



State of Ohio Environmental Protection Agency

Street Address:

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Lazarus Gov.
Center

RE: PERMIT TO INSTALL MODIFICATION
LAWRENCE COUNTY
Application No: 07-00381

CERTIFIED MAIL

DATE: 8/22/2000

The Dow Chemical Co - Hanging Rock Plant
Troy DeHoff
925 County Rd 1A
Ironton, OH 456388687

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

PCHD



**Permit To Install
Terms and Conditions**

**Issue Date: 8/22/2000
Effective Date: 8/22/2000**

ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 07-00381

Application Number: **07-00381**
APS Premise Number: **0744000029**
Permit Fee: **\$0**
Name of Facility: **The Dow Chemical Co - Hanging Rock Plant**
Person to Contact: **Troy DeHoff**
Address: **925 County Rd 1A
Ironton, OH 456388687**

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

**925 County Rd 1A
Ironton, OHIO**

Description of modification:

Modification to PTI #07-381 issued 05/17/95, modified on 05/08/96, 10/17/96, 06/03/99 and 07/21/99 to correct isobutane usage limitation.

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

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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 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

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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.

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 sources listed below comprise the Permit to Install for **The Dow Chemical Co - Hanging Rock Plant** located in **LAWRENCE** County. The sources 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>Source Identification Description</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P003	Performance foams manufacturing plant: modification to correct Isobutane usage limitation.	Baghouse for control of PM emissions. Thermal oxidizer for control of VOC emissions (98% efficient at maximum operation).	3745-31-05 3745-17-07 3745-17-11	<p>Allowable emissions from the thermal oxidizer shall not exceed:</p> <p>1 lb/hr PM/PM₁₀ 4.38 TPY PM/PM₁₀ 0.12 lb/hr SO₂ 0.53 TPY SO₂ 6.0 lbs/hr NO_x 26.3 TPY NO_x 11.4 lbs/hr VOC</p> <p>Allowable emissions from the product storage warehouse shall not exceed: 1244 lbs/day VOC</p> <p>Total allowable emissions of VOC shall not exceed 210 TPY.</p>

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SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons/Year</u>
PM/PM ₁₀	4.38 (no increase)
SO ₂	0.53
NO _x	26.3
VOC	210.00 (25 tons/year decrease)

CONSTRUCTION STATUS

The Portsmouth City Health Department shall be notified in writing as to (a) the construction starting date, (b) the construction completion date, and (c) the date the facilities were placed into operation for the following sources: P003.

PERFORMANCE TEST REQUIREMENTS

The permittee shall conduct, or have conducted, performance testing on the air contaminant source(s) in accordance with procedures approved by the Agency. Two copies of the written report describing the test procedures followed and the results of such tests shall be submitted and signed by the person responsible for the test. The Director, or an Ohio EPA representative, shall be allowed to witness the test, examine testing equipment, and require the acquisition or submission of data and information necessary to assure that the source operation and testing procedures provide a valid characterization of the emissions from the source and/or the performance of the control equipment.

- A. A completed Intent to Test form shall be submitted to the appropriate Ohio EPA District Office or Local Air Pollution Control Agency where the original permit application was filed. This notice shall be made

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30 days in advance and shall specify the source operating parameters, the proposed test procedures, and the time, date, place and person(s) conducting such tests.

- B. Two copies of the test results shall be submitted within 30 days after the completion of the performance test.
- C. Tests shall be performed for the following source(s) and pollutant(s):

Source

Pollutant(s)

P003

PM/PM₁₀, NO_x, SO₂, VOC

RECORD(S) RETENTION AND AVAILABILITY

All records required by this Permit to Install shall be retained on file for a period of not less than three years unless otherwise indicated by Ohio Environmental Protection Agency. All records shall be made available to the Director, or any representative of the Director, for review during normal business hours.

REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to Portsmouth City Health Department.

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

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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 Portsmouth City Health Department.

