



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

**RE: FINAL PERMIT TO INSTALL MODIFICATION
STARK COUNTY
Application No: 15-01344**

CERTIFIED MAIL

	TOXIC REVIEW
	PSD
Y	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

DATE: 5/28/2002

Koch Knight LLC
Allen Smalley
P.O. Box 30070
East Canton, OH 44730

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

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

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

Very truly yours,

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

cc: USEPA

Canton LAA

RECEIVED

JUN 03 2002

CANTON CITY HEALTH DEPT.
AIR POLLUTION DIVISION



FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 15-01344

Application Number: 15-01344

APS Premise Number: 1576001851

Permit Fee: \$800

Name of Facility: Koch Knight LLC

Person to Contact: Allen Smalley

Address: P.O. Box 30070
East Canton, OH 44730

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

**5385 Orchardview Drive
East Canton, Ohio**

Description of proposed emissions unit(s):

Administrative Modification change the allowables.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification 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 source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

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

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

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

3. Records Retention Requirements

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.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the

Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. 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 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. 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 emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

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

7. 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.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions

and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

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

10. 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.

11. 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).

12. 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.

13. Source Operation and Operating Permit Requirements After Completion of Construction

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the source(s) covered by this permit.

14. Construction Compliance Certification

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

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. 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>
NO _x	11.43*
CO	11.91*
Particulates	1.97*
SO ₂	27.72 ✓
HF	9.8 ✓

*These totals do not include allowable emissions from emissions units P002 & P003.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P001 - 1,750 lbs/hr, 12.1 MMBtu/hr, natural gas-fired tunnel kiln for ceramic packing sintering; Company ID: No. 3 Tunnel Kiln MODIFIED	OAC rule 3745-31-05(A)(3)	Nitrogen oxide emissions shall not exceed 1.21 pounds/hour and 5.3 tons/year. Carbon monoxide emissions shall not exceed 1.02 pounds/hour and 4.47 tons/year. Particulate emissions shall not exceed 0.32 pound/hour and 1.4 tons/year. Sulfur dioxide emissions shall not exceed 3.85 pounds/hour (as a 30-day average) and 16.86 tons/year. Hydrogen fluoride emissions shall not exceed 1.47 pounds/hour (as a 30-day average) and 6.44 tons/year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-35-07(B)	Synthetic Minor Limits The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year,

OAC rule 3745-17-07(A)(1)

based upon a rolling, 12-month summation of the monthly emissions. See section A.2.a. below.

The total emissions of sulfur dioxide from emissions units P001-P003 shall not exceed 20.92 tons per year, based upon a rolling, 12-month summation of the monthly emissions. See section A.2.b. below.

OAC rule 3745-17-11

Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

OAC rule 3745-18-06(E)(1)

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

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

2.a The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19. The weighted average of fluorine content shall be the average of each monthly weighted average of fluorine content over the previous twelve months. The monthly weighted-average of fluorine content shall be the monthly sum of the products of clay employed in emissions units P001-P006 times the monitored fluorine content of each clay, divided by the monthly amount of clay employed in these emissions units. A fluorine content test shall be conducted for each different clay at a minimum of once for every 1,000 tons of each different clay delivered.

2.b The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2. The weighted average of sulfur content shall be the average of each monthly weighted average of sulfur content over the previous twelve months. The monthly weighted average of sulfur content shall be the

monthly sum of the products of clay employed in emissions units P001-P003 times the monitored sulfur content of each clay, divided by the monthly amount of clay employed in these emissions units. A sulfur content test shall be conducted for each different clay at a minimum of once for every 1,000 tons of each different clay delivered.

2.c The only fuel to be used in this emissions unit shall be natural gas.

B. Operational Restrictions

1. The hydrogen fluoride emissions from this emissions unit shall not show an exceedance of the maximum 30 day average ground level concentration of 0.5 micrograms/m³. This is an Ohio EPA Modeling Policy. Compliance with this limit was demonstrated based on the SCREEN 3 model. The following stack parameters were used in this successful model run:

Emission rate	0.137 gram/second (30-day average)
Stack height	25.7 meters
Stack inside diameter	0.76 meter
Stack exit velocity	10.4034 meters/second
Stack gas exit temp.	444 degrees Kelvin

The following summarizes the results of the modeling:

Maximum concentration was 2.775 ug/m³ at a distance of 326 meters. Multiplying by a conversion factor of 0.18, the result was 0.4995 ug/m³, which is less than the 0.5 ug/m³ limit.

Any change to the emissions unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height) that would result in an exceedance of the maximum 30-day average ground level concentration of 0.5 microgram/m³ may be deemed a "modification" to the emissions unit, and, as such, prior notification to and approval from the Canton local air agency will be required, including the possible issuance of modifications to PTI 15-01344 and the operating permit.

2. The maximum annual combined clay usage for emissions units P001-P003 shall not exceed 9,500 tons, based upon a rolling, 12-month summation of the clay usage figures. The permittee has maintained monthly records over the last two years that show compliance with the annual combined clay usage limitation for emissions units P001-P003; therefore, compliance with the annual usage limitation expressed in this permit through rolling, 12-month summations shall begin immediately upon issuance of this permit.
3. This facility shall not use any clay in emissions units P001-P003 that contains more than a weighted average of 0.1101% sulfur content. See section A.2.b above for the method of determining the weighted average sulfur content.

