



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL  
MARION COUNTY**

**CERTIFIED MAIL**

Street Address:

122 S. Front Street

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

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 03-17026**

**Fac ID: 0351000051**

**DATE: 5/9/2006**

Glen Gery Corp - Iberia Plt  
Greg Burns  
PO Box 207 Co Rd 9  
Iberia, OH 43325

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  
309 South Fourth Street, Room 222  
Columbus, Ohio 43215

Sincerely,

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

CC: USEPA

NWDO



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**Permit To Install  
Terms and Conditions**

**Issue Date: 5/9/2006  
Effective Date: 5/9/2006**

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**FINAL PERMIT TO INSTALL 03-17026**

Application Number: 03-17026  
Facility ID: 0351000051  
Permit Fee: **\$1200**  
Name of Facility: Glen Gery Corp - Iberia Plt  
Person to Contact: Greg Burns  
Address: PO Box 207 Co Rd 9  
Iberia, OH 43325

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

**Co Rd 9  
Iberia, Ohio**

Description of proposed emissions unit(s):

**Synthetic minor permit application for the tunnel kiln (P008) and the shapes kiln (P011).**

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

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

## 2. Scheduled Maintenance/Malfunction Reporting

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

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

## 3. Risk Management Plans

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

#### 4. Title IV Provisions

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

#### 5. Severability Clause

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

#### 6. General Requirements

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

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## 7. Fees

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

## 8. Federal and State Enforceability

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

## 9. Compliance Requirements

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

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

#### 10. Permit-To-Operate Application

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

#### 11. Best Available Technology

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

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**12. Air Pollution Nuisance**

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

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### **13. Permit-To-Install**

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

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

### **1. Compliance Requirements**

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

### **2. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or 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 (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

### **3. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder.

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The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

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#### **4. Authorization To Install or Modify**

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

#### **5. Construction of New Sources(s)**

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

#### **6. Public Disclosure**

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

#### **7. Applicability**

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

#### **8. Construction Compliance Certification**

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

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

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

**C. Permit-To-Install Summary of Allowable Emissions**

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

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

<u>Pollutant</u>	<u>Tons Per Year</u>
SO <sub>2</sub>	233.08
CO	92.86
PE	28.65
NOx	27.07
HF	9.96
HCl	9.90

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**Glen Gery Corp - Iberia Plt**  
**PTI Application: 02-17026**  
**Issue**

**Facility ID: 0351000051**

Emissions Unit ID: P008

**Part II - FACILITY SPECIFIC TERMS AND CONDITIONS**

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

None

**B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions**

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>
P008 - 47.6 mmBtu/hr natural gas direct fired tunnel kiln with fluorine cascade absorber (modification of PTI #03-13047 issued on 4/26/00 and corrected 5/08/00) modification to revise HF & HCl emissions	OAC rule 3745-31-05(A)(3)	6.54 lbs particulate emissions (PE)/hr, 28.65 tons PE/yr
		0.43 lb volatile organic compounds (VOC)/hr, 1.88 tons VOC/yr
		182.60 lbs sulfur dioxide (SO <sub>2</sub> )/hr
		6.18 lbs nitrogen oxides (NO <sub>x</sub> )/hr, 27.07 tons NO <sub>x</sub> /yr
		21.20 lbs carbon monoxide (CO)/hr, 92.86 tons CO/yr
		2.25 lbs hydrogen chloride (HCl)/hr, 9.86 tons HCl/yr
	See A.I.2.a	
	OAC rule 3745-31-05(C)	230.0 tons SO <sub>2</sub> per rolling 12-month period (See A.I.2.b)
		2.18 lbs hydrogen fluoride (HF)/hr, 9.55 tons HF/rolling 12-month period (see A.I.2.g)
	OAC rule 3745-17-07(A)	See A.I.2.c
OAC rule 3745-17-11(B)	See A.I.2.d	
OAC rule 3745-18-06	See A.I.2.e	

## 2. Additional Terms and Conditions

**2.a** The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(C).

**2.b** The SO<sub>2</sub> emissions from this emissions unit shall not exceed 230.0 tons per rolling 12-month period based on raw material input restrictions (See A.II.1). The 230.0 tons of SO<sub>2</sub> per rolling 12-month period is a federally enforceable limitation established for purposes of avoiding "Prevention of Significant Deterioration" (PSD) applicability.

