



State of Ohio Environmental Protection Agency

RE: FINAL PERMIT TO INSTALL

CERTIFIED MAIL

Street Address:

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

Mailing Address:

Lazarus Gov.
Center

LAWRENCE COUNTY

Application No: 07-00494

DATE: 10/19/2000

Dow Chemical Co - Hanging Rock Plant
Troy DeHoff
925 County Rd 1A
Ironton, OH 45638-8687

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

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.

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 Director's 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
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA

PCHD



**Permit To Install
Terms and Conditions**

**Issue Date: October 19, 2000
Effective Date: October 19, 2000**

FINAL PERMIT TO INSTALL 07-00494

Application Number: 07-00494
APS Premise Number: 0744000029
Permit Fee: **\$2200**
Name of Facility: Dow Chemical Co - Hanging Rock Plant
Person to Contact: Troy DeHoff
Address: 925 County Rd 1A
Ironton, OH 45638-8687

Location of proposed air contaminant source(s) [emissions unit(s)]:
**925 County Rd 1A
Ironton, Ohio**

Description of proposed emissions unit(s):
**Modification to P014 to convert to a Performance Foams Line with Thermal Oxidizer as control;
Modification to source POO3 to increase emissions from the Thermal Oxidizer and separate warehouses.**

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

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. 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.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written 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. See B.11 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. 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, i.e., upset, 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. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to 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 emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition

declared invalid.

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. 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 request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. 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.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

Dow Chemical Co - Hanging Rock Plant
PTI Application: 07-00494
Issued: October 19, 2000

Facility ID: 0744000029

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

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10. Permit To Operate Application

- 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.

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B. State Only Enforceable 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 of state-only enforceable 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 state-only required 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. 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.

4. 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.

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5. 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.

6. 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 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.

7. 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.

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8. 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).

9. 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.

10. 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.

11. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

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.

C. 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>
PM/PM ₁₀	12
SO ₂ ,	0.53
NO _x	26.3
VOC	210

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Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III

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

A. State and Federally Enforceable Section

I. 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>
P019 - Performance Foams Product Storage Warehouse #1	OAC 3745-31-05(A)(3)	Allowable VOC (Isobutane) emissions from this emission unit shall not exceed 800 lb/day.
	OAC rule 3745-31-05(D) Synthetic minor to avoid PSD	The requirements of this rule also include compliance with OAC rule 3745-31-05(D).
		See A.I.2.a. below.

2. Additional Terms and Conditions

- 2.a VOC (Isobutane) vent emissions from this emissions unit shall not exceed 70 tons per year, based upon a rolling, 365-day summation of the daily emissions.

II. Operational Restrictions

1. The VOC (Isobutane) usage restriction on the Performance Foams lines (P003, P022 and P014) results in restricted annual emissions from this source.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain daily records of the following information:
 - a. daily prime product placed in storage warehouse;
 - b. storage warehouse factor;
 - c. rolling 365 day total amount (tons) of isobutane used in all performance foam line (P003,P022 and P014), calculated each day

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- d. isobutane emissions (tons) calculated on a 365 day rolling average;

These daily records shall be kept on file for a minimum two year period.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day VOC (Isobutane) emission limitation .

V. Testing Requirements

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

- a. Emission Limitation:

Allowable VOC (Isobutane) emissions from the product storage warehouse shall not exceed 800 lb/day.

VOC (Isobutane) vent emissions from this emissions unit shall not exceed 70 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

Compliance shall be determined based upon the monitoring and recordkeeping as described in section A.III.1. and the computerized mathematical emissions calculating program developed by Dow Chemical personnel. This program shall include calculations based on emission factors developed based on the product mix to calculate emissions rates from this emission unit. This program shall be available to an OEPA representative at any time during normal business hours

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Dow C

PTI A

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Emissions Unit ID: P019

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. 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>
P019 - Performance Foams Product Storage Warehouse #1	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Dow Chemical Co - Hanging Rock Plant
PTI Application: 07-00404
Issued

Facility ID: 0744000029

Emissions Unit ID: P019

Issued: October 19, 2000

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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>
P020 - Performance Foams Product Storage Warehouse #2	OAC 3745-31-05(a)(3)	Allowable VOC (Isobutane) emissions from this emission unit shall not exceed 600 lb/day.
	OAC rule 3745-31-05(D) Synthetic minor to avoid PSD	The requirements of this rule also include compliance with OAC rule 3745-31-05(D).
		See A.I.2.a. below.

2. Additional Terms and Conditions

- 2.a VOC (Isobutane) vent emissions from this emissions unit shall not exceed 53 tons per year, based upon a rolling, 365-day summation of the daily emissions.

II. Operational Restrictions

1. The VOC (Isobutane) usage restriction on the Performance Foams lines (P003, P022 and P014) results in restricted annual emissions from this source.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain daily records of the following information:

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- a. daily prime product placed in storage warehouse;
- b. storage warehouse factor;
- c. rolling 365 day total amount (tons) of isobutane used in all performance foam lines (P003, P022 and P014), calculated each day
- d. isobutane emissions (tons) calculated on a 365 day rolling average;

These daily records shall be kept on file for a minimum two year period.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day VOC (Isobutane) emission limitation .

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation:

Allowable VOC (Isobutane) emissions from the product storage warehouse shall not exceed 600 lb/day.

VOC (Isobutane) vent emissions from this emissions unit shall not exceed 53 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

Compliance shall be determined based upon the monitoring and recordkeeping as described in section A.III.1. and the computerized mathematical emissions calculating program developed by Dow Chemical personnel. This program shall include calculations based on emission factors developed based on the product mix

Dow C

PTI A

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Emissions Unit ID: P020

to calculate emissions rates from this emission unit. This program shall be available to an OEPA representative at any time during normal business hours.

