



Environmental Protection Agency

John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

6/12/2012

Frank Stroman  
Semco Ceramics Inc.  
363 Eastern Blvd.  
Watertown, NY 13601

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 0679030119  
Permit Number: P0108262  
Permit Type: Renewal  
County: Tuscarawas

Certified Mail

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

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

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

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, OH 43215

If you have any questions, please contact Ohio EPA DAPC, Southeast District Office at (740)385-8501 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPCWeb page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc), by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-SEDO





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
Semco Ceramics Inc.**

Facility ID:	0679030119
Permit Number:	P0108262
Permit Type:	Renewal
Issued:	6/12/2012
Effective:	6/12/2012
Expiration:	12/8/2020





Division of Air Pollution Control
Permit-to-Install and Operate
for
Semco Ceramics Inc.

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## Authorization

Facility ID: 0679030119  
Application Number(s): A0042058, A0042893  
Permit Number: P0108262  
Permit Description: Administrative modification of PTI 06-3454 and renewal of operating permit for the shuttle kiln brick plant (EU P012) and #1 shuttle kiln (EU P013)  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 6/12/2012  
Effective Date: 6/12/2012  
Expiration Date: 12/8/2020  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Semco Ceramics Inc.  
4778 Belden Dr. SE  
Uhrichsville, OH 44683

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

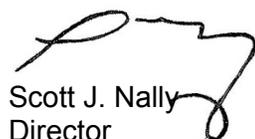
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Southeast District Office  
2195 Front Street  
Logan, OH 43138  
(740)385-8501

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0108262

Permit Description: Administrative modification of PTI 06-3454 and renewal of operating permit for the shuttle kiln brick plant (EU P012) and #1 shuttle kiln (EU P013)

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

<b>Emissions Unit ID:</b>	<b>P012</b>
Company Equipment ID:	Shuttle Kiln Brick Plant
Superseded Permit Number:	06-3454
General Permit Category and Type:	Not Applicable

<b>Emissions Unit ID:</b>	<b>P013</b>
Company Equipment ID:	#1 Shuttle Kiln
Superseded Permit Number:	06-3454
General Permit Category and Type:	Not Applicable

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

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

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

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

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

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

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

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

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

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

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

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

Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

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

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

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<sup>1</sup>Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

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

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

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

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

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

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

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

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.
2. Emissions unit P012 contained in this permit is subject to 40 CFR Part 60, Subpart OOO. The complete NSPS requirements, including the NSPS General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulation (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District office or local air agency.

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



1. P012, Shuttle Kiln Brick Plant

Operations, Property and/or Equipment Description:

15 ton per hour brick plant partially controlled with three fabric filter baghouses; includes load-in of raw material into a hopper equipped with a vibrating feeder, one primary crusher, one dry pan grinding mill, two hummer screens, six storage bins, one batch weigh hopper, one sand muller, one hammermill, three brick presses, and ten conveyors; administrative modification of PTI #06-3454 issued September 30, 1992 to correct the BAT limits for particulate, add NSPS Subpart OOO requirements, add recordkeeping and reporting requirements and specify the applicable compliance methodologies

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Particulate emissions (PE) from this emissions unit shall not exceed 16.22 tons per year.  The requirements of this rule also include compliance with OAC rule 3745-17-11(B) and 40 CFR Part 60, Subpart OOO.
b.	OAC rule 3745-17-07(A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 60, Subpart OOO.