The rolling SO<sub>2</sub> emission limitation for emissions unit P008 was initially established in Permit to Install (PTI) #03-13047 issued on April 26, 2000 and subsequently issued as a correct copy on May 8, 2000, and, as a result, rolling SO<sub>2</sub> emission records exist. The applicant shall use the existing records to determine compliance upon startup under this permit. Therefore, it is not necessary to establish federally enforceable restrictions for the first 12 months of operation under the provisions of this permit.

**2.c** This emissions unit is exempt from the visible emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.

**2.d** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(ii), Figure II of OAC rule 3745-17-11 does not apply. Also, Table I does not apply since the facility is located in Marion county.

**2.e** The emissions limitations established by this rule are less stringent than those established by OAC rule 3745-31-05.

**2.f** The 6.54 lbs PE/hr, 28.65 tons PE/yr, 0.43 lb VOC/hr, 1.88 tons VOC/yr, 6.18 lbs NO<sub>x</sub>/hr, 27.07 tons NO<sub>x</sub>/yr, 21.20 lbs CO/hr, 92.86 tons CO/yr, and 2.25 lbs HCl/hr emission limitations were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

**2.g** This permit establishes a federally enforceable limitation of 9.55 tons HF per rolling 12-month period for the purpose of having the controlled HF emission

rate represent the potential to emit of the emissions unit. The potential to emit is based on a maximum of 2.19 pounds HF per hour (see below) and a maximum operating schedule of 8,760 hours per year. The federally enforceable HF limitation shall be established through OAC rule 3745-31-05(C), and includes the following requirements:

- (i) HF emissions shall be controlled by a fluorine cascade absorber to a maximum mass emission rate of 2.18 lbs/hr.
- (ii) The fluorine cascade absorber shall achieve a minimum control efficiency of 61.5% (100% capture).

The 9.55 tons HF per rolling 12-month period is a federally enforceable limitation established for purposes of avoiding "Maximum Achievable Control Technology" applicability.

## II. Operational Restrictions

1. The maximum rolling 12-month process weight rate of raw material for emissions unit P008 is limited by the following equation:

$$\sum_{M=1}^{12} S3 \leq 230.0$$

Where,

M = the increment of the rolling 12-month period;

S3 = see A.III.1.c for calculation details

2. The permittee shall only burn natural gas in this emissions unit.
3. The pressure drop across the fluorine cascade absorber shall be maintained within the range of 0.3 to 3.0 millibars while the emissions unit is in operation.
4. Any limestone material which has been used in the fluorine cascade absorber to remove HF must be processed ("peeled") to remove any absorbed HF prior to reuse in the cascade absorber.
5. The material in the limestone silo associated with the fluorine cascade absorber shall

Emissions Unit ID: P008

be maintained at a level no lower than the minimum fill level specified by the manufacturer's specifications.

### III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the process weight rate of each brick body raw material for each month;
  - b. the weight fraction of sulfur in each brick body raw material employed;
  - c. the SO<sub>2</sub> emissions from the raw materials, in tons, calculated as follows:
    - i. for each brick body raw materials where stack test emission data is not available:
 
$$S1 \text{ (tons/month)} = \text{weight fraction sulfur in each raw material} \times 1.998 \text{ (conversion factor)} \times Pr$$

where:  
 Pr = the monthly process weight rate (in tons) of each raw material  
 S1 = SO<sub>2</sub> emissions (in tons per month);
    - ii. for each brick body raw material where stack test emission data is available:
 
$$S2 = \text{SO}_2 \text{ emissions (based on emission testing data), in lbs/ton} \times Pr / 2000$$

where:  
 Pr = the monthly process weight rate (in tons) of each raw material  
 S2 = SO<sub>2</sub> emissions (in tons per month);
    - iii. for all brick body raw materials:
 
$$S3 = [\text{summation of } S1_i] \text{ for } i = 1, 2, \dots, n + [\text{summation of } S2_j] \text{ for } j = 1, 2, \dots, m$$

where:  
 i = a brick body raw material for which stack testing emission data is not available  
 j = a brick body raw material for which stack testing emission data is available  
 S1<sub>i</sub> = the SO<sub>2</sub> emission rate (tons/month) for raw material i

S2j = the SO<sub>2</sub> emission rate (tons/month) for raw material j  
S3 = total monthly SO<sub>2</sub> emissions, in tons