VI. Miscellaneous Requirements

None

Dow C

PTI A

Issued: October 19, 2000

Emissions Unit ID: P020

B. State Only Enforceable Section**I. 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>
P020 - Performance Foams Product Storage Warehouse #2	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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Facility ID: 0744000029

Emissions Unit ID: P020

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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>
P021 - Performance Foams Product Storage Warehouse #3	OAC 3745-31-05(A)(3) OAC rule 3745-31-05(D) Synthetic minor to avoid PSD	Allowable VOC (Isobutane) emissions from this emission unit shall not exceed 200 lb/day. The requirements of this rule also include compliance with OAC rule 3745-31-05(D). See A.I.2.a. below.

2. Additional Terms and Conditions

- 2.a VOC (Isobutane) vent emissions from this emissions unit shall not exceed 18 tons per year, based upon a rolling, 365-day summation of the daily emissions.

II. Operational Restrictions

1. The VOC (Isobutane) usage restriction on the Performance Foams lines (P003, P022 and P014) results in restricted annual emissions from this source.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain daily records of the following information:

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- a. daily prime product placed in storage warehouse;
- b. storage warehouse factor;
- c. rolling 365 day total amount (tons) of isobutane used in all performance foam lines (P003, P022 and P014), calculated each day
- d. isobutane emissions (tons) calculated on a 365 day rolling average;

These daily records shall be kept on file for a minimum two year period.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day VOC (Isobutane) emission limitation .

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation:

Allowable VOC (Isobutane)emissions from the product storage warehouse shall not exceed 200 lb/day.

VOC (Isobutane) vent emissions from this emissions unit shall not exceed 18 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

Compliance shall be determined based upon the monitoring and recordkeeping as described in section A.III.1. and the computerized mathematical emissions calculating program developed by Dow Chemical personnel. This program shall include calculations based on emission factors developed based on the product mix to calculate emissions rates from this

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Dow C

PTI A

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Emissions Unit ID: P021

emission unit. This program shall be available to an OEPA representative at any time during normal business hours.

VI. Miscellaneous Requirements

None

Dow Chemical Co - Hanging Rock Plant
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B. State Only Enforceable Section

I. 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>
P021 - Performance Foams Product Storage Warehouse #3	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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Dow C

PTI A

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Emissions Unit ID: P018

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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>	
P018 -Performance Foams Primary Curing Warehouse #2 controlled by Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	OAC rule 3745-31-05(D) Synthetic minor to avoid PSD OAC rule 3745-17-07(A)

Dow C

PTI A

Issued: October 19, 2000

Emissions Unit ID: P018

**Applicable Emissions
Limitations/Control
Measures**

Controlled VOC (Isobutane) emissions from this emission unit shall not exceed 19.2 lb/hr.

Allowable emissions from the thermal oxidizer (see section A.I.2.b. for sources) shall not exceed:

2.75 lb/hr PM/PM₁₀, 12 TPY PM/PM₁₀

0.12 lb/hr SO₂, 0.53 TPY SO₂

6.0 lbs/hr NO_x, 26.3 TPY NO_x

40.2 lbs/hr VOC (Isobutane)

The requirements of this rule also include compliance with OAC rule 3745-31-05(D).

See section A.I.2. b,c,d,f. below.

See section A.I.2.a below.

See section A.I.2.e. below.

2. Additional Terms and Conditions

2.a VOC (Isobutane) vent emissions from this emissions unit shall not exceed ~~41.4~~ **31.5** tons per year, based upon a rolling, 365-day summation of the daily emissions.

2.b The following sources are vented to the Regenerative Thermal Oxidizer (RTO): P003 (Performance Foams line #1), P022 (Performance Foams line #2),

P023
(Performance
Foams
Recycle
line),
P014
(Performance
Foams
line #3),
P017
(Performance
Foams
Primary
Curing
Warehouse #1)
and
P018
(Performance
Foams
Primary
Curing
Warehouse #2).

2.c VOC (Isobutane)emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at

maximu
m
operatin
g
capacity
.

2.d There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.

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

available
technology).

2.f The 19.2 lb VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with this limit.

II. Operational Restrictions

1. Combined VOC (Isobutane) emissions from Performance Foams Primary Curing

Warehouse #1 (P017) and #2 (P018) shall not exceed 16,000 lbs/day when the thermal oxidizer is shutdown

2. The VOC (Isobutane) usage restriction on the Performance Foams lines (P003, P022 and P014) results in restricted annual emissions from this source.
3. A minimum temperature of 1425 degrees Fahrenheit shall be maintained in the combustion zone of the thermal oxidizer.
4. The thermal oxidizer, including any associated equipment and piping, shall be designed, operated, and maintained so as to prevent the emissions of objectionable odors.

III. Monitoring and/or Recordkeeping Requirements

1. The facility shall install, operate, and maintain electronic storage of daily 5-minute averaged temperature data for the thermal oxidizer. 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 degrees Fahrenheit.

Emissions Unit ID: P018

2. The permittee shall maintain daily records of the following information:
- a. curing warehouse factor;
 - b. curing warehouse inventory;
 - c. daily isobutane vent emissions;
 - d. isobutane emissions (tons) calculated on a 365 day rolling average;
 - e. date and time thermal oxidizer shutdown;
 - f. duration of time thermal oxidizer shutdown;
 - g. daily curing warehouse emissions when thermal oxidizer is shutdown;
 - h. rolling 365 day total of the tons of isobutane used for all performance foam process lines (P003, P022 and P014), calculated each day.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day VOC (Isobutane) emission limitation.

- 2. The permittee shall submit deviation (excursion) reports that identify all blocks of time during which the thermal oxidizer combustion zone temperature does not comply with the temperature limitation specified above.

V. Testing Requirements

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

- a. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

2.75
lb/hr
PM/PM₁₀
0.12
lb/hr
SO₂
6.0
lbs/hr
NO_x
40.2
lbs/hr
VOC
(Isobutane)
VOC

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(Isobutane) emissions from the thermal oxidizer shall be controlled by at least 98% at maximum operating capacity.