c.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) and 40 CFR Part 60, Subpart OOO.
d.	OAC rules 3745-17-07(B) and 3745-17-08(B)	See b)(2)a. below.
e.	<p>40 CFR Part 60, Subpart OOO (40 CFR 60.670 - 60.676)</p> <p>[In accordance with 40 CFR 60.670(a)(1), this emissions unit is a fixed nonmetallic mineral processing plant. All operations are subject to the emissions limitations specified in this section except for truck dumping of nonmetallic minerals into the feed hopper per 40 CFR 60.672(d).]</p>	<p>Affected facilities that commence construction after August 31, 1983 and before April 22, 2008 must meet the following emissions limitations:</p> <p>PE from the stacks serving the affected facility portions of this emissions unit shall not exceed 0.05 g/dscf(0.0218 gr/dscf). [40 CFR 60.672(a) and Table 2 to Subpart OOO]</p> <p>Visible PE emissions from any stack serving this emissions unit shall not exceed 7 percent opacity. [40 CFR 60.672(a) and Table 2 to Subpart OOO]</p> <p>For transfer points enclosed in a building, visible PE of fugitive dust discharging from the building openings shall not exceed 7% opacity. [40 CFR 60.672(e)(1)]</p> <p>The requirements of this rule also include compliance with OAC rules 3745-17-07(A) and 3745-17-11(B).</p> <p>See b)(2)b. below.</p>
f.	40 CFR 60.1-19 (40 CFR 60.670(f))	Table 1 of Subpart OOO of 40 CFR Part 60 – Exceptions to Applicability of Subpart A to Subpart OOO, specifies the provisions of Subpart A that do not apply to owners and operators of affected facilities subject to this subpart or that apply with certain exceptions.

- (2) Additional Terms and Conditions
- a. This facility is not located in an area identified in Appendix A of OAC rule 3745-17-08. Therefore, the fugitive dust emissions are exempt from the visible particulate emission limitation and the reasonably available control measures established in OAC rule 3745-17-07(B) and OAC rule 3745-17-08(B), respectively.
- b. In accordance with 40 CFR, Part 60 Subpart OOO, the following pieces of equipment are affected facilities that commenced construction after August 31, 1983 and before April 22, 2008. The material handling operations that are covered by this permit and subject to the above-mentioned requirements are listed below:
- Primary crusher (1)
  - Dry pan grinding mill (1)
  - Hammer screens (2)
  - Storage bins (6)
  - Batch weigh hopper (1)
  - Sand muller (1)
  - Hammermill (1)
  - Conveyors (10)
- c) Operational Restrictions
- (1) None.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from each stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and
  - e. any corrective actions taken to eliminate the visible emissions.



e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall submit notifications and reports to the appropriate Ohio EPA District office as required pursuant to 40 CFR Part 60, Subpart OOO, per the following sections:

60.676(a)	Reporting of replacement activities
60.676(f)	Reports of any performance tests
60.676(g)	Report change in wet material processing operations
60.676(i)	Initial start-up report
60.676(j)	Alternative means of compliance surveillance
60.676(k)	Submittal of reports

f) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitations:  
PE from this emissions unit shall not exceed 16.22 tons per year.

Applicable Compliance Method:  
Compliance with the annual emissions limitation is demonstrated by the following calculations:

Stack emissions:

$$PE \text{ (tons/yr)} = (\text{controlled PE from Pangbornbaghouse}) + (\text{controlled PE from Torit/Day Baghouse}) + (\text{controlled PE from AAF Baghouse}) \times 8,760 \text{ hours/yr} \times 1 \text{ ton}/2,000 \text{ lbs}$$



$$\begin{aligned}
&= [(0.0218 \text{ gr/dscf} \times 11,000) + (0.0218 \text{ gr/dscf} \times 5,600 \text{ scfm}) \\
&+ (0.0218 \times 2,200 \text{ scfm}) \times 60 \text{ min/hr} \times 1 \text{ lb/7,000 gr} \times 8,760 \\
&\text{hours/yr} \times 1 \text{ ton/2,000 lbs}] \\
&= [(239.80 + 122.08 + 47.96) \times 60 \times 1/7,000 \times 8,760 \\
&\text{hours/yr} \times 1 \text{ ton/2,000 lbs}] \\
&= 15.39 \text{ tons/yr}
\end{aligned}$$

Where:

