



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: 01-08151

DATE: 10/24/00

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 Director's 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

CDO



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

FINAL PERMIT TO INSTALL 01-08151

Application Number: 01-08151
APS Premise Number: 0145000213
Permit Fee: **\$200**
Name of Facility: G E Quartz Inc
Person to Contact: Lisha Kronmann
Address: 611 ONeill Dr SE
Hebron, OH 43025

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

**611 ONeill Dr SE
Hebron, Ohio**

Description of proposed emissions unit(s):

High purity crucible machine number 2.

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

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.11 below if no deviations occurred during the quarter.

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- 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

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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

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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.

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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 are inadequate 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 prove to be inadequate 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. Best Available Technology

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

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10. 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.

11. 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.

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

<u>Pollutant</u>	<u>Tons Per Year</u>
PM	4.6
NOx	18.1

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>
P008 - High Purity Crucible Machine No. 2 (modification)	OAC rule 3745-31-05(A)(3)	Nitrogen oxide emissions shall not exceed 4.13 pounds per hour. 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.
	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 1.042 pounds per hour and 4.6 tons per year. The requirements specified in this rule are less stringent than the best available technology pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-23-06	Total nitrogen oxide emissions shall not exceed 18.1 tons per year for emissions units P008, P009 and P025 as rolling 12-month summation
	OAC rule 3745-31-05(D)	

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2. Additional Terms and Conditions**2.a** Permittee shall only burn natural gas.**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:

Month(s)	Nitrogen Oxide (lbs)	Maximum Allowable Cumulative Emission(s) and Production For: 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;

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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: 4.13 lbs/hr nitrogen oxides

18.1
tons/yr
nitrogen
oxides

Applicable Compliance Method:

For the pound per hour limitation, multiply the total number of crucibles produced in emissions units P008 daily by the emission factor 1.02 lbs/crucible (derived from stack test performed by GE

Emissions Unit ID: P008

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, Method 1-4, 7E.

- 2. Emission Limitation: visible emissions shall not exceed 20% opacity, as a six-minute average

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: 1.042 lbs/hr particulate emissions

4.6
tons/yr
particul
ate
emissio
ns

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. 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.

VI. Miscellaneous Requirements

None.

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B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P008 - High Purity Crucible Machine No. 2		

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: 01-08151 Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

FACILITY DESCRIPTION High purity crucible machine number 2. CITY/TWP Hebron

SIC CODE 3299 SCC CODE 1-03-006-03 EMISSIONS UNIT ID P008

EMISSIONS UNIT DESCRIPTION High Purity Crucible Machine No. 2

DATE INSTALLED Upon Permit Issuance

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	0.057	0.25	1.042	4.6
Sulfur Dioxide	attainment	0.0016	0.007	0.0016	0.007
Organic Compounds	attainment	0.028	0.12	0.028	0.12
Nitrogen Oxides	attainment	3.6	18.1	3.6	18.1
Carbon Monoxide	attainment	0.21	0.9	0.21	0.9
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?

OAC rule 3745-31-05; OAC rule 3745-17-07(A)(1); OAC rule 3745-17-11(B)(1); OAC rule 3745-18-06(A); OAC rule 3745-23-06; Cumulative nitrogen oxide emissions from emissions units P008, P009 and P025 shall not exceed 17.3 lbs/hr and 18.1 tons/yr; Cumulative crucible production shall not exceed 75,416 crucibles.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? NO.

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$ not submitted

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 NOIDENTIFY THE AIR CONTAMINANTS: n/a

NEW SOURCE REVIEW FORM B

PTI Number: 01-08151 Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

FACILITY DESCRIPTION High purity crucible machine number 2. CITY/TWP Hebron

Please describe any hard copy information is being submitted with this recommendation (Please send hard copy information to Pam McGraner, DAPC Central Office - Air Quality Modeling and Planning):

NONE

Please provide any additional permit specific notes as you deem necessary:

NONE

Permit To Install Synthetic Minor Write-Up

Source Description

The GE Newark Quartz Plant has submitted a synthetic minor PTI application for its high purity crucible machine no.2, P008. This emissions unit in conjunction with two other high purity crucible machines (P009 and P025) will receive federally enforceable limits on nitrogen oxide emissions. This limitation will be achieved through limiting the crucible production as well as nitrogen oxide emissions. Two limiting factors have to be used for these emissions unit because all three of the high purity machines do not emit the same amount of nitrogen oxide during the production of crucibles. Therefore, the number of allowable crucibles that can be produced was calculated from the machine that emits the least amount of nitrogen oxide during crucible production to allow the facility productional flexibility. However, to ensure that this number of crucibles is not made on the machines that emit more nitrogen oxides per crucible, a limit has been placed on the amount of nitrogen oxide that can be emitted monthly and annually from all three machines.

Facility Description and Emissions

The General Electric Newark Quartz Plant (GE) is located in Licking County. The facility manufactures fused quartz crucibles and glass tubing.

In the summer of 1996, GE made the Central District Office aware of noncompliance issues concerning nitrogen oxide emissions from it's arc fusion machines. Later on in the same year, GE performed stack tests which disclosed noncompliance with SIP allowables for particulate matter emissions from the arc fusion machines. In 1997, testing of the lathes proved that nitrogen oxide emissions are not just generated in the process of burning natural gas, but also, in the tube shaping process. These nitrogen oxide emissions are significant. To reduce nitrogen oxide emissions below the PSD threshold, GE is installing a Selective Catalytic Reduction (SCR) system on the arc fusion machines and lathes as well as limiting production from the high purity crucible machines. To meet the SIP allowable for PM, GE is installing a wet electrostatic precipitator on the arc fusion machines.