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through emission tests performed

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accorda
nce with
the
procedu
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specifie
d in
section
A.V.2.

b. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY
PM/PM

¹⁰
0.53

TPY

SO₂

26.3

TPY

NO_x

Applicable Compliance Method :

Compliance with this emission limitation can be assumed provided that the

permitted
demonstrate
rates
compliance with
the lb/hr
PM₁₀, SO₂
and
NO_x
limitations.

c. Emission Limitation:

VOC
(Isobutane)
emissions from
this
source
shall not
exceed
19.2
lb/hr.

Applicable
Compliance
Method
:

Compliance
shall be
determined

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emissio
ns rates
from
this

emission unit. This program shall be available to an OEPA representative at any time during normal business hours.

d. Emission Limitation:

VOC (Isobutane) vent emissions from this emission unit shall not exceed 31.5 tons per year, based upon a rolling, 365-day summation of the daily emissions.

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Applicable
Compliance
Method
:

Compliance with
this emission
limitation shall
be determined
through monitoring
and recordkeeping
as described in
section A.III.2.

e. Emission Limitation:

Combined VOC
(Isobutane)
emissions from
Performance
Foams

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Primary
Curing
Wareho
use #1
(P017)
and #2
(P018)
shall not
exceed
16,000
lbs/day
when
the
thermal
oxidizer
is
shutdo
wn.

Applica
ble
Complia
nce
Method
:

Complia
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shall be
determi
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Emissions Unit ID: P018

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calculati
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product
mix to
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emissio
ns rates
from
this
emissio
n unit.
This
program
shall be
availabl
e to an
OEPA
represen

tative at any time during normal business hours.

f. Emission Limitation:

There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.

Applicable Compliance Method :

Compliance shall be determined by

visible
emissio
n
evaluati
ons
perform
ed in
accorda
nce with
OAC
rule
3745-17-
03(B)(1
) using
the
methods
and
procedu
res
specifie
d in
USEPA
Referen
ce
Method
9.

- 2. The following emission units vent to the regenerative thermal oxidizer: P003 (performance foams line #1), P022 (performance foams line #2), P023 (performance foams recycle line), P014 (performance foams line #3), P017 (curing warehouse) and P018 (curing warehouse).

The permittee shall conduct, or have conducted, emission testing for this

emission unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 3 months after issuance of the permit.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for PM/PM₁₀, SO₂, NO_x and VOC, and

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control
efficiency
limitation for
VOC.

- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) for PM/PM10, Method 5 of 40 CFR Part 60, Appendix A; for SO2, Method 6C of 40 CFR Part 60, Appendix A; for NOX Method 7 of 40 CFR Part 60, Appendix A and for VOC, Method

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25A of
40 CFR
Part 60,
Appendi
x A.
The test
method(
s) which
must be
employe
d to
demonst
rate
complia
nce with
the
control
efficienc
y
limitatio
n for
VOC is
specifie
d
below.
Alternat
ive U.S.
EPA
approve
d test
methods
may be
used
with
prior
approva
l from
the
Ohio
EPA.

- 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 Portsmouth local air agency.

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the

control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10" or the approved alternative test protocol (e.g., "the mass balance protocol approved on 10/25/95"). The test methods and procedures selected shall be

based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

- e. Since multiple emissions units vent to a common regenerative thermal oxidizer (RTO) and it is not technically

feasible to isolate specific emission units for the purpose of emission testing, the summation of the total emission rates for each pollutant from the RTO will be compared against the allowable emission limitations for each pollutant from the RTO for the

purpose
s of
demonst
rating
compli
ance.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. 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 Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency 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 Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

55

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VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. 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>
P018 - Performance Foams Primary Curing Warehouses controlled by Thermal Oxidizer	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

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VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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>
P003 - Performance Foams Plant- line #1 controlled by Thermal Oxidizer	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-31-05(D) SYNTHETIC MINOR TO AVOID PSD (THIS LIMITATION UPON P003 AND

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P022 WAS PART OF AN EARLIER PTI TO AVOID PSD)

Applicable Emissions Limitations/Control Measures

OAC rule 3745-17-07(A)

Controlled VOC (Isobutane) emissions from this emission unit shall not exceed 4.4 lb/hr.

OAC rule 3745-17-11(B)

Allowable emissions from the thermal oxidizer (see section A.I.2.b for sources) shall not exceed:

- 2.75 lb/hr PM/PM₁₀, 12 TPY PM/PM₁₀
- 0.12 lb/hr SO₂, 0.53 TPY SO₂
- 6.0 lbs/hr NO_x, 26.3 TPY NO_x
- 40.2 lbs/hr VOC (Isobutane)

The requirements of this rule also include compliance with OAC rule 3745-31-05(D).

See sections A.I.2.a,b,c,d,e,g below.

15.9 Tons VOC per rolling 365 day period combined limit for P003 and P022.

See section A.I.2.f. below.

See section A.I.2.f. below.

2. Additional Terms and Conditions

2.a VOC (Isobutane) vent emissions from

this
emissio
ns unit
shall not
exceed
15.9
tons per
year,
based
upon a
rolling,
365-day
summati
on of
the daily
emissio
ns.

2.b The following sources are vented to
the
Regener
ative
Thermal
Oxidize
r
(RTO):
P003
(Perfor
mance
Foams
line #1),
P022
(Perfor
mance
Foams
line #2),
P023
(Perfor
mance
Foams

Recycle
line),
P014
(Perfor
mance
Foams
line #3),
P017
(Perfor
mance
Foams
Primary
Curing
Wareho
use #1)
and
P018
(Perfor
mance
Foams
Primary
Curing
Wareho
use #2).

2.c VOC (Isobutane) emissions from the
Regener
ative
Thermal
Oxidize
r shall
be
controll
ed by at
least
98% at
maximu
m
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g

capacity
.

- 2.d** The shutdown of the Regenerative Thermal Oxidizer shall be accompanied by the shutdown of all the Performance Foam process units which are vented to it.
- 2.e** There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.
- 2.f** The emission limitation specified by this rule

is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) (best available technology).

