



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

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

Lazarus Gov. Center

**RE: DRAFT PERMIT TO INSTALL
HARRISON COUNTY
Application No: 06-91685**

CERTIFIED MAIL

DATE: 3/29/00

Bowerston Shale Company
Edward Milliken
515 E. Main Street
Bowerston, OH 44695

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$1600** will be due. Please do not submit any payment now.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Very truly yours,

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

CC: USEPA
WV

SEDO
PA



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

**Permit To Install
Terms and Conditions**

**Issue Date: To be entered upon final issuance
Effective Date: To be entered upon final issuance**

DRAFT PERMIT TO INSTALL 06-91685

Application Number: 06-91685
APS Premise Number: 0634000012
Permit Fee: **To be entered upon final issuance**
Name of Facility: Bowerston Shale Company
Person to Contact: Edward Milliken
Address: 515 E. Main Street
Bowerston, OH 44695

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

**515 E. Main Street
Bowerston, Ohio**

Description of proposed emissions unit(s):

modification of raw materials.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Bowerston Shale Company

PTI Application: 06-91685

Issued: To be entered upon final issuance

Facility ID: 0634000012

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

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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

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

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

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

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This 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 emissions unit(s) covered by this permit.

Bowerston Shale Company**Facility ID: 0634000012****PTI Application: 06-91685****Issued: To be entered upon final issuance****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>
HF	7.29
SOx	22.68
PM	18.92
NOx	6.90
CO	23.65

Bowen

PTI

Emissions Unit ID: P003

Issued: To be entered upon final issuance

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>
Techniceram Tunnel Kiln with Dryer	OAC rule 3745-35-07 (B) and OAC 3745-31-05 (D) (Synthetic Minor to avoid Title V, and PSD)
	OAC rule 3745-17-07 (A)(1)
	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-11 (B)(1)

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Issued: To be entered upon final issuance

Emissions Unit ID: P003

<u>Applicable Emissions Limitations/Control Measures</u>	The requirements of this rule also include compliance with the requirements of OAC
Emission of sulfur dioxides (SO _x) shall not exceed 29.76 tons as a 12-month rolling summation.	3745-17-07(A)(1)
See II.B.1.	Visible emissions of particulate matter from any stack shall not exceed 20% opacity, except as provided by rule.
Emissions of hydrogen fluoride (HF) shall not exceed 2.24 pounds per hour. 7.29 TPY	The requirements of this rule are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3)
Emissions of sulfur dioxide (SO _x) shall not exceed 60.50 pounds per hour. 29.76 TPY	
Emissions of particulate matter shall not exceed 5.81 pounds per hour. 18.92 TPY	
Emissions of nitrogen oxides (NO _x) shall not exceed 2.12 pounds per hour. 6.90 TPY	
Emissions of carbon monoxide (CO) shall not exceed 7.26 pounds per hour. 23.65 TPY	
Emissions of hydrogen chloride (HCL) shall not exceed 1.03 pounds per hour. 3.35 TPY	

Bowen

PTI

Emissions Unit ID: P003

Issued: To be entered upon final issuance

2. Additional Terms and Conditions

2.a None.

B. Operational Restrictions

1. The permittee shall not exceed the maximum annual operating rate of 39,420 tons per year of fired product as a 12-month rolling summation.
2. The permittee shall not exceed 12.5% maximum annual percentage of # 4 fire clay used as raw material in this process.
3. The permittee has existing data on which to base the 12-month total at the time this permit is issued.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following:
 - a. the total weight of fired product in this emissions unit;
 - b. the total weight of fired product in this emissions unit during the previous 12-month period;
 - c. the percentage of #4 fire clay used as raw material in this process;
 - d. the percentage of #4 fire clay used as raw material in this process for the previous 12-month period, and
 - e. the total SO_x emissions calculated for the previous 12-month period using a weighted average emission factor of 1.51 lbs SO_x per ton.

The permittee has existing data on which to base the 12-month total at the time this permit is issued.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify the following:
 - a. all 12-month periods during which the quantity of fired product was above the maximum

specified level;

- b. all 12-month periods during which the 12-month SOx emissions were above the maximum specified level, and
- c. all 12-month periods during which the percentage of clay used as raw material in this process was above the maximum specified level.

These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under section (A)(2).

- 2. The permittee shall also submit annual reports which specify the total tons of fired product for the previous calendar year. This report shall be submitted by January 31 of each year.

E. Testing Requirements

- 1. Emission Limitation:
2.24 pounds HF per hour
(7.29 TPY HF)

Compliance Method:

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

- d. The emission testing shall be conducted on the Techniceram Tunnel Kiln with Dryer, P003, within six months of permit issuance.
- b. The emission testing shall be conducted to demonstrate compliance with the hydrogen fluoride emission limit of 2.24 pounds per hour.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) for hydrogen fluoride:

Method 13A or Method 13B of 40 CFR Part 60, Appendix A, or other method approved by Ohio EPA in advance.

- 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.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to

Bowling Green

PTI 12

Emissions Unit ID: P003

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"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 emission test(s).

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.

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 the test(s).

2. Emissions Limitation:
60.50 pounds per hour SO_x
(29.76 TPY)

Compliance Method:

Compliance with the pound per hour emission limitation for SO_x shall be determined by a one time calculation of the maximum hourly rate of fired product (6.05 tons per hour) multiplied by the SO_x emissions factor for 100% clay, 10 pounds per ton, as worst case. This emission factor was determined by raw material testing conducted by the permittee.