4. This facility shall not use any clay in emissions units P001-P006 which contains more than a weighted average of 0.08% fluorine content. See section A.2.a above for the method of determining the weighted average fluorine content.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep daily records of the amount of clay fired in this kiln.
2. The permittee shall conduct testing for both the fluorine and sulfur content of each different clay delivered. This testing shall be conducted at a minimum of once for every 1,000 tons of each different clay delivered.
3. The permittee shall determine the monthly weighted average of fluorine content by multiplying the monthly sum of the products of clay employed in kilns P001-P006 times the monitored fluorine content of each clay, divided by the monthly amount of clay employed in kilns P001-P006.
4. The permittee shall determine the monthly weighted average of sulfur content by multiplying the monthly sum of the products of clay employed in kilns P001-P003 times the monitored sulfur content of each clay, divided by the monthly amount of clay employed in kilns P001-P003.
5. The permittee shall calculate the weighted average fluorine content using the average of each monthly weighted average of fluorine content over the previous twelve months. This calculation will be used to determine compliance with the limits for fluorine content of 0.08%.
6. The permittee shall calculate the weighted average sulfur contents using the average of each monthly weighted average of sulfur content over the previous twelve months. This calculation will be used to determine compliance with the limits for sulfur content of 0.1101%.
7. The permittee shall keep monthly records of the total amount of clay fired in kilns P001-P003.
8. The permittee shall keep monthly records of the total amount of clay fired in kilns P001-P006.
9. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P001-P003.
10. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P001-P006.
11. The permittee shall keep monthly records of the combined sulfur dioxide emissions from emissions units P001-P003.
12. The permittee shall keep monthly records of the combined HF emissions from emissions units P001-P006.

13. The permittee shall keep monthly records of the rolling, 12-month summation of the combined sulfur dioxide emissions from emissions units P001-P003.
14. The permittee shall keep monthly records of the rolling, 12-month summation of the combined HF emissions from emissions units P001-P006.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling, 12-month clay combined usage limitation for emissions units P001-P003;
 - b. all exceedances of the rolling, 12-month combined emission limitation for HF from emissions units P001-P006;
 - c. all exceedances of the rolling, 12-month combined emission limitations for SO₂ from emissions units P001-P003;
 - d. all exceedances of the limit of 0.1101% sulfur content in the clay employed in emissions units P001-P003; and
 - e. all exceedances of the limit of 0.08% fluorine content in the clay employed in emissions units P001-P006.

These quarterly reports shall be submitted in accordance with Part I - General Terms and Conditions No. 3.

2. The permittee shall submit annual reports which specify the total combined HF emissions for emissions units P001-P006. These reports shall be submitted by January 31 of each year.
3. The permittee shall submit annual reports which specify the total combined SO₂ emissions for emissions units P001-P003. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitation(s) in section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation:
Nitrogen oxide emissions shall not exceed 1.21 pounds/hour.

Applicable Compliance Method:

Multiply 12.1 MMBtu/hr times 0.1 lb NO_x/MMBtu (mfg. documentation), which equals 1.21 lbs NO_x/hr.

- b. Emission Limitation:
Particulate emissions shall not exceed 0.32 pound/hour.

Applicable Compliance Method:

Multiply 0.875 ton/hr (max. PWR) times 0.37 lb particulates/ton (emission factor from AP-42, Table 11.3-2, 8/97), which equals 0.32 lb particulates/hr.

- c. Emission Limitation:
Carbon monoxide emissions shall not exceed 1.02 pounds/hour.

Applicable Compliance Method:

Multiply 12.1 MMBtu/hr times 0.084 lb CO/MMBtu (emission factor from AP-42, Chapter 1.4, 3/98), which equals 1.02 lbs CO/hr

- d. Emission Limitation:
Sulfur dioxide emissions shall not exceed 3.85 pounds/hour (as a 30-day average).

Applicable Compliance Method:

The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2.

- e. Emission Limitation:
Hydrogen fluoride emissions shall not exceed 1.47 pounds/hour (as a 30-day average).

Applicable Compliance Method:

The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19.

- f. Emission Limitation:
5.3 tons NO_x/yr
4.47 tons CO/yr
1.4 tons particulates/yr

Applicable Compliance Method:

Multiply the hourly emission limitation times 8,760 hrs/yr and then divide by 2000 lbs/ton.

- g. Emission Limitation:
16.86 tons SO₂/yr

Applicable Compliance Method:

The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2.

h. Emission Limitation:

6.44 tons HF/yr

Applicable Compliance Method:

The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19.

i. Emission Limitation:

The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.14.

j. Emission Limitation:

The total emissions of sulfur dioxide from emissions units P001-P003 shall not exceed 20.9 2 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.13.

k. Emission Limitation:

Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with procedures specified in OAC rule 3745-17-03 (B)(1) using the methods and procedures specified in USEPA Reference Method 9. Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

l. Emission Limitation:

The maximum annual combined clay usage for emissions units P001-P003 shall not exceed 9,500 tons, based upon a rolling, 12-month summation of the clay usage figures.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.9.

m. Emission Limitation:

This facility shall not use any clay in emissions units P001-P003 that contains more than a weighted average of 0.1101% sulfur content.

Koch Knight LLC

PTI Application: 15-01344

Modification Issued: 5/28/2002

Facility ID: 1576001851

Emissions Unit ID: P001

Applicable Compliance Method:

See Section A.2.b above for the method of determining the weighted average sulfur content.

n. Emission Limitation:

This facility shall not use any clay in emissions units P001-P006 that contains more than a weighted average of 0.08% fluorine content.

Applicable Compliance Method:

See Section A.2.a above for the method of determining the weighted average fluorine content.

F. Miscellaneous Requirements

1. This permit to install (PTI) supercedes PTI 15-1284 issued on May 28, 1997 for P001.
2. By request of the applicant and pursuant to OAC rule 3745-35-07, the special terms and conditions of this PTI are federally enforceable requirements.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P002 - 2,500 lbs/hr, 21 MMBtu/hr, natural gas-fired tunnel kiln for ceramic packing sintering; Company ID: No. 1 Tunnel Kiln (Formerly P001 Stark Ceramics) (Existing Emissions Unit)	OAC rule 3745-35-07(B)	<p>Synthetic Minor Limits</p> <p>The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions. See section A.2.a. below.</p>
MODIFIED	OAC rule 3745-17-07(A)(1)	<p>The total emissions of sulfur dioxide from emissions units P001-P003 shall not exceed 20.9 2 tons per year, based upon a rolling, 12-month summation of the monthly emissions. See section A.2.b. below.</p>
	OAC rule 3745-17-11	<p>Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.</p>
	OAC rule 3745-18-06(E)(1)	<p>Particulate emissions shall not exceed 4.76 pounds/hour (based on a maximum PWR of 2,500 lbs/hr).</p> <p>Sulfur dioxide emissions shall not exceed 23.23 pounds/hour (based on a maximum PWR of 2,500 lbs/hr).</p>

