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Facility Name: **Bowerston Shale Company-Hanover Plant**

Application Number: **01-7389**

Date: **December 3, 1998**

GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. 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.

NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

CONSTRUCTION OF NEW SOURCES

The proposed source(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed source(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 Ohio Administrative Code (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

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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 applicable standards.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 30 days of the effective date of this permit to install.

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.

APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

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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.

PERMIT TO OPERATE APPLICATION

A Permit to Operate application must be submitted to the appropriate field office for each air contaminant source in this Permit to Install. In accordance with OAC Rule 3745-35-02, the application shall be filed no later than thirty days after commencement of operation.

SOURCE OPERATION 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 and regulations.

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
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AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **Bowerston Shale Company-Hanover Plant** located in **Licking** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

<u>Ohio EPA Source Number</u>	<u>F002</u>	<u>Source Identification Description</u>	
P002		Tunnel kiln and dryer for clay and shale bricks	
	P002 Cont'd		
	F001		Paved and unpaved roadways and parking

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
			from a storage pile.	
Storage piles		<u>BAT Determination</u>		<u>Applicable Federal & OAC Rules</u>
		Compliance with permitted limits and terms and conditions contained within this permit along with compliance with the Air Toxics Policy.	Compliance with permitted limits and terms and conditions contained within this permit along with speed reduction, good housekeeping, and no visible particulate emissions except for a period of 1 minute/3 minute during any 60 minute observation period from a paved/unpaved roadway.	3745-17-07 (A) (1)
				3745-17-11 (B) (1)
				3745-31-05
		Compliance with permitted limits and terms and conditions contained within this permit and no visible particulate emissions except for a period of 1 minute during any 60 minute observation period		

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
		14.1 tons SO ₂ /year; 2.1 pounds PM/hour, 9.2 tons PM/year; 1.8 pounds HF/hour, 7.8 tons HF/year		
3745-31-05	Permit Allowable Mass Emissions and/or Control/Usage Requirements	5.0 tons PM/year, See Additional Special Terms and Conditions		
	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule;	1.0 tons PM/year; See Additional Special Terms and Conditions		
3745-31-05	See below: 1.7 pounds NO _x /hour, 7.35 tons NO _x /year; 5.8 pounds CO/hour, 25.5 tons CO/year; 0.54 pound VOC/hour, 2.4 tons VOC/year; 3.2 pounds SO ₂ /hour,			

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The limit(s) specified in this rule (are) less stringent than the limitations specified in this permit.

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SUMMARY
 TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons/Year</u>
PM	15.2
NO _x	7.35
CO	25.5
VOC	2.4
SO ₂	14.1
HF	7.8

REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to **Ohio EPA, Central District Office, 3232 Alum Creek Drive, Columbus, OH 43207-3417.**

WASTE DISPOSAL

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

MAINTENANCE OF EQUIPMENT

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

MALFUNCTION/ABATEMENT

In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Ohio EPA, Central District Office, 3232 Alum Creek Drive, Columbus, OH 43207-3417.**

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Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

AIR POLLUTION NUISANCES PROHIBITED

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

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.

ADDITIONAL SPECIAL TERMS AND CONDITIONS

I. P001 - Tunnel kiln and dryer for clay and shale bricks

A. Operational Requirements

1. Compliance with permitted limits and terms and conditions contained within this permit.

B. Testing Requirements

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

- a. Emission Limitation

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

Applicable Compliance Method

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Method 9 of 40 CFR Part 60, Appendix A

b. Emission Limitation

1.7 pounds NO_x/hour and 7.35 tons NO_x/year

Applicable Compliance Method

Multiply the AP-42 emission factor of 0.35 pound NO_x/ton of brick produced by the actual amount of brick produced. Compliance with the tons per year limitation shall be shown by multiplying the maximum tons per year produced (42,000 ton/year) by the emission factor of 0.35 pound NO_x/ton and dividing by 2,000 pounds/ton.

Note: It is not physically possible for this facility to operate at a throughput greater than what is permitted here. Therefore no recordkeeping is needed.

c. Emission Limitation

5.8 pounds CO/hour and 25.5 tons CO/year

Applicable Compliance Method

Multiply the AP-42 emission factor of 1.2 pounds CO/ton of brick produced by the actual amount of brick produced. Compliance with the tons per year limitation shall be shown by multiplying the actual tons per year produced (42,000 ton/year) by the emission factor of 1.2 pounds CO/ton and dividing by 2,000 pounds/ton.

Note: It is not physically possible for this facility to operate at a throughput greater than what is permitted here. Therefore no recordkeeping is needed.

d. Emission Limitation

0.54 pound VOC/hour and 2.4 tons VOC/year

Applicable Compliance Method

Multiply the AP-42 emission factor of 0.112 pound VOC/ton of brick produced by the actual amount of brick produced. Compliance with the tons per year limitation shall be shown by multiplying the

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actual tons per year produced (42,000 ton/year) by the emission factor of 0.112 pound VOC/ton and dividing by 2,000 pounds/ton.