Compliance with the TPY emissions limitation for SO_x shall be determined by multiplying the maximum allowable annual tons of fired product (39, 420 tons) by a weighted average SO_x emissions factor of 1.51 pounds per ton, divided by 2000 pounds per ton.

The weighted average emission factor is based on the following calculation:

$(0.302 \text{ lb/ ton} \times 87.5 \% \text{ shale in raw materials}) + (10 \text{ lb/ton} \times 12.5 \% \text{ clay in raw materials})$,
Emission factors for both shale and clay were determined by raw material testing conducted by the permittee.

The permittee must conduct raw material testing prior to the use of clay raw materials from a source other than that identified in II.B.2. of this permit. Test results shall be used in the above calculations to show this emissions unit will continue to be in compliance with the SO_x emissions limitations with the use of the alternative source clay. All test data and compliance calculations must be submitted to the Ohio EPA Southeast District Office.

Emission testing is not specifically required to demonstrate compliance with this emission limit,

Emissions Unit ID: P003

but, if appropriate, may be requested pursuant to OAC rule 3745-15-04(A). If required, compliance shall be determined based on emission testing conducted in accordance with approved Method 6 from 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

3. Emissions Limitation:
29.76 TPY SO_x as a rolling 12-month summation (22.68 TPY)

Compliance Method:

Compliance with the SO_x rolling 12-month summation limitations and total TPY limitations shall be based upon the recordkeeping required by C.1.

4. Emissions Limitation:
5.81 pound per hour PM (18.92 TPY)
2.12 pound per hour NO_x (6.90 TPY)
7.26 pound per hour CO (23.65 TPY)
1.03 pound per hour HCL (3.35 TPY)

Compliance Method:

Compliance with the pound per hour emission limits above shall be determined by a one time calculation of the maximum hourly rate of fired product (6.05 tons per hour) multiplied by the emission factor for the appropriate pollutant found in AP-42 Chapter 11.3, Tables 11.3-2, 11.3-3 and 11.3-4 (8/97). Annual emission rates are calculated by multiplying the maximum allowable annual production rate (39,420 tons per year) by the emission factor for the appropriate pollutant.

Emission testing is not specifically required to demonstrate compliance with this emission limit, but, if appropriate, may be requested pursuant to OAC rule 3745-15-04(A). Emission testing, if required, shall be conducted in accordance with approved methods from 40 CFR Part 60, Appendix A for the appropriate pollutant. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

5. Emissions Limitation:
Visible emissions of particulate matter shall not exceed 20% opacity

Compliance Method:

Compliance with the visible emissions limitation shall be determined in accordance with Test Method 22 as set forth 40 CFR, Part 60, as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(c) of OAC rule 3745-17-03.

6. Compliance with the tons of fired product during any 12-month period and the maximum annual percentage of clay used as raw material limitations shall be based upon the recordkeeping required

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PTI

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by C.1.

Emissions Unit ID: P003

F. Miscellaneous Requirements

1. This permit to install supersedes all previous permits to install for this emissions unit.

Bowerston**PTI**

Emissions Unit ID: P003

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

NONE

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

NONE

Permit To Install Synthetic Minor Write-Up

SYNTHETIC MINOR DETERMINATION

BOWERSTON SHALE COMPANY

- A. Emission unit Description: Bowerston Shale Company operates a brick manufacturing facility in Bowerston, Ohio. Emission unit P003 is an existing natural gas fired tunnel kiln. The Bowerston Shale process is being modified to include clay in the raw materials used in P003, which will increase the potential SOx emissions rate to > 250 TPY.
- B. Facility and Emission unit Emissions: Bowerston Shale operates one kiln, P003. Emission unit P003 currently has maximum allowable emission rates of 1.36 pounds SOx per hour (5.96 TPY) and 0.10 pound per hour PM (0.44 TPY) . Potential SOx emissions from modified emissions unit P003 would exceed 250 TPY without restrictions. Maximum potential emissions of all other pollutants are less than Title V, MACT and PSD thresholds.
- C. Emission Unit Limitations: Modified emissions unit P003 will be restricted by federally enforceable STC's to limit the annual production rate to 39,420 tons of fired product and to limit raw materials used to 12.5 % clay. SOx emissions, with restrictions, are 60.50 pounds per hour and 29.76 TPY. The permit will contain appropriate recordkeeping, reporting, and testing requirements for emissions and control equipment.
- D. Conclusions: The emission limits and production limits contained in this PTI are adequate to provide a federally enforceable framework for assuring that applicable Title V and PSD thresholds will not be exceeded.

Bowerston Shale Company
PTI Application 06-01685
Issue

Facility ID: 0634000012

Emissions Unit ID: P003

Please fill in the following for this permit:

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
HF	7.29
SOx	22.68
PM	18.92
NOx	6.90
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SYNTHETIC MINOR DETERMINATION

BOWERSTON SHALE COMPANY - PTI NO. 06-91685

- A. Emission unit Description: Bowerston Shale Company operates a brick manufacturing facility in Bowerston, Ohio. Emission unit P003 is an existing natural gas fired tunnel kiln. The Bowerston Shale process is being modified to include clay in the raw materials used in P003, which will increase the potential SOx emissions rate to > 250 TPY.
- B. Facility and Emission unit Emissions: Bowerston Shale operates one kiln, P003. Emission unit P003 currently has maximum allowable emission rates of 1.36 pounds SOx per hour (5.96 TPY) and 0.10 pound per hour PM (0.44 TPY) . Potential SOx emissions from modified emissions unit P003 would exceed 250 TPY without restrictions. Maximum potential emissions of all other pollutants are less than Title V, MACT and PSD thresholds.
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