As a result of these findings, almost every previously permitted emissions unit at GE is undergoing a permit modification. Originally, P008 was included in a synthetic minor PTI application (PTI 01-8046) for twenty seven other air emissions unit at the facility. However, plans to modify P008 that have taken place since the submittal of PTI 01-8046 application, have resulted in a PTI application for the changes to P008 which increase actual and potential emissions.

The following table lists the uncontrolled nitrogen oxide PTE, unrestricted nitrogen oxide PTE which includes the SCR

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PTI Number: 01-08151

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

FACILITY DESCRIPTION High purity crucible machine number 2. CITY/TWP Hebron

and the restricted nitrogen oxide PTE for each emissions unit and the facility's PTE:

Source	Description	Approx. Uncontrolled NO _x PTE (from process) ¹	Approx. Unrestricted NO _x PTE (from process) ¹	Restricted NO _x PTE (tpy)
B001	LD Lathe #1	170	25.5	210.7 for all lathes and arc fusion machines
B002	LD Lathe #2	170	25.5	210.7 for all lathes and arc fusion machines
B003	LD Lathe #3	170	25.5	210.7 for all lathes and arc fusion machines
B004	LD Lathe #4	170	25.5	210.7 for all lathes and arc fusion machines
B005	LD Lathe #5	170	25.5	210.7 for all lathes and arc fusion machines
B006	LD Lathe #6	170	25.5	210.7 for all lathes and arc fusion machines
B023	LD Lathe #10	154.4	23.2	210.7 for all lathes and arc fusion machines
B024	LD Lathe #11	154.4	23.2	210.7 for all lathes and arc fusion machines
B025	LD Lathe #12	154.4	23.2	210.7 for all lathes and arc fusion machines
B026	LD Lathe #13	154.4	23.2	210.7 for all lathes and arc fusion machines
B027	LD Lathe #14	154.4	23.2	210.7 for all lathes and arc fusion machines
B028	LD Lathe #16	154.4	23.2	210.7 for all lathes and arc fusion machines
B029	LD Lathe #17	154.4	23.2	210.7 for all lathes and arc fusion machines
B030	LD Lathe #18	199.4	29.9	210.7 for all lathes and arc fusion machines
B031	LD Lathe #15	154.4	23.2	210.7 for all lathes and arc fusion machines
P008	High Purity Crucible Machine #2	15.6	15.6	18.1 for all High Purity Machines
P009	High Purity Crucible Machine #3	12.6	12.6	18.1 for all High Purity Machines
P010	P-14 Crucible Machine #4	105	15.7	210.7 for all lathes and arc fusion machines
P011	P-14 Crucible Machine #5	105	15.7	210.7 for all lathes and arc fusion machines
P012	P-272 Crucible Machine #8	126	19.0	210.7 for all lathes and arc fusion machines
P014	LD Lathe #7	204.7	30.7	210.7 for all lathes and arc fusion machines
P015	LD Lathe #8	204.7	30.7	210.7 for all lathes and arc fusion machines
P021	Repair LD Lathe #1	9.6 (CDO calcs.)	1.44(CDO calcs.)	210.7 for all lathes and arc fusion machines

NEW SOURCE REVIEW FORM B

PTI Number: 01-08151

Facility ID: 0145000213

FACILITY NAME G E Quartz Inc

FACILITY DESCRIPTION High purity crucible machine number 2. CITY/TWP Hebron

P025	High Purity Crucible Machine #1	15.6	15.6	18.1 for all High Purity Machines
P032	LD Lathe #9	154.40	23.16	210.7 for all lathes and arc fusion machines
P035	P-272 Crucible Machine #9	126	19.0	210.7 for all lathes and arc fusion machines
Z017	Repair Lathe #2	10.8(CDO calcs.)	1.63(CDO calcs.)	210.7 for all lathes and arc fusion machines
	TOTAL:	3544.6	569.33	228.8
note ¹ - includes emissions generated from the process; not fugitive emissions				

Emissions Unit Limitation

The federally enforceable limitations for P008 shall restrict nitrogen oxide emissions, in conjunction with all other emissions units that emit nitrogen oxide, below PSD levels. The limitation on crucible production in conjunction with nitrogen oxide emissions from emissions units P008, P009 and P025 ensure that the requested 18.1 tons per year will not be exceeded. The crucible production limit and nitrogen oxide emission limitation is enforced through a cumulative, monthly usage table for the 12 months following the issuance of this permit. After the initial 12 months, compliance will be shown by a monthly, 12 month summation of the crucible production and nitrogen oxide emission totals. The emissions shall not exceed 18.1 tons per year per 12 month summation if the crucible production limitation in conjunction with the nitrogen oxide emission limitation are not exceeded.

Conclusion

This synthetic minor PTI will effectively restrict the nitrogen oxide emissions below the PSD significance level for nitrogen oxide. The combination of the crucible production limitations and monthly nitrogen oxide emissions limits, recordkeeping and reporting incorporated into the terms and conditions shall ensure that compliance with this permit is achieved.

Please fill in the following for this permit:

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
PM	4.6
NOx	18.1
SO ₂	0.007
CO	0.9
OC	0.12