS UNIT ID P010

EMISSIONS UNIT DESCRIPTION P-14 Arc Fusion Machine #4

DATE INSTALLED 1988

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 | | | | | |
| PM ₁₀ | attainment | 0.6 | 2.54 | 1.6 | 7 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 3.59 | ----- | 3.59 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05; dry ESP and existing dust collection systems

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a
OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE -----

EMISSIONS UNIT ID

P011

EMISSIONS UNIT DESCRIPTION P-14 Arc Fusion Machine #5

DATE INSTALLED

1988

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 | | | | | |
| PM ₁₀ | attainment | 0.6 | 2.54 | 1.6 | 7 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 3.59 | ----- | 3.59 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05; dry ESP and existing dust collection systems

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY?

n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$not given

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*?

YES

X

NO

IDENTIFY THE AIR CONTAMINANTS:

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046 Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299 SCC CODE ----- EMISSIONS UNIT ID P012

EMISSIONS UNIT DESCRIPTION P-272 Arc Fusion Machine #8

DATE INSTALLED 1990

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 | | | | | |
| PM ₁₀ | attainment | 0.72 | 3.17 | 1.9 | 8.1 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 4.33 | ----- | 4.33 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05; dry ESP and existing dust collection systems

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046 Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299 SCC CODE 1-03-006-03 EMISSIONS UNIT ID P014

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #7 - 4.56 mmBtu/hr

DATE INSTALLED 6/88

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.5 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 8.25 | ----- | 8.25 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SC

PTI Num

FACILITY

Emissions Unit ID: P036

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

SIC CODE 3299 SCC CODE 1-03-006-03 EMISSIONS UNIT ID P015

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #8 - 4.56 mmBtu/hr

DATE INSTALLED 6/88

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.5 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 8.25 | ----- | 8.25 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a
OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID P021

EMISSIONS UNIT DESCRIPTION Large Diameter Repair Lathe #1

DATE INSTALLED 8/93

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 0.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 1 | ----- | 1 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID P025

EMISSIONS UNIT DESCRIPTION High Purity Crucible Machine #1

DATE INSTALLED 1/92

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 | | | | | |
| PM ₁₀ | attainment | 1.042 | 4.6 | 1.042 | 4.6 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 4.13 | 18.1 | 4.13 | 18.1 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

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*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SC

PTI Num

FACILITY

Emissions Unit ID: P036

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

SIC CODE 3299 SCC CODE 1-03-006-03 EMISSIONS UNIT ID P032

EMISSIONS UNIT DESCRIPTION Large Diameter Lathe #9 - 5.04 mmBtu/hr

DATE INSTALLED 8/94

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 1.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 5.87 | ----- | 5.87 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a
OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046 Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299 SCC CODE ----- EMISSIONS UNIT ID P035

EMISSIONS UNIT DESCRIPTION P-272 Arc Fusion Machine #9

DATE INSTALLED 6/95

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 | | | | | |
| PM ₁₀ | attainment | 0.76 | 3.3 | 1.9 | 8.1 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 4.33 | ----- | 4.33 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a NESHAP? n/a PSD? n/a OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05; dry ESP and existing dust collection systems

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 01-08046

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

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

Emissions Unit ID: P036

SIC CODE 3299

SCC CODE 1-03-006-03

EMISSIONS UNIT ID P036

EMISSIONS UNIT DESCRIPTION Large Diameter Repair Lathe #2

DATE INSTALLED 6/96

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 | | | | | |
| PM ₁₀ | attainment | 0.4 | 0.6 | 0.55 | 2.4 |
| Sulfur Dioxide | | | | | |
| Organic Compounds | | | | | |
| Nitrogen Oxides | attainment | 1.1 | ----- | 1.1 | 210.7 |
| Carbon Monoxide | | | | | |
| Lead | | | | | |
| Other: Air Toxics | | | | | |

APPLICABLE FEDERAL RULES:

NSPS? n/a

NESHAP? n/a

PSD? n/a

OFFSET POLICY? n/a

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

Use of a selective catalytic reduction unit to control NOx emissions; CEM; 17-07;17-11;23-06;31-05

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? n/a

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$not given

TOXIC AIR CONTAMINANTS

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

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____