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

1. Source P003, Performance Foams Manufacturing Plant, is limited to 210 tons of isobutane vent emissions and 2,540 tons of isobutane usage per rolling 365 day period of foam production. In order to insure federal enforceability, for the first twelve (12) calendar months of operation, DOW Chemical Company shall not exceed the following isobutane usage limit for the specific time period:

<u>MONTH(S)</u>	<u>TONS OF ISOBUTANE USAGE</u>
1	212
1-2	423
1-3	635
1-4	847
1-5	1058
1-6	1270
1-7	1482

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1-8	1693
1-9	1905
1-10	2117
1-11	2328
1-12	2540

After the first 12 months of operation, DOW shall conform with the rolling 365 day usage and emission limitations. Daily emissions and usage of isobutane shall be calculated using DOW's polyethylene foam Emissions Tracking Protocol.

2. Allowable Emissions:

In DOW's Performance Foams Manufacturing Plant there are two sources of vent emissions:

1. the regenerative thermal oxidizer; and,
2. the product storage warehouse.

Allowable VOC emissions from the product storage warehouse shall not exceed 1244 lbs/day.

Allowable emissions from the regenerative thermal oxidizer shall not exceed the following:

1. 1 lb/hr PM/PM₁₀ and 4.38 TPY PM/PM₁₀;
2. 0.12 lb/hr SO₂ and 0.53 TPY SO₂;
3. 6.0 lbs/hr NO_x and 26.3 TPY NO_x;
4. 11.40 lbs/hr VOC; and,
5. there shall be no visible emissions in excess of 10% opacity as a six minute average in any 60-minute observation period.

The shutdown of the regenerative thermal oxidizer shall be accompanied by the shutdown of the performance foam process unit. VOC emissions from the curing warehouse shall not exceed 8,000 lbs/day when the thermal oxidizer is shutdown. Total annual VOC emissions from the performance foams manufacturing process unit shall not exceed 210 TPY.

3. Regenerative Thermal Oxidizer Operational Parameters:

DOW Chemical Company shall maintain a minimum temperature of 1425°F in the combustion zone of the thermal oxidizer. The facility shall install, operate, and maintain electronic storage of daily 5 minute averaged temperature data. The sensor shall be located at the end of the combustion zone. The unit shall have a continuous display at the operating controls and an audible alarm to indicate if the temperature is less than 1425°F.

The thermal oxidizer, including all associated equipment and piping, shall be designed, operated, and maintained so as to prevent the emissions of objectionable odors.

4. Recordkeeping and Reporting Requirements:

DOW Chemical Company shall maintain daily records consisting of the following:

- a. daily usage of isobutane (lbs);
- b. product type groups produced;
- c. product type die loss factors;
- d. amount of scrap products ground;
- e. concentration of blowing agent used in recycle products;
- f. scrap cure factor;
- g. daily scrap inventory (lbs);
- h. hole punching factor;
- i. curing warehouse factor;
- j. curing warehouse inventory;
- k. daily prime product placed in storage warehouse;
- l. storage warehouse factor;
- m. daily isobutane vent emissions;
- n. isobutane emissions (tons) calculated on a 365 day rolling average;
- o. date and time thermal oxidizer shutdown;
- p. duration of time thermal oxidizer shutdown;

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- q. daily curing warehouse emissions when thermal oxidizer is shutdown; and,
- r. rolling 365 day total of the tons of isobutane used, calculated each day.

These daily records shall be kept on file for a minimum two year period. Semi-annual reports summarizing usage and emissions data and any exceedances of the limitations shall be submitted by February 15 and August 15 of each year and shall cover the previous six calendar months (July through December and January through June, respectively).

5. Contemporaneous Emission Increase and Decrease:

Modifying the performance foams manufacturing plant by converting from HFC-152a (a non-VOC) and isobutane (a VOC) as co-blowing agents to using isobutane only, and the addition of thermal oxidizer, the projected net change in emissions is as follows:

<u>Pollutant</u>	<u>Maximum New Source Emissions</u>	<u>Maximum Existing Source Emissions*</u>	<u>Net Change</u>
PM/PM ₁₀	4.38 TPY	4.38 TPY	0
SO ₂	0.53 TPY	0 TPY	+0.53 TPY
NO _x	26.3 TPY	0 TPY	+26.3 TPY
VOC (Isobutane)	210 TPY	235 TPY	-25 TPY
HFC-152a	0 TPY	613 TPY	-613 TPY

* Maximum existing source emissions based on allowable emissions as per 40 CFR 52.21(b)(21)(iii) and (iv).