2. Additional Terms and Conditions

- 2.a** The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19. The weighted average of fluorine content shall be the average of each monthly weighted average of fluorine content over the previous twelve months. The monthly weighted-average of fluorine content shall be the monthly sum of the products of clay employed in emissions units P001-P006 times the monitored fluorine content of each clay, divided by the monthly amount of clay employed in these emissions units. A fluorine content test shall be conducted for each different clay at a minimum of once for every 1,000 tons of each different clay delivered.
- 2.b** The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2. The weighted average of sulfur content shall be the average of each monthly weighted average of sulfur content over the previous twelve months. The monthly weighted average of sulfur content shall be the monthly sum of the products of clay employed in emissions units P001-P003 times the monitored sulfur content of each clay, divided by the monthly amount of clay employed in these emissions units. A sulfur content test shall be conducted for each different clay at a minimum of once for every 1,000 tons of each different clay delivered.

B. Operational Restrictions

1. The maximum annual combined clay usage for emissions units P001-P003 shall not exceed 9,500 tons, based upon a rolling, 12-month summation of the clay usage figures. The permittee has maintained monthly records over the last two years that show compliance with the annual combined clay usage limitation for emissions units P001-P003; therefore, compliance with the annual usage limitation expressed in this permit through rolling, 12-month summations shall begin immediately upon issuance of this permit.
2. This facility shall not use any clay in emissions units P001-P003 that contains more than a weighted average of 0.1101% sulfur content. See section A.2.b above for the method of determining the weighted average sulfur content.
3. This facility shall not use any clay in emissions units P001-P006 which contains more than a weighted average of 0.08% fluorine content. See section A.2.a above for the method of determining the weighted average fluorine content.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep daily records of the amount of clay fired in this kiln.

2. The permittee shall conduct testing for both the fluorine and sulfur content of each different clay delivered. This testing shall be conducted at a minimum of once for every 1,000 tons of each different clay delivered.
3. The permittee shall determine the monthly weighted average of fluorine content by multiplying the monthly sum of the products of clay employed in kilns P001-P006 times the monitored fluorine content of each clay, divided by the monthly amount of clay employed in kilns P001-P006.
4. The permittee shall determine the monthly weighted average of sulfur content by multiplying the monthly sum of the products of clay employed in kilns P001-P003 times the monitored sulfur content of each clay, divided by the monthly amount of clay employed in kilns P001-P003.
5. The permittee shall calculate the weighted average fluorine content using the average of each monthly weighted average of fluorine content over the previous twelve months. This calculation will be used to determine compliance with the limits for fluorine content of 0.08%.
6. The permittee shall calculate the weighted average sulfur contents using the average of each monthly weighted average of sulfur content over the previous twelve months. This calculation will be used to determine compliance with the limits for sulfur content of 0.1101 %.
7. The permittee shall keep monthly records of the total amount of clay fired in kilns P001-P003.
8. The permittee shall keep monthly records of the total amount of clay fired in kilns P001-P006.
9. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P001-P003.
10. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P001-P006.
11. The permittee shall keep monthly records of the combined sulfur dioxide emissions from emissions units P001-P003.
12. The permittee shall keep monthly records of the combined HF emissions from emissions units P001-P006.
13. The permittee shall keep monthly records of the rolling, 12-month summation of the combined sulfur dioxide emissions from emissions units P001-P003.
14. The permittee shall keep monthly records of the rolling, 12-month summation of the combined HF emissions from emissions units P001-P006.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling, 12-month clay combined usage limitation for emissions units P001-P003;
 - b. all exceedances of the rolling, 12-month combined emission limitation for HF from emissions units P001-P006;
 - c. all exceedances of the rolling, 12-month combined emission limitations for SO₂ from emissions units P001-P003;
 - d. all exceedances of the limit of 0.1101% sulfur content in the clay employed in emissions units P001-P003; and
 - e. all exceedances of the limit of 0.08% fluorine content in the clay employed in emissions units P001-P006.

These quarterly reports shall be submitted in accordance with Part I - General Terms and Conditions No. 3.

2. The permittee shall submit annual reports which specify the total combined HF emissions for emissions units P001-P006. These reports shall be submitted by January 31 of each year.
3. The permittee shall submit annual reports which specify the total combined SO₂ emissions for emissions units P001-P003. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitation(s) in section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. **Emission Limitation:**
Particulate emissions shall not exceed 4.76 pounds/hour (based on a maximum PWR of 2,500 lbs/hr).

Applicable Compliance Method:
Multiply 1.25 ton/hr (max. PWR) times 0.37 lb particulates/ton (emission factor from AP-42, Table 11.3-2, 8/97), which equals 0.46 lb particulates/hr.
 - b. **Emission Limitation:**
Sulfur dioxide emissions shall not exceed 23.23 pounds/hour (based on a maximum PWR of 2,500 lbs/hr).

Applicable Compliance Method:

The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2.

c. Emission Limitation:

The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.14.

d. Emission Limitation:

The total emissions of sulfur dioxide from emissions units P001-P003 shall not exceed 20.9 2 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.13.

e. Emission Limitation:

Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with procedures specified in OAC rule 3745-17-03 (B)(1) using the methods and procedures specified in USEPA Reference Method 9. Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

f. Emission Limitation:

The maximum annual combined clay usage for emissions units P001-P003 shall not exceed 9,500 tons, based upon a rolling, 12-month summation of the clay usage figures.

Applicable Compliance Method:

Monthly record keeping as required in Section C.9.

g. Emission Limitation:

This facility shall not use any clay in emissions units P001-P003 that contains more than a weighted average of 0.1101% sulfur content.

Applicable Compliance Method:

See Section A.2.b above for the method of determining the weighted average sulfur content.