- 11,000 scfm = flow rate of Pangbornbaghouse (from permittee's facility profile)
- 5,600 scfm = flow rate of Torit/Day baghouse (from permittee's facility profile)
- 2,200 scfm = flow rate of AAF baghouse (from permittee's facility profile)
- 0.0218 gr/dscf = short-term BAT limit for each baghouse based on 40 CFR Part 60, Subpart OOO

Fugitive emissions:

$$\begin{aligned}
\text{PE (ton/yr)} &= (\text{number of conveyor transfer points} \times \text{transfer point EF} \times \\
&\text{annual throughput}) \times \text{control efficiency for building} \times 1 \text{ ton/2,000} \\
&\text{lbs} \\
&= (14 \text{ transfer points} \times 0.003 \text{ lb/ton} \times 131,400 \text{ tons/yr}) \times (1- \\
&0.70) \times 1 \text{ ton/2,000 lbs} \\
&= 0.83 \text{ ton/yr}
\end{aligned}$$

Where:

- 0003 lb/ton (8/04) = transfer point emission factor from AP-42 Table 11.19.2-2
- 131,400 tons = annual throughput (from permittee's application)
- 70% (3, 9/80) = control efficiency for building capture (RACM Table 2.1.3-

$$\begin{aligned}
\text{Total PE (tons/yr)} &= 15.39 + 0.83 \\
&= 16.22 \text{ tons/yr}
\end{aligned}$$

- b. Emissions Limitation:  
PE from any of the stacks serving this emissions unit shall not exceed 0.0218 grain per dry standard cubic foot of exhaust gases.

Applicable Compliance Method:

PE from the stacks serving this emissions unit shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office. See f)(2).

- c. Emissions Limitation:  
Visible PE emissions from any stack serving this emissions unit shall not exceed 7 percent opacity.  
  
Applicable Compliance Method:  
Visible particulate emissions from any stack shall be determined according to USEPA Method 9. See f)(2).
  - d. Emissions Limitation:  
For transfer points enclosed in a building, visible PE of fugitive dust discharging from the building openings shall not exceed 7% opacity.  
  
Applicable Compliance Method:  
Visible particulate emissions from any building opening shall be determined according to USEPA Method 9. See f)(2).
- (2) Performance testing shall be conducted as required in 40 CFR Part 60 Subpart OOO pursuant to 40 CFR 60.672. 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 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.
  - b. The emissions testing shall be conducted to demonstrate compliance with the stack and fugitive emissions limitations for each affected facility as specified in b)(2)b. of this permit, and in accordance with the requirements of 40 CFR Part 60.675.
  - c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission rate(s):  
  
For stack emissions, Methods 1-5 of 40 CFR 60, Appendix A  
For visible emissions, Method 9 of 40 CFR 60, Appendix A.
  - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Southeast District Office.
  - e. No later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Southeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Southeast District Office's refusal to accept the results of the emissions test(s).



- f. Personnel from the Ohio EPA, Southeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Southeast District Office within 30 days following completion of test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Southeast District Office.

g) **Miscellaneous Requirements**

- (1) None.



2. P013, #1 Shuttle Kiln

Operations, Property and/or Equipment Description:

0.34 ton per hour, 9.0 million BTU per hour natural gas-fired shuttle kiln used to produce fire brick; administrative modification of PTI #06-3454 issued September 30, 1992 to update BAT limits, add recordkeeping and reporting requirements and specify the applicable compliance methodology for each regulated pollutant

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

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

a. d)(2)-(5) and e)(4)

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 1.50 pound per hour and 6.57 tons per year.</p> <p>Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 0.12 pound per hour and 0.53 ton per year.</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.41 pound per hour and 1.79 tons per year.</p> <p>Volatile organic compound (VOC) emissions shall not exceed 0.01 pound per hour and 0.04 ton per year.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Particulate emissions (PE) shall not exceed 0.33 pound per hour and 1.44 tons per year.</p> <p>Visible PE from any stack serving this emissions unit shall not exceed 20% opacity as a six minute average, except as provided by the rule.</p> <p>The requirements of this rule also include compliance with OAC rule 3745-18-06(E)(2).</p>
b.	OAC rule 3745-17-07(A)	See b)(2)a. below.
c.	OAC rule 3745-17-11(B)(2)	See b)(2)b. below.
d.	OAC rule 3745-18-06(E)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