2.g The 4.4 lb VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop

recordkeeping and/or reporting requirements to ensure compliance with this limit.

II. Operational Restrictions

- 1. Combined Isobutane (VOC) usage for this source and P022 (Performance foams line #2) shall not exceed 2540 tons per year, based upon a rolling, 365-day summation of the daily usage.

The permittee shall comply with this limitation upon startup, based upon usage records for the previous 365 days.

- 2. A minimum temperature of 1425 degrees Fahrenheit shall be maintained in the combustion zone of the thermal oxidizer.
- 3. The thermal oxidizer, including any associated equipment and piping, shall be designed, operated, and maintained so as to prevent the emissions of objectionable odors.

III. Monitoring and/or Recordkeeping Requirements

- 1. The facility shall install, operate, and maintain electronic storage of daily 5-minute averaged temperature data for the thermal oxidizer. 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 degrees Fahrenheit.

- 2. The permittee shall maintain daily records of the following information:
 - a. daily usage of isobutane (lbs) *for this source (P003)*;
 - b. product type groups produced;
 - c. product type die loss factors;
 - d. hole punching factor;
 - e. daily isobutane vent emissions;
 - f. total combined isobutane emissions (tons) calculated on a 365 day rolling average for sources P003 and P022;
 - g. date and time thermal oxidizer shutdown;
 - h. duration of time thermal oxidizer shutdown;
 - i. total combined rolling 365 day total of the tons of isobutane used for sources P003 and P022,

Emissions Unit ID: P003
calculated each day.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day combined emission limitation and combined usage limitation for isobutane.
2. The permittee shall submit deviation (excursion) reports that identify all blocks of time during which the thermal oxidizer combustion zone temperature does not comply with the temperature limitation specified above.

V. Testing Requirements

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

a. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

2.75
lb/hr
PM/PM₁₀
0.12
lb/hr
SO₂
6.0
lbs/hr
NO_x
40.2
lbs/hr

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VOC
(Isobutane)

VOC
(Isobutane)
emissions from the thermal oxidizer shall be controlled by at least 98% at maximum operating capacity.

Applicable
Compliance
Method
:

Compliance with this emission limitation shall be determined through emission tests performed in accordance with the procedures specified in section A.V.2.

b. Emission Limitation:

Allowable
emissions from
the
thermal

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Emissions Unit ID: P003

oxidizer
shall not
exceed:

12 TPY
PM/PM
10
0.53
TPY
SO2
26.3
TPY
NOx

VOC
(Isobutane)
emissions from
the
thermal
oxidizer
shall be
controlled by at
least
98% at
maximum
operating
capacity

Applicable
Compliance
Method
:

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Compliance with this emission limitation can be assumed provided that the permittee demonstrates compliance with the lb/hr PM/PM₁₀, SO₂ and NOx limitations.

c. Emission Limitation:

VOC (Isobutane) emissions from this emission unit shall not exceed 4.4 lb/hr.

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Applicable
Compliance
Method
:

Compliance shall be determined using the computerized mathematical emissions calculation program developed by Dow Chemical personnel. This program shall include calculations based on emission

factors developed based on the product mix to calculate emissions rates from this emission unit. This program shall be available to an OEPA representative at any time during normal business hours.

d. Emission Limitation:

VOC (Isobutane) vent emissions from this emission unit shall not

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exceed
15.9
tons per
year,
based
upon a
rolling,
365-day
summati
on of
the daily
emissio
ns.

Applica
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Complia
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Method
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Complia
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this
emissio
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limitatio
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be
determi
ned
through
monitori
ng and
recordk
eeping
as
describe
d in
section

A.III.2.

e. Emission Limitation:

15.9
Tons
VOC
per
rolling
365 day
period
combine
d limit
for
P003
and
P022.

Applica
ble
Complia
nce
Method
:

Complia
nce with
this
emissio
n
limitatio
n shall
be
determi
ned
through
monitori
ng and
recordk
eeping

as described in section A.III.2. using the summation of the annual emissions for sources P003 and P002.

f. Emission Limitation:

There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.

Applica

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Emissions Unit ID: P003

ble
Compliance
Method
:

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

- 2. The following emission units vent to the regenerative thermal oxidizer: P003 (performance foam line #1), P022 (performance foams line

#2), P014 (performance foams line #3), P023 (performance foams recycle line), P017 (curing warehouse) and P018 (curing warehouse).

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

- a. The emission testing shall be conducted within 3 months after issuance of the permit .
- b. The emission testing shall be conducted to demonstrate compliance with the allowable

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Emissions Unit ID: P003
e mass
emissio
n rate(s)
for
PM/PM
10,
SO2,
NOx
and
VOC,
and
control
efficienc
y
limitatio
n for
VOC.

- c. The following test method(s) shall be employed to demonstrate rate compliance with the allowable mass emission rate(s):
for
PM/PM
10,
Method
5 of 40
CFR
Part 60,
Appendi
x A; for
SO2,
Method
6C of
40 CFR
Part 60,
Appendi

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Emissions Unit ID: P003

x A; for
NOX
Method
7 of 40
CFR
Part 60,
Appendi
x A and
for
VOC,
Method
25A of
40 CFR
Part 60,
Appendi
x A.
The test
method(
s) which
must be
employe
d to
demonst
rate
complia
nce with
the
control
efficienc
y
limitatio
n for
VOC is
specifie
d
below.
Alternat
ive U.S.
EPA
approve

d test
methods
may be
used
with
prior
approval
from
the
Ohio
EPA.

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 Portsmouth local air agency.

e. Since multiple emissions units vent to a common regenerative

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ative
thermal
oxidizer
(RTO)
and it is
not
technica
lly
feasible
to
isolate
specific
emissio
n units
for the
purpose
of
emissio
n
testing,
the
summati
on of
the total
emissio
n rates
for each
pollutan
t from
the
RTO
will be
compar
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against
the
allowabl
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emissio
n

Dow C

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Emissions Unit ID: P003

limitations for each pollutant from the RTO for the purposes of demonstrating compliance.