Koch Knight LLC

PTI Application: 15-01344

Modification Issued: 5/28/2002

Facility ID: 1576001851

Emissions Unit ID: P002

- h. **Emission Limitation:**
This facility shall not use any clay in emissions units P001-P006 that contains more than a weighted average of 0.08% fluorine content.

Applicable Compliance Method:

See Section A.2.a above for the method of determining the weighted average fluorine content.

F. Miscellaneous Requirements

1. By request of the applicant and pursuant to OAC rule 3745-35-07, the special terms and conditions of this PTI are federally enforceable requirements.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P003 - 3,125 lbs/hr, 34.9 MMBtu/hr, natural gas-fired tunnel kiln for ceramic packing sintering; Company ID: No. 2 Tunnel Kiln (Formerly P018 Stark Ceramics) (Existing Emissions Unit)	OAC rule 3745-35-07(B)	Synthetic Minor Limits The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed <u>9.8</u> tons per year, based upon a rolling, 12-month summation of the monthly emissions. See section A.2.a below.
MODIFIED	OAC rule 3745-17-07(A)(1)	The total emissions of sulfur dioxide from emissions units P001-P003 shall not exceed <u>20.92</u> tons per year, based upon a rolling, 12-month summation of the monthly emissions. See section A.2.b below.
	OAC rule 3745-17-11	Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule. <i>24.2 TPY PTE</i> Particulate emissions shall not exceed 5.53 pounds/hour (based on a maximum PWR of 3,125 lbs/hr).
	OAC rule 3745-18-06(E)(1)	Sulfur dioxide emissions shall not exceed 26.97 pounds/hour (based on a maximum PWR of 3,125 lbs/hr).

2. Additional Terms and Conditions

- 2.a** The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19. The weighted average of fluorine content shall be the average of each monthly weighted average of fluorine content over the previous twelve months. The monthly weighted-average of fluorine content shall be the monthly sum of the products of clay employed in emissions units P001-P006 times the monitored fluorine content of each clay, divided by the monthly amount of clay employed in these emissions units. A fluorine content test shall be conducted for each different clay at a minimum of once for every 1,000 tons of each different clay delivered.
- 2.b** The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2. The weighted average of sulfur content shall be the average of each monthly weighted average of sulfur content over the previous twelve months. The monthly weighted average of sulfur content shall be the monthly sum of the products of clay employed in emissions units P001-P003 times the monitored sulfur content of each clay, divided by the monthly amount of clay employed in these emissions units. A sulfur content test shall be conducted for each different clay at a minimum of once for every 1,000 tons of each different clay delivered.

B. Operational Restrictions

1. The maximum annual combined clay usage for emissions units P001-P003 shall not exceed 9,500 tons, based upon a rolling, 12-month summation of the clay usage figures. The permittee has maintained monthly records over the last two years that show compliance with the annual combined clay usage limitation for emissions units P001-P003; therefore, compliance with the annual usage limitation expressed in this permit through rolling, 12-month summations shall begin immediately upon issuance of this permit.
2. This facility shall not use any clay in emissions units P001-P003 that contains more than a weighted average of 0.1101 % sulfur content. See section A.2.b above for the method of determining the weighted average sulfur content.
3. This facility shall not use any clay in emissions units P001-P006 which contains more than a weighted average of 0.08% fluorine content. See section A.2.a above for the method of determining the weighted average fluorine content.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep daily records of the amount of clay fired in this kiln.

2. The permittee shall conduct testing for both the fluorine and sulfur content of each different clay delivered. This testing shall be conducted at a minimum of once for every 1,000 tons of each different clay delivered.
3. The permittee shall determine the monthly weighted average of fluorine content by multiplying the monthly sum of the products of clay employed in kilns P001-P006 times the monitored fluorine content of each clay, divided by the monthly amount of clay employed in kilns P001-P006.
4. The permittee shall determine the monthly weighted average of sulfur content by multiplying the monthly sum of the products of clay employed in kilns P001-P003 times the monitored sulfur content of each clay, divided by the monthly amount of clay employed in kilns P001-P003.
5. The permittee shall calculate the weighted average fluorine content using the average of each monthly weighted average of fluorine content over the previous twelve months. This calculation will be used to determine compliance with the limits for fluorine content of 0.08%.
6. The permittee shall calculate the weighted average sulfur contents using the average of each monthly weighted average of sulfur content over the previous twelve months. This calculation will be used to determine compliance with the limits for sulfur content of 0.1101%.
7. The permittee shall keep monthly records of the total amount of clay fired in kilns P001-P003.
8. The permittee shall keep monthly records of the total amount of clay fired in kilns P001-P006.
9. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P001-P003.
10. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P001-P006.
11. The permittee shall keep monthly records of the combined sulfur dioxide emissions from emissions units P001-P003.
12. The permittee shall keep monthly records of the combined HF emissions from emissions units P001-P006.
13. The permittee shall keep monthly records of the rolling, 12-month summation of the combined sulfur dioxide emissions from emissions units P001-P003.
14. The permittee shall keep monthly records of the rolling, 12-month summation of the combined HF emissions from emissions units P001-P006.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling, 12-month clay combined usage limitation for emissions units P001-P003;
 - b. all exceedances of the rolling, 12-month combined emission limitation for HF from emissions units P001-P006;
 - c. all exceedances of the rolling, 12-month combined emission limitations for SO₂ from emissions units P001-P003;
 - d. all exceedances of the limit of 0.1101% sulfur content in the clay employed in emissions units P001-P003; and
 - e. all exceedances of the limit of 0.08% fluorine content in the clay employed in emissions units P001-P006.

These quarterly reports shall be submitted in accordance with Part I - General Terms and Conditions No. 3.

2. The permittee shall submit annual reports which specify the total combined HF emissions for emissions units P001-P006. These reports shall be submitted by January 31 of each year.
3. The permittee shall submit annual reports which specify the total combined SO₂ emissions for emissions units P001-P003. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitation(s) in section A.1. of these terms and conditions shall be determined in accordance with the following methods(s):
 - a. Emission Limitation:
Particulate emissions shall not exceed 5.53 pounds/hour (based on a maximum PWR of 3,125 lbs/hr).