- a. The mass emission limitation for particulate in OAC rule 3745-17-11(B)(2) is not applicable, so the opacity limits in OAC rule 3745-17-07 are also not applicable pursuant to OAC rule 3745-17-07(A)(3)(h).
- b. The uncontrolled mass rate of emissions (UMRE) for particulate matter from the emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II does not apply to this emissions unit.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) 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.
- (2) The permit-to-install and operate (PTIO) application for emissions units P013 and P014 was evaluated based on the actual materials and the design parameters of the emissions units' exhaust systems, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum

ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
  - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
  - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "24" hours per day and "7" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\text{TLV}/10 \times 8/X \times 5/Y = 4 \text{ TLV}/XY = \text{MAGLC}$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: hydrogen fluoride (HF)

TLV (mg/m<sup>3</sup>): 2.46

Maximum Hourly Emission Rate (lbs/hr): 0.25

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m<sup>3</sup>): 6.18

MAGLC (ug/m<sup>3</sup>): 58.57

The permittee has demonstrated that emissions of HF from emissions units P013 and P014 is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be

applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (3) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
  - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
  - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (4) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F),

initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

(5) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

(1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

(3) 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.

(4) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

f) Testing Requirements

(1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:  
SO<sub>2</sub> emissions shall not exceed 1.50 pound per hour and 6.57 tons per year.

Applicable Compliance Method:  
Compliance with the pound per hour emissions limitation is demonstrated by the following calculation:

$$\begin{aligned} \text{SO}_2 \text{ (lbs/hr)} &= 0.34 \text{ ton per hour} \times 0.0022 \text{ lb SO}_2/\text{lb brick fired} \times 2,000 \\ &\text{lbs/ton} \\ &= 1.50 \text{ lbs/hr} \end{aligned}$$

Where:

0.34 ton per hour = maximum capacity of brick fired based on a maximum batch size of 45,110 pounds over a 3,990 minute batch cycle time

0.0022 lb SO<sub>2</sub>/lb brick = SO<sub>2</sub> emissions factor based on mass balance (from permittee's application)

If required, SO<sub>2</sub> emissions shall be determined according to test Methods 1 - 4, and 6 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emissions limitation is demonstrated by the following calculation:

$$\begin{aligned} \text{SO}_2 \text{ (tons/yr)} &= 1.50 \text{ lbs/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton}/2,000 \text{ pounds} \\ &= 6.57 \text{ tons/yr} \end{aligned}$$

b. Emissions Limitations:

NO<sub>x</sub> emissions shall not exceed 0.12 pound per hour and 0.53 ton per year.

Applicable Compliance Method:

Compliance with the pound per hour emissions limitation is demonstrated by the following calculation:

$$\begin{aligned} \text{NO}_x \text{ (lb/hr)} &= 0.34 \text{ ton per hour} \times 0.35 \text{ lbNO}_x/\text{ton of brick fired} \\ &= 0.12 \text{ lb/hr} \end{aligned}$$

Where:

0.34 ton per hour = maximum capacity of brick fired based on a maximum batch size of 45,110 pounds over a 3,990 minute batch cycle time

0.35 lbNO<sub>x</sub>/ton of brick = NO<sub>x</sub> emissions factor for natural gas-fired kilns from AP-42 Table 11.3.3 (8/97)

If required, NO<sub>x</sub> emissions shall be determined according to test Methods 1 - 4, and 7 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emissions limitation is demonstrated by the following calculation:

$$\begin{aligned}\text{NO}_x \text{ (ton/yr)} &= 0.12 \text{ lb/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton}/2,000 \text{ pounds} \\ &= 0.53 \text{ ton/yr}\end{aligned}$$

- c. Emissions Limitations:  
CO emissions shall not exceed 0.41 pound per hour and 1.79 tons per year.