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods

and
procedures
specified in
OAC
rule
3745-21-
10" or
the
approved
alternative test
protocol
(e.g.,
"the
mass
balance
protocol
approved on
10/25/9
5").
The test
methods
and
procedures
selected
shall be
based
on a
consideration of
the
diversity
of the
organic
species

present
and
their
total
concentration,
and on a
consideration of
the
potential
presence of
interfering
gases.

- 3.. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. 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 District Office's or Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency 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

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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 Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. 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>
P003 - Performance Foams Plant - lines #1 controlled by Thermal Oxidizer	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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>	P003 AND P022 WAS PART OF AN EARLIER PTI TO AVOID PSD)
P022 - Performance Foams Plant- line #2 controlled by Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-07(A)
		OAC rule 3745-17-11(B)
	OAC rule 3745-31-05(D) SYNTHETIC MINOR TO AVOID PSD (THIS LIMITATION UPON	

Applicable Emissions
Limitations/Control
Measures

Controlled VOC (Isobutane) emissions from this emission unit shall not exceed 5.2 lb/hr.

Allowable emissions from the thermal oxidizer (see section A.I.2.b for sources) shall not exceed:

2.75 lb/hr PM/PM₁₀, 12
 TPY PM/PM₁₀
 0.12 lb/hr SO₂, 0.53 TPY
 SO₂
 6.0 lbs/hr NO_x, 26.3 TPY
 NO_x
 40.2 lbs/hr VOC
 (Isobutane)

The requirements of this rule also include compliance with OAC rule 3745-31-05(D).

See sections A.I.2.a,b,c,d,e,g below.

15.9 Tons VOC per rolling 365 day period combined limit for P003 and P022.

See section A.I.2.f. below.

See section A.I.2.f. below.

2. Additional Terms and Conditions

- 2.a** VOC (Isobutane) vent emissions from this emissions unit shall not exceed 15.9 tons per year, based upon a rolling, 365-day summation of the daily emissions.
- 2.b** The following sources are vented to the Regenerative Thermal Oxidizer (RTO): P003 (Performance Foams line #1), P022 (Performance Foams line #2), P023 (Performance Foams Recycle line), P014 (Performance Foams line #3), P017 (Performance Foams Primary Curing Warehouse #1) and P018 (Performance Foams Primary Curing Warehouse #2).
- 2.c** VOC (Isobutane) emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at maximum operating capacity.
- 2.d** The shutdown of the Regenerative Thermal Oxidizer shall be accompanied by the shutdown of all the Performance Foam process units which are vented to it.
- 2.e** There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.
- 2.f** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) (best available technology).
- 2.g** The 5.2 lb VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with this limit.

II. Operational Restrictions

1. Combined Isobutane (VOC) usage for sources P003 and P022 shall not exceed 2540 tons per

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year, based upon a rolling, 365-day summation of the daily usage.

The permittee shall comply with this limitation upon startup, based upon usage records for the previous 365 days.

2. A minimum temperature of 1425 degrees Fahrenheit shall be maintained in the combustion zone of the thermal oxidizer.
3. The thermal oxidizer, including any associated equipment and piping, shall be designed, operated, and maintained so as to prevent the emissions of objectionable odors.

III. Monitoring and/or Recordkeeping Requirements

1. The facility shall install, operate, and maintain electronic storage of daily 5-minute averaged temperature data for the thermal oxidizer. 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 degrees Fahrenheit.
2. The permittee shall maintain daily records of the following information:
 - a. daily usage of isobutane (lbs) for this source (P022);
 - b. product type groups produced;
 - c. product type die loss factors;
 - d. hole punching factor;
 - e. daily isobutane vent emissions;
 - f. total combined isobutane emissions (tons) calculated on a 365 day rolling average for sources P003 and P022;
 - g. date and time thermal oxidizer shutdown;
 - h. duration of time thermal oxidizer shutdown;
 - i. total combined rolling 365 day total of the tons of isobutane used for sources P003 and P022, calculated each day.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day combined emission limitation and combined usage limitation for isobutane .
2. The permittee shall submit deviation (excursion) reports that identify all blocks of time during which the thermal oxidizer combustion zone temperature does not comply with the temperature limitation specified above.

V. Testing Requirements

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

- a. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

2.75 lb/hr PM/PM₁₀
0.12 lb/hr SO₂
6.0 lbs/hr NO_x
40.2 lbs/hr VOC (Isobutane)

VOC (Isobutane) emissions from the thermal oxidizer shall be controlled by at least 98% at maximum operating capacity.

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through emission tests performed in accordance with the procedures specified in section A.V.2.

b. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY PM/PM10
0.53 TPY SO₂
26.3 TPY NO_x

VOC (Isobutane) emissions from the thermal oxidizer shall be controlled by at least 98% at maximum operating capacity.

Applicable Compliance Method:

Compliance with this emission limitation can be assumed provided that the permittee demonstrates compliance with the lb/hr PM/PM₁₀, SO₂ and NO_x limitations.

c. Emission Limitation:

VOC (Isobutane) emissions from this emission unit shall not exceed 5.2 lb/hr.

Applicable Compliance Method:

Compliance shall be determined using the computerized mathematical emissions calculating program developed by Dow Chemical personnel. This program shall include calculations based on emission factors developed based on the product mix to calculate emissions rates from this emission unit. This program shall be available to an OEPA representative at any time during normal business hours.

d. Emission Limitation:

VOC (Isobutane) vent emissions from this emissions unit shall not exceed 15.9 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

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Compliance with this emission limitation shall be determined through monitoring and recordkeeping as described in section A.III.2.

e. Emission Limitation:

15.9 Tons VOC per rolling 365 day period combined limit for P003 and P022.

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through monitoring and recordkeeping as described in section A.III.2. using the summation of the annual emissions for sources P003 and P002.

f. Emission Limitation:

There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.