Applicable Compliance Method:
Multiply 1.56 tons/hr (max. PWR) times 0.37 lb particulates/ton (emission factor from AP-42, Table 11.3-2, 8/97), which equals 0.58 lb particulates/hr.
 - b. Emission Limitation:
Sulfur dioxide emissions shall not exceed 26.97 pounds/hour (based on a maximum PWR of 2,500 lbs/hr).

Applicable Compliance Method:

The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2.

c. Emission Limitation:

The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.14.

d. Emission Limitation:

The total emissions of sulfur dioxide from emissions units P001-P003 shall not exceed 20.9 2 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.13.

e. Emission Limitation:

Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with procedures specified in OAC rule 3745-17-03 (B)(1) using the methods and procedures specified in USEPA Reference Method 9. Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

f. Emission Limitation:

The maximum annual combined clay usage for emissions units P001-P003 shall not exceed 9,500 tons, based upon a rolling, 12-month summation of the clay usage figures.

Applicable Compliance Method:

Monthly record keeping as required in Section C.9.

g. Emission Limitation:

This facility shall not use any clay in emissions units P001-P003 that contains more than a weighted average of 0.1101% sulfur content.

Applicable Compliance Method:

See Section A.2.b above for the method of determining the weighted average sulfur content.

Koch Knight LLC

PTI Application: 15-01344

Modification Issued: 5/28/2002

Facility ID: 1576001851

Emissions Unit ID: P003

- h. **Emission Limitation:**
This facility shall not use any clay in emissions units P001-P006 that contains more than a weighted average of 0.08% fluorine content.

Applicable Compliance Method:

See Section A.2.a above for the method of determining the weighted average fluorine content.

F. Miscellaneous Requirements

- 1. By request of the applicant and pursuant to OAC rule 3745-35-07, the special terms and conditions of this PTI are federally enforceable requirements.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P004 - 150 lbs/hr, 4.32 MMBtu/hr, natural gas-fired shuttle kiln for ceramic packing sintering; Company ID: No. 5 Shuttle Kiln MODIFIED	OAC rule 3745-31-05(A)(3)	Nitrogen oxide emissions shall not exceed 0.3 pound/hour and 1.31 tons/year. Carbon monoxide emissions shall not exceed 0.36 pound/hour and 1.58 tons/year. Particulate emissions shall not exceed 0.03 pound/hour and 0.13 ton/year. Sulfur dioxide emissions shall not exceed 1.08 pounds/hour (as a 30-day average) and 1.52 tons/year. Hydrogen fluoride emissions shall not exceed 0.28 pound/hour (as a 30-day average) and 0.39 ton/year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-35-07(B)	Synthetic Minor Limits The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year,

OAC rule 3745-17-07(A)(1)

based upon a rolling, 12-month summation of the monthly emissions. See section A.2.a. below.

The total emissions of sulfur dioxide from emissions units P004-P006 shall not exceed 6.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions. See section A.2.b below.

OAC rule 3745-17-11

Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

OAC rule 3745-18-06(E)(1)

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

2.a The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19. The weighted average of fluorine content shall be the average of each monthly weighted average of fluorine content over the previous twelve months. The monthly weighted-average of fluorine content shall be the monthly sum of the products of clay employed in emissions units P001-P006 times the monitored fluorine content of each clay, divided by the monthly amount of clay employed in these emissions units. A fluorine content test shall be conducted for each different clay at a minimum of once for every 1,000 tons of each different clay delivered.

2.b The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2. The weighted average of sulfur content shall be the average of each monthly weighted average of sulfur content over the previous twelve months. The monthly weighted average of sulfur content shall be the

monthly sum of the products of clay employed in emissions units P004-P006 times the monitored sulfur content of each clay, divided by the monthly amount of clay employed in these emissions units. A sulfur content test shall be conducted for each different clay at a minimum of once for every 1,000 tons of each different clay delivered.

2.c The only fuel to be used in this emissions unit shall be natural gas.

B. Operational Restrictions

1. The maximum annual combined clay usage for emissions units P004-P006 shall not exceed 2,125 tons, based upon a rolling, 12-month summation of the clay usage figures. The permittee has maintained monthly records over the last two years that show compliance with the annual combined clay usage limitation for emissions units P004-P006; therefore, compliance with the annual usage limitation expressed in this permit through rolling, 12-month summations shall begin immediately upon issuance of this permit.
2. This facility shall not use any clay in emissions units P004-P006 that contains more than a weighted average of 0.16% sulfur content. See section A.2.b above for the method of determining the weighted average sulfur content.
3. This facility shall not use any clay in emissions units P001-P006 which contains more than a weighted average of 0.08% fluorine content. See section A.2.a above for the method of determining the weighted average fluorine content.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep daily records of the amount of clay fired in this kiln.
2. The permittee shall conduct testing for both the fluorine and sulfur content of each different clay delivered. This testing shall be conducted at a minimum of once for every 1,000 tons of each different clay delivered.
3. The permittee shall determine the monthly weighted average of fluorine content by multiplying the monthly sum of the products of clay employed in kilns P001-P006 times the monitored fluorine content of each clay, divided by the monthly amount of clay employed in kilns P001-P006.
4. The permittee shall determine the monthly weighted average of sulfur content by multiplying the monthly sum of the products of clay employed in kilns P004-P006 times the monitored sulfur content of each clay, divided by the monthly amount of clay employed in kilns P004-P006.
5. The permittee shall calculate the weighted average fluorine content using the average of each monthly weighted average of fluorine content over the previous twelve months. This calculation will be used to determine compliance with the limits for fluorine content of 0.08%.