Note: It is not physically possible for this facility to operate at a throughput greater than what is permitted here. Therefore no recordkeeping is needed.

e. Emission Limitation

3.2 pounds SO₂/hour and 14.1 tons SO₂/year

Applicable Compliance Method

Multiply the AP-42 emission factor of 0.67 pound SO₂/ton of brick produced by the actual amount of brick produced. Compliance with the tons per year limitation shall be shown by multiplying the actual tons per year produced (42,000 ton/year) by the emission factor of 0.67 pound SO₂/ton and dividing by 2,000 pounds/ton.

Note: It is not physically possible for this facility to operate at a throughput greater than what is permitted here. Therefore no recordkeeping is needed.

f. Emission Limitation

2.1 pounds PM/hour and 9.2 tons PM/year

Applicable Compliance Method

Multiply the AP-42 emission factor of 0.447 pound PM/ton of brick produced by the actual amount of brick produced. Compliance with the tons per year limitation shall be shown by multiplying the actual tons per year produced (42,000 ton/year) by the emission factor of 0.447 pound PM/ton and dividing by 2,000 pounds/ton.

Note: It is not physically possible for this

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facility to operate at a throughput greater than what is permitted here. Therefore no recordkeeping is needed.

g. Emission Limitation

1.8 pounds HF/hour and 7.8 tons HF/year

Applicable Compliance Method

Multiply the AP-42 emission factor of 0.37 pound HF/ton of brick produced by the actual amount of brick produced. Compliance with the tons per year limitation shall be shown by multiplying the actual tons per year produced (42,000 ton/year) by the

emission factor of 0.37 pound HF/ton and dividing by 2,000 pounds/ton.

Note: It is not physically possible for this facility to operate at a throughput greater than what is permitted here. Therefore no recordkeeping is needed.

II. F001 - Paved and Unpaved Roadways and Parking

A. Operational Requirements

1. The permittee shall sweep the paved roadways and parking areas to minimize or eliminate, at all times, visible emissions of fugitive dust generated by vehicular traffic. The paved surfaces shall be swept, at a minimum, when visible emissions can be seen. The permittee shall not be required to sweep during wet conditions when there is sufficient moisture to prevent visible emissions of fugitive dust.

The permittee shall apply dust suppressants to the unpaved roadways and parking areas to minimize or eliminate, at all times, visible emissions of fugitive dust generated by vehicular traffic. The dust suppressant shall be applied to the unpaved surfaces, at a minimum whenever fugitive dust can be seen. This term and condition shall be waived during wet

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conditions when there is sufficient moisture to prevent visible emissions of fugitive dust.

Waste oil as defined by OAC rule 3745-279-01(A)(12) shall not be used as a dust suppressant.

The permittee shall certify or possess certification that all suppressants used to control fugitive dust meet the PCB limitations set forth in 40 CFR 761, and that there are no listed or characteristic hazardous wastes as set forth in 40 CFR 261.

The dust suppressant shall be applied in such a manner as to prevent pollution of waters of the State as required by the Ohio Revised Code, Section 6111.

Any material carried off of the permittee's property and deposited onto public streets by vehicular traffic or by erosion by water, etc., shall be promptly removed and disposed of properly to minimize or prevent resuspension.

A maximum speed limit of 15 miles per hour shall be posted and enforced on the property.

Open bodied vehicles transporting materials likely to become airborne shall be covered at all times.

B. Monitoring and Recordkeeping Requirements

1. The permittee shall maintain records which include the following information for the paved roadways and parking areas:
 - a. the date the paved surfaces were swept;
 - b. the portions of the paved surfaces that were swept; and,
 - c. the name of the equipment operator responsible for the sweeping.
2. The permittee shall maintain records which include the following information for the unpaved roadways and parking areas:
 - a. the date dust suppressants were applied to the unpaved surfaces;
 - b. the portions of unpaved surfaces that were treated

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with dust suppressants;

- c. the application rate of water and any chemical additives (gallons of each per square yard); and,
- d. the name of the equipment operator responsible for the application of the dust suppressants.

C. Testing Requirements

- 1. Compliance with the emission limitation(s) in these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation

- 5.0 tons PM/year

- Applicable Compliance Method

- Multiply the emission factor of 1.43 pounds/VMT by the maximum number of vehicle miles traveled from paved roadways and parking and divide by 2,000 pounds/ton. Then multiply the emission factor of 7.6 pounds/VMT by the maximum number of vehicle miles traveled from unpaved roadways and parking and divide by 2,000 pounds/ton.

III. F002 - Storage Piles

- A.** All storage piles shall contain sufficient moisture so as to minimize or eliminate visible emissions caused by wind erosion.

There shall be no visible particulate emissions from the material storage piles except for a period of time not to exceed one minute during any sixty-minute observation period.

During the unloading onto or removal from the storage piles, the drop height of the front-end loader shall be minimized in order to minimize or eliminate visible emissions of fugitive dust.

- B. Testing Requirements**

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

- a. Emission Testing Requirements

1.0 tons PM/year

Applicable Compliance Method

Multiply the emission factor of 0.0005 pound/ton (for load-in) times the total number of tons per year load-in. Then multiply the emission factor of 0.0005 pound/ton (for load-out) times the total number of tons per year load-out. Add these calculations together with 0.8 ton per year (for wind erosion) to get a total tons/year.