- d. The rolling, 12-month summation of the monthly SO<sub>2</sub> emissions, in tons.
  - e. The number of hours the emissions unit was in operation.
  - f. The average hourly SO<sub>2</sub> emissions [S3 (from A.III.1.c) x 2000/A.III.1.e], in pounds (average).
2. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
  3. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the fluorine cascade scrubber while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the fluorine cascade scrubber on daily basis.
  4. The permittee shall maintain a record of any time period during which the permittee reuses limestone material that has not been processed ("peeled") to remove any absorbed HF prior to reuse in the cascade absorber.
  5. The permittee shall properly install, operate, and maintain an alarm system to ensure the material level in the limestone silo associated with the fluorine cascade absorber is maintained at a level no lower than the minimum fill level specified by the manufacturer's specifications. The permittee shall maintain records that document any time periods when the alarm system indicated that the minimum fill level in the limestone silo was not maintained.

#### **IV. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the following:

Emissions Unit ID: P008

- a. the rolling, 12-month emission limitation for SO<sub>2</sub>.
- b. the rolling, 12-month process weight rate restriction in A.II.1.

These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

3. The permittee shall submit deviation (excursion) reports that identify all periods of time during which the following fluorine cascade absorber parameters were not maintained in accordance with requirements contained in this permit:
  - a. the pressure drop across the fluorine cascade absorber;
  - b. any time periods the material level in the limestone silo associated with the fluorine cascade absorber was not maintained at the level specified in A.II.5.

These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

4. The permittee shall submit deviation (excursion) reports that identify any time period during which the permittee reuses limestone material that has not been processed ("peeled") to remove any absorbed HF prior to reuse in the cascade absorber. Each report shall be submitted within 5 days after the deviation occurs.

## V. Testing Requirements

1. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
  - a. The emission testing shall be conducted within 3 months after the emissions unit begins operation utilizing the fluorine cascade absorber.
  - b. The emission testing shall be conducted to demonstrate compliance with the following:
    - i. allowable hourly mass emission rate for HCl
    - ii. allowable hourly mass emission rate for HF
    - iii. control device efficiency requirements for HF;
  - c. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for HF, Methods 1-4 and 26 or 26A of 40 CFR Part 60, Appendix A; for HCl, Methods 1-4 and 26 or 26A of 40 CFR Part

60, Appendix A. The test method(s) which must be employed to demonstrate compliance with the control efficiency limitations for HF are specified below. 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 its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency; and
- e. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified above or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

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.

2. Compliance with the emission limitations in Section A.I.1 of these terms and conditions shall

be determined in accordance with the following methods:

- a. Emission Limitation: 6.54 lbs PE/hr and 28.65 tons PE/yr

Applicable Compliance Method:

Compliance with the hourly allowable PE limitation may be determined by multiplying the AP-42, 5th edition, Table 11.3-1 emission factor of 0.37 pound of particulate emissions per ton of brick multiplied by the maximum hourly production rate of 17.66 tons per hour of fired brick. If required, the permittee shall demonstrate compliance with the above emission limit pursuant to Methods 1-5 of 40 CFR Part 60, Appendix A.

Compliance with the annual allowable PE emission limitation shall be assumed as long as compliance with the hourly allowable PE emission limitation is maintained (the annual emission limitation was calculated by multiplying the hourly emission limitation by 8760, and then dividing by 2000).

- b. Emission Limitation: 182.6 lbs SO<sub>2</sub>/hour

Applicable Compliance Method:

Compliance with the hourly allowable SO<sub>2</sub> emission limitation shall be based on the record keeping and reporting requirements specified in Section A.III.1 of the terms and conditions of this permit. If required, the permittee shall demonstrate compliance with the above emission limit pursuant to Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

- c. Emission Limitation: 0.43 VOC/hour and 1.88 tons VOC/year

Applicable Compliance Method: Compliance with the hourly allowable VOC emission limitation may be determined by multiplying the AP-42, 5th Edition, Table 11.3-5 emission factor of 0.024 pound of VOC per ton of brick by the maximum hourly production rate of 17.66 tons per hour of fired brick. If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to Methods 1-4 and 18, 25, or 25A, as applicable, of 40 CFR Part 60, Appendix A

Compliance with the annual allowable VOC emission limitation shall be assumed as long as compliance with the hourly allowable VOC emission limitation is maintained (the annual emission limitation was calculated by multiplying the hourly emission limitation by 8760, and then dividing by 2000).