6. The permittee shall calculate the weighted average sulfur contents using the average of each monthly weighted average of sulfur content over the previous twelve months. This calculation will be used to determine compliance with the limits for sulfur content of 0.16 %.
7. The permittee shall keep monthly records of the total amount of clay fired in kilns P004-P006.
8. The permittee shall keep monthly records of the total amount of clay fired in kilns P001-P006.
9. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P004-P006.
10. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P001-P006.
11. The permittee shall keep monthly records of the combined sulfur dioxide emissions from emissions units P004-P006.
12. The permittee shall keep monthly records of the combined HF emissions from emissions units P001-P006.
13. The permittee shall keep monthly records of the rolling, 12-month summation of the combined sulfur dioxide emissions from emissions units P004-P006.
14. The permittee shall keep monthly records of the rolling, 12-month summation of the combined HF emissions from emissions units P001-P006.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling, 12-month clay combined usage limitation for emissions units P004-P006;
 - b. all exceedances of the rolling, 12-month combined emission limitation for HF from emissions units P001-P006;
 - c. all exceedances of the rolling, 12-month combined emission limitations for SO₂ from emissions units P004-P006;
 - d. all exceedances of the limit of 0.16% sulfur content in the clay employed in emissions units P004-P006; and
 - e. all exceedances of the limit of 0.08% fluorine content in the clay employed in emissions units P001-P006.

These quarterly reports shall be submitted in accordance with Part I - General Terms and Conditions No. 3.

2. The permittee shall submit annual reports which specify the total combined HF emissions for emissions units P001-P006. These reports shall be submitted by January 31 of each year.
3. The permittee shall submit annual reports which specify the total combined SO₂ emissions for emissions units P004-P006. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

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

- a. Emission Limitation:

Nitrogen oxide emissions shall not exceed 0.3 pound/hour.

Applicable Compliance Method:

Multiply 0.07 lb NO_x/MMBtu (mfg. documentation low NO_x) times 4.32 MMBtu/hr equals 0.3 lb NO_x/hr.

- b. Emission Limitation:

Particulate emissions shall not exceed 0.03 pound/hour.

Applicable Compliance Method:

Multiply 0.075 ton/hr (max. PWR) times 0.37 lb particulates/ton (emission factor from AP-42, Table 11.3-2, 8/97), which equals 0.03 lb particulates/hr.

- c. Emission Limitation:

Carbon monoxide emissions shall not exceed 0.36 pound/hour.

Applicable Compliance Method:

Multiply 4.32 MMBtu/hr times 0.084 lb CO/MMBtu (emission factor from AP-42, Chapter 1.4, 3/98), which equals 0.36 lb CO/hr

- d. Emission Limitation:

Sulfur dioxide emissions shall not exceed 1.08 pounds/hour (as a 30-day average).

Applicable Compliance Method:

The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2.

- e. Emission Limitation:
Hydrogen fluoride emissions shall not exceed 0.28 pound/hour (as a 30-day average).

Applicable Compliance Method:

The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19.

- f. Emission Limitation:
1.31 tons NO_x/yr
1.58 tons CO/yr
0.13 ton particulates/yr

Applicable Compliance Method:

Multiply the hourly emission limitation times 8,760 hrs/yr and then divide by 2000 lbs/ton.

- g. Emission Limitation:
1.52 tons SO₂/yr

Applicable Compliance Method:

The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2.

- h. Emission Limitation:
0.39 ton HF/yr

Applicable Compliance Method:

The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19.

- i. Emission Limitation:
The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.14.

- j. Emission Limitation:
The total emissions of sulfur dioxide from emissions units P004-P006 shall not exceed 6.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.13.

- k. **Emission Limitation:**
Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with procedures specified in OAC rule 3745-17-03 (B)(1) using the methods and procedures specified in USEPA Reference Method 9. Visible particulate emissions from the stack

servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

- l. **Emission Limitation:**
The maximum annual combined clay usage for emissions units P004-P006 shall not exceed 2,125 tons, based upon a rolling, 12-month summation of the clay usage figures.

Applicable Compliance Method:

Monthly record keeping as required in Section C.9.

- m. **Emission Limitation:**
This facility shall not use any clay in emissions units P004-P006 that contains more than a weighted average of 0.16% sulfur content.

Applicable Compliance Method:

See Section A.2.b above for the method of determining the weighted average sulfur content.

- n. **Emission Limitation:**
This facility shall not use any clay in emissions units P001-P006 that contains more than a weighted average of 0.08% fluorine content.

Applicable Compliance Method:

See Section A.2.a above for the method of determining the weighted average fluorine content.

F. Miscellaneous Requirements

1. By request of the applicant and pursuant to OAC rule 3745-35-07, the special terms and conditions of this PTI are federally enforceable requirements.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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>
P005 - 272 lbs/hr, 7.92 MMBtu/hr, natural gas-fired shuttle kiln for ceramic packing sintering; Company ID: No. 6 Shuttle Kiln MODIFIED	OAC rule 3745-31-05(A)(3)	Nitrogen oxide emissions shall not exceed 0.55 pound/hour and 2.41 tons/year.
		Carbon monoxide emissions shall not exceed 0.67 pound/hour and 2.93 tons/year.
		Particulate emissions shall not exceed 0.05 pound/hour and 0.22 ton/year.
		Sulfur dioxide emissions shall not exceed 1.96 pounds/hour (as a 30-day average) and 2.75 tons/year.
		Hydrogen fluoride emissions shall not exceed 0.51 pound/hour (as a 30-day average) and 0.72 ton/year.
	OAC rule 3745-35-07(B)	Synthetic Minor Limits
		The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions. See section A.2.a. below.
		The total emissions of sulfur dioxide from emissions units P004-P006 shall not exceed 6.8 tons per year, based

9. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P004-P006.
10. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P001-P006.
11. The permittee shall keep monthly records of the combined sulfur dioxide emissions from emissions units P004-P006.
12. The permittee shall keep monthly records of the combined HF emissions from emissions units P001-P006.
13. The permittee shall keep monthly records of the rolling, 12-month summation of the combined sulfur dioxide emissions from emissions units P004-P006.
14. The permittee shall keep monthly records of the rolling, 12-month summation of the combined HF emissions from emissions units P001-P006.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling, 12-month clay combined usage limitation for emissions units P004-P006;
 - b. all exceedances of the rolling, 12-month combined emission limitation for HF from emissions units P001-P006;
 - c. all exceedances of the rolling, 12-month combined emission limitations for SO₂ from emissions units P004-P006;
 - d. all exceedances of the limit of 0.16% sulfur content in the clay employed in emissions units P004-P006; and
 - e. all exceedances of the limit of 0.08% fluorine content in the clay employed in emissions units P001-P006.