Applicable Compliance Method:

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

2. The following emission units vent to the regenerative thermal oxidizer: P003 (performance foam line #1), P022 (performance foams line #2), P014 (performance foams line #3), P023 (performance foams recycle line), P017 (curing warehouse) and P018 (curing warehouse).

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

- a. The emission testing shall be conducted within 3 months after issuance of the permit
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for PM/PM10, SO₂, NO_x and VOC, and control efficiency limitation for VOC.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for PM/PM10, Method 5 of 40 CFR Part 60, Appendix A; for SO₂, Method 6C of 40 CFR Part 60, Appendix A; for NO_x Method 7 of 40 CFR

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Part 60, Appendix A and for VOC, Method 25A of 40 CFR Part 60, Appendix A. The test method(s) which must be employed to demonstrate compliance with the control efficiency limitation for VOC is specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- 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 Portsmouth local air agency.
- e. Since multiple emissions units vent to a common regenerative thermal oxidizer (RTO) and it is not technically feasible to isolate specific emission units for the purpose of emission testing, the summation of the total emission rates for each pollutant from the RTO will be compared against the allowable emission limitations for each pollutant from the RTO for the purposes of demonstrating compliance.

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10" or the approved alternative test protocol (e.g., "the mass balance protocol approved on 10/25/95"). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

- 3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency 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 Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. 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>
P022 - Performance Foams Plant - line #2 controlled by Thermal Oxidizer	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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Facility ID: 0744000029

Emissions Unit ID: P022

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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>	
P014 - Performance Foams Plant - line #3 controlled by Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11(B)
	OAC rule 3745-31-05(D) Synthetic Minor to avoid PSD	
	OAC rule 3745-17-07(A)	

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Applicable Emissions
Limitations/Control
Measures

VOC (Isobutane) emission from this emission unit shall not exceed 3.3 lb/hr.

Allowable emissions from the thermal oxidizer (see section A.I.2.b. for sources) shall not exceed :

2.75 lb/hr PM/PM₁₀, 12 TPY PM/PM₁₀

0.12 lb/hr SO₂, 0.53 TPY SO₂

6.0 lbs/hr NO_x, 26.3 TPY NO_x

40.2 lbs/hr VOC (Isobutane)

The requirements of this rule also include compliance with OAC rule 3745-31-05(D)

See sections A.I.2.a,b,c,d, e, g below.

23.2 Tons VOC per rolling 365 day period combined limit for P003, P022, P014 and P023.

See section A.I.2.f. below.

See section A.I.2.f below.

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2. Additional Terms and Conditions

- 2.a** VOC (Isobutane) vent emissions from this emissions unit shall not exceed 4.5 tons per year, based upon a rolling, 365-day summation of the daily emissions.
- 2.b** The following sources are vented to the Regenerative Thermal Oxidizer (RTO): P003 (Performance Foams line #1), P022 (Performance Foams line #2), P023 (Performance Foams Recycle line), P014 (Performance Foams line #3), P017 (Performance Foams Primary Curing Warehouse #1) and P018 (Performance Foams Primary Curing Warehouse #2).
- 2.c** VOC (Isobutane) emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at maximum operating capacity.
- 2.d** The shutdown of the Regenerative Thermal Oxidizer shall be accompanied by the shutdown of all the Performance Foam process units which are vented to it..
- 2.e** There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.
- 2.f** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) (best available technology).
- 2.g** The 3.3 lb VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with this limit.

II. Operational Restrictions

1. Combined VOC (Isobutane) usage for sources P003, P022 and P014 shall not exceed 3540 tons per year, based upon a rolling, 365-day summation of the daily usage. In order to ensure federal enforceability, for the first twelve (12) calendar months of operation, the permittee shall not exceed the following isobutane usage limit for the specific time period:

MONTH

ISOBU
TANE
USAG
E

(Tons)

1	295
2	590
3	885
4	1180
5	1475
6	1770
7	2065
8	2360
9	2655
10	2950
11	3245
12	3540

After the first 12 calendar months of operation, compliance with the annual production rate limitation shall be based upon a rolling, 365 day summation of isobutane usage.

2. A minimum temperature of 1425 degrees fahrenheit shall be maintained in the combustion zone of the thermal oxidizer.
3. The thermal oxidizer, including any associated equipment and piping, shall be designed, operated, and maintained so as to prevent the emissions of objectionable odors.

III. Monitoring and/or Recordkeeping Requirements

1. The facility shall install, operate, and maintain electronic storage of daily 5-minute averaged temperature data for the thermal oxidizer. 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 degrees Fahrenheit.
2. The permittee shall maintain daily records of the following information:
 - a. daily usage of isobutane (lbs) for this source (P014);
 - b. product type groups produced;
 - c. product type die loss factors;
 - d. daily isobutane vent emissions;
 - e. total combined isobutane emissions (tons) calculated on a 365 day rolling average for sources P003,P022, P014 and P023;
 - f. date and time thermal oxidizer shutdown;

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- g. duration of time thermal oxidizer shutdown;
- h. rolling 365 day total of the tons of isobutane used *for this emission unit*, calculated each day.
- i. total combined rolling 365 day total of the tons of isobutane used for sources P003, P022, and P014, calculated each day.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the combined rolling, 365-day emission limitation and *combined* usage limitation for isobutane .
2. The permittee shall submit deviation (excursion) reports that identify all blocks of time during which the thermal oxidizer combustion zone temperature does not comply with the temperature limitation specified above.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. Allowable emissions from the thermal oxidizer shall not exceed:

2.75 lb/hr PM/PM₁₀
 0.12 lb/hr SO₂
 6.0 lbs/hr NO_x
 40.2 lbs/hr VOC (*Isobutane*)

VOC (Isobutane) emissions from the thermal oxidizer shall be controlled by at least 98% at maximum operating capacity.

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through emission tests performed in accordance with the procedures specified in section A.V.2.