- d. Emission Limitation: 6.18 lbs NO<sub>x</sub>/hour and 27.07 tons NO<sub>x</sub>/year

Applicable Compliance Method:

Compliance with the hourly allowable NO<sub>x</sub> emission limitation may be determined by multiplying the AP-42, 5th Edition, Table 11.3-3 emission factor of 0.35 pound of NO<sub>x</sub> per ton of brick multiplied by the maximum hourly production rate of 17.66 tons per hour of fired brick. If required, the permittee shall demonstrate compliance with the hourly allowable NO<sub>x</sub> emission limitation above pursuant to Methods 1 through 4 and 7 of 40

CFR, Part 60, Appendix A.

Compliance with the annual allowable NO<sub>x</sub> emission limitation shall be assumed as long as compliance with the hourly allowable NO<sub>x</sub> emission limitation is maintained (the annual emission limitation was calculated by multiplying the hourly emission limitation by 8760, and then dividing by 2000).

- e. Emission Limitation: 21.20 lbs CO/hour and 92.86 tons CO/year

Applicable Compliance Method: Compliance with the hourly allowable CO emission limitation may be determined by multiplying the AP-42, 5th Edition, Table 11.3-3 emission factor of 1.20 pound of CO per ton of brick multiplied by the maximum hourly production rate of 17.66 tons per hour of fired brick. If required, the permittee shall demonstrate compliance with the hourly allowable CO emission limitation above pursuant to Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A.

Compliance with the annual allowable CO emission limitation shall be assumed as long as compliance with the hourly allowable CO emission limitation is maintained (the annual emission limitation was calculated by multiplying the hourly emission limitation by 8760, and then dividing by 2000).

- f. Emission Limitation: 2.18 lbs HF/hour and 9.55 tons HF/rolling 12-month period.

Applicable Compliance Method: Compliance with the hourly allowable HF emission limitation above shall be based on the results of emission testing conducted in accordance with Methods 1-4 and 26 or 26A of 40 CFR, Part 60, Appendix A (see Section A.V.1)

Compliance with the annual allowable HF emission limitation shall be assumed as long as compliance with the hourly allowable HF emission limitation is maintained (the annual emission limitation was calculated by multiplying the hourly emission limitation by 8760, and then dividing by 2000).

Emissions Unit ID: P008

- g. Emission Limitation: 2.25 lbs HCl/hour and 9.86 tons HCl/year

Applicable Compliance Method: Compliance with the hourly allowable HCl emission limitation above shall be based on the results of emission testing conducted in accordance with Methods 1-4 and 26 or 26A of 40 CFR, Part 60, Appendix A (see Section A.V.1)

Compliance with the annual allowable HCl emission limitation shall be assumed as long as compliance with the hourly allowable HCl emission limitation is maintained (the annual emission limitation was calculated by multiplying the hourly emission limitation by 8760, and then dividing by 2000).

- h. Emission Limitation: 230.0 tons SO<sub>2</sub>/12-month rolling period

Applicable Compliance Method: Compliance with the above limitation shall be based on the record keeping requirements specified in Section A.III.1 of these terms and conditions.

## VI. Miscellaneous Requirements

1. The requirements of this PTI supercede the requirements of PTI #03-13047 issued on 4/26/00 and corrected 5/08/00 for emissions units P008 and P011 only.

**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 - 47.6 mmBtu/hr natural gas direct fired tunnel kiln with fluorine cascade absorber (modification of PTI #03-13047 issued on 4/26/00 and corrected 5/08/00) modification to revise HF & HCl emissions		

**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**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" for HF and HCl was not necessary because the increase in the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. The requirements of this PTI supercede the requirements of PTI #03-13047 issued on 4/26/00 and corrected 5/08/00 for emissions units P008 and P011 only.