These quarterly reports shall be submitted in accordance with Part I - General Terms and Conditions No. 3.

2. The permittee shall submit annual reports which specify the total combined HF emissions for emissions units P001-P006. These reports shall be submitted by January 31 of each year.

3. The permittee shall submit annual reports which specify the total combined SO₂ emissions for emissions units P004-P006. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

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

- a. Emission Limitation:

Nitrogen oxide emissions shall not exceed 0.55 pound/hour.

Applicable Compliance Method:

Multiply 0.07 lb NO_x/MMBtu (mfg. documentation low NO_x) times 7.92 MMBtu/hr equals 0.55 lb NO_x/hour.

- b. Emission Limitation:

Particulate emissions shall not exceed 0.05 pound/hour.

Applicable Compliance Method:

Multiply 0.136 ton/hr (max. PWR) times 0.37 lb particulates/ton (emission factor from AP-42, Table 11.3-2, 8/97) equals 0.05 lb particulates/hr.

- c. Emission Limitation:

Carbon monoxide emissions shall not exceed 0.67 pound/hour.

Applicable Compliance Method:

Multiply 7.92 MMBtu/hr times 0.084 lb CO/MMBtu (emission factor from AP-42, Chapter 1.4, 3/98) equals 0.67 lb CO/hr

- d. Emission Limitation:

Sulfur dioxide emissions shall not exceed 1.96 lbs/hr (as a 30-day average).

Applicable Compliance Method:

The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2.

- e. Emission Limitation:

Hydrogen fluoride emissions shall not exceed 0.51 lb/hr (as a 30-day average).

Applicable Compliance Method:

The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluoride times 20/19.

- f. Emission Limitation:
2.41 tons NO_x/yr
2.93 tons CO/yr
0.22 ton particulates/yr

Applicable Compliance Method:

Multiply the hourly emission limitation times 8,760 hrs/yr and then divide by 2000 lbs/ton.

- g. Emission Limitation:
2.75 tons SO₂/yr

Applicable Compliance Method:

The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2.

- h. Emission Limitation:
0.72 ton HF/yr

Applicable Compliance Method:

The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19.

- i. Emission Limitation:
The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.14.

- j. Emission Limitation:
The total emissions of sulfur dioxide from emissions units P004-P006 shall not exceed 6.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.13.

- k. Emission Limitation:
Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with procedures specified in OAC rule 3745-17-03 (B)(1) using the methods and procedures specified in USEPA Reference Method 9. Visible particulate emissions from the stack

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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>
P006 - 272 lbs/hr, 7.92 MMBtu/hr, natural gas-fired shuttle kiln for ceramic packing sintering; Company ID: No. 7 Shuttle Kiln	OAC rule 3745-31-05(A)(3)	<p>Nitrogen oxide emissions shall not exceed 0.55 pound/hour and 2.41 tons/year.</p> <p>Carbon monoxide emissions shall not exceed 0.67 pound/hour and 2.93 tons/year.</p> <p>Particulate emissions shall not exceed 0.05 pound/hour and 0.22 ton/year.</p> <p>Sulfur dioxide emissions shall not exceed 1.96 pounds/hour (as a 30-day average) and 2.75 tons/year.</p> <p>Hydrogen fluoride emissions shall not exceed 0.51 pound/hour (as a 30-day average) and 0.72 ton/year.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).</p>
	OAC rule 3745-35-07(B)	<p>Synthetic Minor Limits</p> <p>The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.</p>

OAC rule 3745-17-07(A)(1)

See section A.2.a. below.

The total emissions of sulfur dioxide from emissions units P004-P006 shall not exceed 6.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

See section A.2.b. below.

Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

OAC rule 3745-17-11

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

OAC rule 3745-18-06(E)(1)

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

2.a The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19. The weighted average of fluorine content shall be the average of each monthly weighted average of fluorine content over the previous twelve months. The monthly weighted-average of fluorine content shall be the monthly sum of the products of clay employed in emissions units P001-P006 times the monitored fluorine content of each clay, divided by the monthly amount of clay employed in these emissions units. A fluorine content test shall be conducted for each different clay at a minimum of once for every 1,000 tons of each different clay delivered.

2.b The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2. The weighted average of sulfur content shall be the average of each monthly weighted average of sulfur content over the previous twelve months. The monthly weighted average of sulfur content shall be the monthly sum of the products of clay employed in emissions units P004-P006 times the monitored sulfur content of each clay, divided by the monthly amount of clay employed in

these emissions units. A sulfur content test shall be conducted for each different clay at a minimum of once for every 1,000 tons of each different clay delivered.

- 2.c The only fuel to be used in this emissions unit shall be natural gas.

B. Operational Restrictions

1. The maximum annual combined clay usage for emissions units P004-P006 shall not exceed 2,125 tons, based upon a rolling, 12-month summation of the clay usage figures. The permittee has maintained monthly records over the last two years that show compliance with the annual combined clay usage limitation for emissions units P004-P006; therefore, compliance with the annual usage limitation expressed in this permit through rolling, 12-month summations shall begin immediately upon issuance of this permit.
2. This facility shall not use any clay in emissions units P004-P006 that contains more than a weighted average of 0.16% sulfur content. See section A.2.b above for the method of determining the weighted average sulfur content.
3. This facility shall not use any clay in emissions units P001-P006 which contains more than a weighted average of 0.08% fluorine content. See section A.2.a above for the method of determining the weighted average fluorine content.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall keep daily records of the amount of clay fired in this kiln.
2. The permittee shall conduct testing for both the fluorine and sulfur content of each different clay delivered. This testing shall be conducted at a minimum of once for every 1,000 tons of each different clay delivered.
3. The permittee shall determine the monthly weighted average of fluorine content by multiplying the monthly sum of the products of clay employed in kilns P001-P006 times the monitored fluorine content of each clay, divided by the monthly amount of clay employed in kilns P001-P006.
4. The permittee shall determine the monthly weighted average of sulfur content by multiplying the monthly sum of the products of clay employed in kilns P004-P006 times the monitored sulfur content of each clay, divided by the monthly amount of clay employed in kilns P004-P006.
5. The permittee shall calculate the weighted average fluorine content using the average of each monthly weighted average of fluorine content over the previous twelve months. This calculation will be used to determine compliance with the limits for fluorine content of 0.08%.