Applicable Compliance Method:

Compliance with the pound per hour emissions limitation is demonstrated by the following calculation:

$$\begin{aligned}\text{CO (lb/hr)} &= 0.34 \text{ ton per hour} \times 1.2 \text{ lb CO/ton of brick fired} \\ &= 0.41 \text{ lb/hr}\end{aligned}$$

Where:

0.34 ton per hour = maximum capacity of brick fired based on a maximum batch size of 45,110 pounds over a 3,990 minute batch cycle time

1.2 lb CO/ton of brick = CO emissions factor for natural gas-fired kilns from AP-42 Table 11.3.3 (8/97)

If required, CO emissions shall be determined according to test Methods 1 - 4, and 10 as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emissions limitation is demonstrated by the following calculation:

$$\begin{aligned}\text{CO (tons/yr)} &= 0.41 \text{ lb/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton}/2,000 \text{ pounds} \\ &= 1.79 \text{ tons/yr}\end{aligned}$$

- d. Emissions Limitations:  
VOC emissions shall not exceed 0.01 pound per hour and 0.04 ton per year.

Applicable Compliance Method:

Compliance with the pound per hour emissions limitation is demonstrated by the following calculation:

$$\begin{aligned}\text{VOC (lb/hr)} &= 0.34 \text{ ton per hour} \times 0.024 \text{ lb CO/ton of brick fired} \\ &= 0.01 \text{ lb/hr}\end{aligned}$$

Where:

0.34 ton per hour = maximum capacity of brick fired based on a maximum batch size of 45,110 pounds over a 3,990 minute batch cycle time

0.024 lb VOC/ton of brick = VOC emissions factor for natural gas-fired kilns from AP-42 Table 11.3.5 (8/97)

If required, VOC emissions shall be determined according to test Methods 1 - 4, and 18, 25, or 25A as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emissions limitation is demonstrated by the following calculation:

$$\begin{aligned}\text{VOC (ton/yr)} &= 0.01 \text{ lb/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton}/2,000 \text{ pounds} \\ &= 0.04 \text{ ton/yr}\end{aligned}$$

- e. Emissions Limitations:  
PE shall not exceed 0.33 pound per hour and 1.44 tons per year.

Applicable Compliance Method:

Compliance with the pound per hour emissions limitation is demonstrated by the following calculation:

$$\begin{aligned}\text{PE (lb/hr)} &= 0.34 \text{ ton per hour} \times 0.96 \text{ lb PE/ton of brick fired} \\ &= 0.33 \text{ lb/hr}\end{aligned}$$

Where:

0.34 ton per hour = maximum capacity of brick fired based on a maximum batch size of 45,110 pounds over a 3,990 minute batch cycle time

0.96 lb PE/ton of brick = PE emissions factor for natural gas-fired kilns from AP-42 Table 11.3.2 (8/97)

If required, PE shall be determined according to test Methods 1 - 5, as set forth in the "Appendix on Test Methods" in 40 CFR, Part 60 "Standards of Performance for New Stationary Sources". Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA, Southeast District Office.

Compliance with the annual emissions limitation is demonstrated by the following calculation:

$$\begin{aligned}\text{PE (tons/yr)} &= 0.96 \text{ lb/hr} \times 8,760 \text{ hrs/yr} \times 1 \text{ ton}/2,000 \text{ pounds} \\ &= 1.44 \text{ ton/yr}\end{aligned}$$

- f. Emissions Limitations:  
Visible PE from any stack serving this emissions unit shall not exceed 20% opacity as a six minute average, except as provided by the rule.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 9.

- g) Miscellaneous Requirements
  - (1) None.