- b. Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY PM/PM₁₀
 0.53 TPY SO₂
 26.3 TPY NO_x

VOC (Isobutane) emissions from the thermal oxidizer shall be controlled by at least 98% at maximum operating capacity.

Applicable Compliance Method:

Compliance with this emission limitation can be assumed provided that the permittee

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demonstrates compliance with the lb/hr PM/PM₁₀, SO₂ and NO_x limitations.

c. Emission Limitation:

VOC (Isobutane) emissions from this source shall not exceed 3.3 lb/hr.

Applicable Compliance Method:

Compliance shall be determined using the computerized mathematical emissions calculating program developed by Dow Chemical personnel. This program shall include calculations based on emission factors developed based on the product mix to calculate emissions rates from this emission unit. This program shall be available to an OEPA representative at any time during normal business hours.

d. Emission Limitation:

VOC (Isobutane) vent emissions from this emissions unit shall not exceed 14.5 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through monitoring and recordkeeping as described in section A.III.2.

e. Emission Limitation:

23.2 Tons VOC per rolling 365 day period combined limit for P003, P022, P014 and P023.

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through monitoring and recordkeeping as described in section A.III.2. using the summation of the annual emissions for sources P003, P022, P014 and P023.

f. Emission Limitation:

There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.

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Applicable Compliance Method:

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

2. The following emission units vent to the regenerative thermal oxidizer: P003 (performance foam line #1), P022 (performance foams line #2), P014 (performance foams line #3), P023 (performance foams recycle line), P017 (curing warehouse) and P018 (curing warehouse).

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

- a. The emission testing shall be conducted within 3 months after issuance of the permit
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for PM/PM10, SO₂, NO_x and VOC, and control efficiency limitation for VOC.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for PM/PM10, Method 5 of 40 CFR Part 60, Appendix A; for SO₂, Method 6C of 40 CFR Part 60, Appendix A; for NO_x Method 7 of 40 CFR Part 60, Appendix A and for VOC, Method 25A of 40 CFR Part 60, Appendix A. The test method(s) which must be employed to demonstrate compliance with the control efficiency limitation for VOC is specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- 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 Portsmouth local air agency.
- e. Since multiple emissions units vent to a common regenerative thermal oxidizer (RTO) and it is not technically feasible to isolate specific emission units for the purpose of emission testing, the summation of the total emission rates for each pollutant from the RTO will be compared against the allowable emission limitations for each pollutant from the RTO for the purposes of demonstrating compliance.

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10" or the approved alternative test protocol

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(e.g., "the mass balance protocol approved on 10/25/95"). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency 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 Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. 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>
P014 - Performance Foams Plant - line #3 controlled by Thermal Oxidizer	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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>	OAC rule 3745-17-11(B)
Performance Foams Recycle Line controlled by Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	
	OAC rule 3745-31-05(D) Synthetic minor to avoid PSD	
	OAC rule 3745-17-07(A)	

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Emissions Unit ID: P023

Applicable Emissions
Limitations/Control
Measures

VOC (Isobutane) emission from this emission unit shall not exceed 17 lb/hr.

Allowable emissions from the thermal oxidizer (see section A.I.2.b for sources) shall not exceed :

2.75 lb/hr PM/PM₁₀, 12 TPY PM/PM₁₀

0.12 lb/hr SO₂, 0.53 TPY SO₂

6.0 lbs/hr NO_x, 26.3 TPY NO_x

40.2 lbs/hr VOC (Isobutane)

The requirements of this rule also include compliance with OAC rule 3745-31-05(D)

See sections A.I.2.a,b,c,d,e,f,h below.

23.2 Tons VOC per rolling 365 day period combined limit for P003, P022, P014 and P023,

See section A.I.2.g. below.

See section A.I.2.g. below.

2. Additional Terms and Conditions

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- 2.a** VOC (Isobutane) vent emissions from this emissions unit shall not exceed 23.3 tons per year, based upon a rolling, 365-day summation of the daily emissions.
- 2.b** The following sources are vented to the Regenerative Thermal Oxidizer (RTO): P003 (Performance Foams line #1), P022 (Performance Foams line #2), P023 (Performance Foams Recycle line), P014 (Performance Foams line #3), P017 (Performance Foams Primary Curing Warehouse #1) and P018 (Performance Foams Primary Curing Warehouse #2).
- 2.c** This source is controlled by a baghouse. The outlet of the baghouse is vented to the Regenerative Thermal Oxidizer (RTO).
- 2.d** VOC (Isobutane) emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at maximum operating capacity.
- 2.e** The shutdown of the Regenerative Thermal Oxidizer shall be accompanied by the shutdown of all the Performance Foam process units which are vented to it..
- 2.f** There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.
- 2.g** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) (best available technology).
- 2.h** The 17 lb VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with this limit.

II. Operational Restrictions

1. The VOC (Isobutane) usage restriction on the Performance Foams lines (P003, P022 and P014) results in restricted annual emissions from this source.
2. A minimum temperature of 1425 degrees fahrenheit shall be maintained in the combustion zone of the thermal oxidizer.
3. The thermal oxidizer, including any associated equipment and piping, shall be designed, operated, and maintained so as to prevent the emissions of objectionable odors.
4. The pressure drop across the baghouse shall be maintained within the range of 1 to 10 inches of

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water while the emissions unit is in operation.

III. Monitoring and/or Recordkeeping Requirements

1. The facility shall install, operate, and maintain electronic storage of daily 5-minute averaged temperature data for the thermal oxidizer. 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 degrees Fahrenheit.
2. The permittee shall maintain daily records of the following information:
 - a. amount of scrap products ground;
 - b. concentration of blowing agent used in recycle products from each source (P003, P022 and P014);
 - c. scrap cure factor;
 - d. daily scrap inventory (lbs);
 - e. hole punching factor;
 - f. daily isobutane vent emissions;
 - g. total combined isobutane emissions (tons) calculated on a 365 day rolling average for sources P003, P022, P014 and P023;
 - h. date and time thermal oxidizer shutdown;
 - i. duration of time thermal oxidizer shutdown;
3. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day combined emission limitation for isobutane .
2. The permittee shall submit deviation (excursion) reports that identify all blocks of time during which the thermal oxidizer combustion zone temperature does not comply with the temperature limitation specified above.
3. The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the baghouse did not comply with the

allowable range specified above.