### 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.

Operations, Property, <u>and/or</u> <u>Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P011 - Natural gas direct fired shapes batch brick kiln (modification of PTI # 03-13047 issued on 4/26/00 and corrected 5/08/00) modification to revise HF emissions and establish HCl limitations	OAC rule 3745-31-05(A)(3)	8.42 lbs sulfur dioxide (SO <sub>2</sub> )/hr 1.94 hydrogen fluoride (HF)/hr, 0.41 ton HF/yr 0.17 lbs hydrogen chloride (HCl)/hr, 0.04 ton HCl/yr
	OAC rule 3745-31-05(C)	3.08 tons SO <sub>2</sub> per rolling 12-month period (see A.I.2.a)
	OAC rule 3745-17-07(A)	See A.I.2.b
	OAC rule 3745-17-11(B)	See A.I.2.c
	OAC rule 3745-18-06	See A.I.2.d

##### 2. Additional Terms and Conditions

- 2.a The SO<sub>2</sub> emissions from this emissions unit shall not exceed 3.08 tons per rolling 12-month period based on raw material input restrictions (See A.II.1).

The 3.08 tons of SO<sub>2</sub> per rolling 12-month period is a federally enforceable limitation established for purposes of avoiding "Prevention of Significant

Emissions Unit ID: P011

Deterioration" (PSD) applicability.

The rolling 12-month emission limitation for emissions unit P011 was initially established in Permit to Install (PTI) #03-13047 issued on April 26, 2000 and subsequently issued as a correct copy on May 8, 2000, and, as a result, rolling SO<sub>2</sub> emission records exist. The applicant shall use the existing records to determine compliance upon startup under this permit. Therefore, it is not necessary to establish federally enforceable restrictions for the first 12 months of operation under the provisions of this permit.

- 2.b** This emissions unit is exempt from the visible emission limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.
- 2.c** The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(ii), Figure II of OAC rule 3745-17-11 does not apply. Also, Table I does not apply since the facility is located in Marion county.
- 2.d** The emissions limitations established by this rule are less stringent than those established by OAC rule 3745-31-05.
- 2.e** The 1.94 lbs HF/hr, 0.41 ton HF/yr, 0.17 lb HCl/hr, and 0.04 ton HCl/yr emission limitations were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

## II. Operational Restrictions

1. The maximum rolling 12-month process weight rate of raw material for emissions unit P011 is limited by the following equation:

$$\frac{M}{12} S3 \leq 3.08$$

M=1

Where,

M = the increment of the rolling 12-month period;  
 S3 = see A.III.1.c for calculation details

2. The permittee shall only burn natural gas in this emissions unit.

## III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for this

emissions unit:

- a. the process weight rate of each brick body raw material for each month;
- b. the weight fraction of sulfur in each brick body raw material employed;
- c. the SO<sub>2</sub> emissions from the raw materials, in tons, calculated as follows:
  - i. for each brick body raw materials where stack test emission data is not available:

$$S1 \text{ (tons/month)} = \text{weight fraction sulfur in each raw material} \times 1.998 \text{ (conversion factor)} \times Pr$$

where:

Pr = the monthly process weight rate (in tons) of each raw material  
S1 = SO<sub>2</sub> emissions (in tons per month);

- ii. for each brick body raw material where stack test emission data is available:

$$S2 = \text{SO}_2 \text{ emissions (based on emission testing data), in lbs/ton} \times Pr / 2000$$

where:

Pr = the monthly process weight rate (in tons) of each raw material  
S2 = SO<sub>2</sub> emissions (in tons per month);

- iii. for all brick body raw materials:

$$S3 = [\text{summation of } S1_i] \text{ for } i = 1, 2, \dots, n + [\text{summation of } S2_j] \text{ for } j = 1, 2, \dots, m$$

where:

i = a brick body raw material for which stack testing emission data is not available

j = a brick body raw material for which stack testing emission data is available

S1<sub>i</sub> = the SO<sub>2</sub> emission rate (tons/month) for raw material i

Emissions Unit ID: P011

S2j = the SO<sub>2</sub> emission rate (tons/month) for raw material j

S3 = total monthly SO<sub>2</sub> emissions, in tons

- d. The rolling, 12-month summation of the monthly SO<sub>2</sub> emissions, in tons.
  - e. The number of hours the emissions unit was in operation.
  - f. The average hourly SO<sub>2</sub> emissions [S3 (from A.III.1.c) x 2000/A.III.1.e], in pounds (average).
2. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

#### IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the following:
  - a. the rolling, 12-month emission limitation for SO<sub>2</sub>.
  - b. the rolling, 12-month process weight rate restriction in A.II.1.