6. The permittee shall calculate the weighted average sulfur contents using the average of each monthly weighted average of sulfur content over the previous twelve months. This calculation will be used to determine compliance with the limits for sulfur content of 0.16%.
7. The permittee shall keep monthly records of the total amount of clay fired in kilns P004-P006.
8. The permittee shall keep monthly records of the total amount of clay fired in kilns P001-P006.
9. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P004-P006.
10. The permittee shall keep monthly records of rolling, 12-month summation of the tons of clay used in emissions units P001-P006.
11. The permittee shall keep monthly records of the combined sulfur dioxide emissions from emissions units P004-P006.
12. The permittee shall keep monthly records of the combined HF emissions from emissions units P001-P006.
13. The permittee shall keep monthly records of the rolling, 12-month summation of the combined sulfur dioxide emissions from emissions units P004-P006.
14. The permittee shall keep monthly records of the rolling, 12-month summation of the combined HF emissions from emissions units P001-P006.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling, 12-month clay combined usage limitation for emissions units P004-P006;
 - b. all exceedances of the rolling, 12-month combined emission limitation for HF from emissions units P001-P006;
 - c. all exceedances of the rolling, 12-month combined emission limitations for SO₂ from emissions units P004-P006;
 - d. all exceedances of the limit of 0.16% sulfur content in the clay employed in emissions units P004-P006; and
 - e. all exceedances of the limit of 0.08% fluorine content in the clay employed in emissions units P001-P006.

These quarterly reports shall be submitted in accordance with Part I - General Terms and Conditions No. 3.

2. The permittee shall submit annual reports which specify the total combined HF emissions for emissions units P001-P006. These reports shall be submitted by January 31 of each year.
3. The permittee shall submit annual reports which specify the total combined SO₂ emissions for emissions units P004-P006. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

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

- a. Emission Limitation:

Nitrogen oxide emissions shall not exceed 0.55 pound/hour.

Applicable Compliance Method:

Multiply 0.07 lb NO_x/MMBtu (mfg. documentation low NO_x) times 7.92 MMBtu/hr equals 0.55 lb NO_x/hour.

- b. Emission Limitation:

Particulate emissions shall not exceed 0.05 pound/hour.

Applicable Compliance Method:

Multiply 0.136 ton/hr (max. PWR) times 0.37 lb particulates/ton (emission factor from AP-42, Table 11.3-2, 8/97) equals 0.05 lb particulates/hr.

- c. Emission Limitation:

Carbon monoxide emissions shall not exceed 0.67 pound/hour.

Applicable Compliance Method:

Multiply 7.92 MMBtu/hr times 0.084 lb CO/MMBtu (emission factor from AP-42, Chapter 1.4, 3/98) equals 0.67 lb CO/hr

- d. Emission Limitation:

Sulfur dioxide emissions shall not exceed 2.08 lbs/hr (as a 30-day average).

Applicable Compliance Method:

The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2.

- e. Emission Limitation:
Hydrogen fluoride emissions shall not exceed 0.39 lb/hr (as a 30-day average).

Applicable Compliance Method:

The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluoride times 20/19.

- f. Emission Limitation:
2.41 tons NO_x/yr
2.93 tons CO/yr
0.22 ton particulates/yr

Applicable Compliance Method:

Multiply the hourly emission limitation times 8,760 hrs/yr and then divide by 2000 lbs/ton.

- g. Emission Limitation:
2.92 tons SO₂/yr

Applicable Compliance Method:

The calculation of sulfur dioxide emissions shall be made by multiplying the amount of clay employed times the weighted average of sulfur times 2.

- h. Emission Limitation:
0.54 ton HF/yr

Applicable Compliance Method:

The calculation of hydrogen fluoride emissions shall be made by multiplying the amount of clay employed times the weighted average of fluorine times 20/19.

- i. Emission Limitation:
The total emissions of hydrogen fluoride from emissions units P001-P006 shall not exceed 9.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.14.

- j. Emission Limitation:
The total emissions of sulfur dioxide from emissions units P004-P006 shall not exceed 6.8 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be based on the recordkeeping found in Section C.13.

k. Emission Limitation:

Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with procedures specified in OAC rule 3745-17-03 (B)(1) using the methods and procedures specified in USEPA Reference Method 9. Visible particulate emissions from the stack servicing this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

l. Emission Limitation:

The maximum annual combined clay usage for emissions units P004-P006 shall not exceed 2,125 tons, based upon a rolling, 12-month summation of the clay usage figures.

Applicable Compliance Method:

Monthly record keeping as required in Section C.9.

m. Emission Limitation:

This facility shall not use any clay in emissions units P004-P006 that contains more than a weighted average of 0.16% sulfur content.

Applicable Compliance Method:

See Section A.2.b above for the method of determining the weighted average sulfur content.

n. Emission Limitation:

This facility shall not use any clay in emissions units P001-P006 that contains more than a weighted average of 0.08% fluorine content.

Applicable Compliance Method:

See Section A.2.a above for the method of determining the weighted average fluorine content.

F. Miscellaneous Requirements

1. By request of the applicant and pursuant to OAC rule 3745-35-07, the special terms and conditions of this PTI are federally enforceable requirements.