These reports shall be submitted in accordance with the General Terms and Conditions of this permit.

#### V. Testing Requirements

1. Compliance with the emission limitations in Section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation: 8.42 lbs SO<sub>2</sub>/hr  
Applicable Compliance Method: Compliance with the hourly allowable SO<sub>2</sub> emission limitation shall be based on the record keeping requirements specified in Section A.III.1 of the terms and conditions of this permit. If required, compliance with the hourly allowable SO<sub>2</sub> emission limitation shall also be based on the results of emission testing conducted in accordance with Method 6 of 40 CFR, Part 60, Appendix A.
  - b. Emission Limitation: 1.94 lbs HF/hr  
Applicable Compliance Method: The hourly HF limitation is based on the emissions unit's potential to emit\*. If required, compliance with the hourly allowable HF emission limitation shall be based on the results of emission testing shall be conducted in accordance with Methods 26 or 26A of 40 CFR, Part 60, Appendix A.

\* The emissions unit involves a batch operation and the potential to emit is calculated by multiplying a maximum batch process weight of 9,200 lbs, a maximum fluorine (F) level of 0.07 % (by weight)\*, an emission factor of 1.053 lb HF/lb F (based on stoichiometry & 100 % conversion), and dividing by a 3.5

hours. (HF will be emitted over 3.5 hours of the total batch time).

\*The fluorine level of 0.07% (by weight) is the maximum amount that could be released from raw materials processed in the kiln.

- c. Emission Limitation: 0.41 ton HF/yr

Applicable Compliance Method: The annual HF limitation is based on the emissions unit's potential to emit\*. Therefore, no annual record keeping, reporting, or compliance method calculations are required to demonstrate compliance with this limitation.

\* The emissions unit involves a batch operation and the potential to emit is calculated by multiplying a maximum processing capacity of 122 batches/yr, an emission factor of 6.8 lbs HF/batch (1.94 lbs HF/hr times 3.5 hours, see A.V.1.b above) and dividing by 2000 lbs/ton.

- d. Emission Limitation: 0.17 lbs HCl/hr

Applicable Compliance Method: The hourly HCl limitation is based on the emissions unit's potential to emit\*. If required, compliance with the hourly allowable HCl emission limitation shall be based on the results of emission testing shall be conducted in accordance with Methods 26 or 26A of 40 CFR, Part 60, Appendix A.

\* The emissions unit involves a batch operation and the potential to emit is calculated by multiplying a maximum batch process weight of 9,200 lbs, a maximum chlorine (Cl) level of 0.0062 % (by weight)\*, an emission factor of 1.028 lb HCl/lb Cl (based on stoichiometry & 100 % conversion), and dividing by a 3.5 hours. (HCl will be emitted over 3.5 hours of the total batch time).

\*The chlorine level of 0.0062% (by weight) is the maximum amount that could be released from raw materials processed in the kiln.

- e. Emission Limitation: 0.04 ton HCl/yr

Applicable Compliance Method: The annual HCl limitation is based on the emissions unit's potential to emit\*. Therefore, no annual record keeping, reporting, or compliance method calculations are required to demonstrate compliance with this limitation.

\* The emissions unit involves a batch operation and the potential to emit is calculated by multiplying a maximum processing capacity of 122 batches/yr, an emission factor of 0.6 lbs HF/batch (0.17 lbs HCl/hr times 3.5 hours, see A.V.1.d

Emissions Unit ID: P011

above) and dividing by 2000 lbs/ton.

- f. Emission Limitation: 3.08 tons SO<sub>2</sub> per 12-month rolling period

Applicable Compliance Method: Compliance with the above limitation shall be based on the record keeping requirements specified in Section A.III.1 of these terms and conditions.

## VI. Miscellaneous Requirements

1. The requirements of this PTI supercede the requirements of PTI #03-13047 issued on 4/26/00 and corrected 5/08/00 for emissions units P008 and P011 only.

**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 - Natural gas direct fired shapes batch brick kiln (modification of PTI # 03-13047 issued on 4/26/00 and corrected 5/08/00) modification to revise HF emissions and establish HCl limitations		

**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**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" for HF and HCl was not necessary because the increase in the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. The requirements of this PTI supercede the requirements of PTI #03-13047 issued on 4/26/00 and corrected 5/08/00 for emissions units P008 and P011