V. Testing Requirements

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

- a. Allowable emissions from the thermal oxidizer shall not exceed:

2.75 lb/hr PM/PM₁₀
0.12 lb/hr SO₂
6.0 lbs/hr NO_x
40.2 lbs/hr VOC (Isobutane)

VOC (Isobutane) emissions from the thermal oxidizer shall be controlled by at least 98% at maximum operating capacity.

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through emission tests performed in accordance with the procedures specified in section A.V.2.

- b. Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY PM/PM₁₀
0.53 TPY SO₂
26.3 TPY NO_x

VOC (Isobutane) emissions from the thermal oxidizer shall be controlled by at least 98% at maximum operating capacity.

Applicable Compliance Method:

Compliance with this emission limitation can be assumed provided that the permittee demonstrates compliance with the lb/hr PM/PM₁₀, SO₂ and NO_x limitations.

- c. Emission Limitation:

VOC (Isobutane) emissions from this emission unit shall not exceed 17 lb/hr.

Applicable Compliance Method:

Compliance shall be determined using the computerized mathematical emissions calculating program developed by Dow Chemical personnel. This program shall include calculations based on emission factors developed based on the product mix to calculate emissions rates from this emission unit. This program shall be available to an OEPA

representative at any time during normal business hours.

d. Emission Limitation:

VOC (Isobutane) vent emissions from this emissions unit shall not exceed 23.2 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through monitoring and recordkeeping as described in section A.III.2.

Issued: October 19, 2000

e. Emission Limitation:

23.2 Tons VOC per rolling 365 day period combined limit for P003, P022, P014 and P023.

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through monitoring and recordkeeping as described in section A.III.2. using the summation of the annual emissions for sources P003, P022, P014 and P023.

f. Emission Limitation:

There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.

Applicable Compliance Method:

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

2. The following emission units vent to the regenerative thermal oxidizer: P003 (performance foam line #1), P022 (performance foams line #2),P014 (performance foams line #3), P023 (performance foams recycle line), P017 (curing warehouse) and P018 (curing warehouse).

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

- a. The emission testing shall be conducted within 3 months after issuance of the permit
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for PM/PM10, SO₂, NO_x and VOC, and control efficiency limitation for VOC.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for PM/PM10, Method 5 of 40 CFR Part 60, Appendix A; for SO₂, Method 6C of 40 CFR Part 60, Appendix A; for NO_x Method 7 of 40 CFR Part 60, Appendix A and for VOC, Method 25A of 40 CFR Part 60, Appendix A. The test method(s) which must be employed to demonstrate compliance with the control

Emissions Unit ID: P023

efficiency limitation for VOC is specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- 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 Portsmouth local air agency.
- e. Since multiple emissions units vent to a common regenerative thermal oxidizer (RTO) and it is not technically feasible to isolate specific emission units for the purpose of emission testing, the summation of the total emission rates for each pollutant from the RTO will be compared against the allowable emission limitations for each pollutant from the RTO for the purposes of demonstrating compliance.

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10" or the approved alternative test protocol (e.g., "the mass balance protocol approved on 10/25/95"). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. 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 Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency 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 Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. 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>
Performance Foams Recycle line controlled by Thermal Oxidizer	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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>	OAC rule 3745-17-07(A)
P017 - Performance Foams Primary Curing Warehouse #1 controlled by Thermal Oxidizer	OAC rule 3745-31-05 (A)(3)	
	OAC rule 3745-31-05(D) Synthetic Minor to avoid PSD	

Dow C

PTI A

Issued: October 19, 2000

Emissions Unit ID: P017

Applicable Emissions
Limitations/Control
Measures

Controlled VOC (Isobutane) emissions from this emission unit shall not exceed 4 8.1 lb/hr.

Allowable emissions from the thermal oxidizer (see section A.I.2.b. for sources) shall not exceed :

- 2.75 lb/hr PM/PM₁₀, 12 TPY PM/PM₁₀
- 0.12 lb/hr SO₂, 0.53 TPY SO₂
- 6.0 lbs/hr NO_x, 26.3 TPY NO_x
- 40.2 lbs/hr VOC (Isobutane)

The requirements of this rule also include compliance with OAC rule 3745-31-05(D).

See section A.I.2. b, c, d, f below.

See section A.I.2.a. below.

See section A.I.2.e. below.

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2. Additional Terms and Conditions

- 2.a VOC (Isobutane) vent emissions from this emissions unit shall not exceed 14 tons per year, based upon a rolling, 365-day summation of the daily emissions.
- 2.b The following sources are vented to the Regenerative Thermal Oxidizer (RTO): P003 (Performance Foams line #1), P022 (Performance Foams line #2), P023 (Performance Foams Recycle line), P014 (Performance Foams line #3), P017 (Performance Foams Primary Curing Warehouse #1) and P018 (Performance Foams Primary Curing Warehouse #2).
- 2.c VOC (Isobutane) emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at maximum operating capacity.
- 2.d There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.
- 2.e The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) (best available technology).
- 2.f The 8.1 lb VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with this limit.

II. Operational Restrictions

- 1. Combined VOC (*Isobutane*) emissions from Performance Foams Primary Curing Warehouse #1 (P017) and #2 (P018) shall not exceed 16,000 lbs/day when the thermal oxidizer is shutdown.
- 2. The VOC (Isobutane) usage restriction on the Performance Foams lines (P003, P022 and P014) results in restricted annual emissions from this source.
- 3. A minimum temperature of 1425 degrees fahrenheit shall be maintained in the combustion zone of the thermal oxidizer.
- 4. The thermal oxidizer, including any associated equipment and piping, shall be designed, operated, and maintained so as to prevent the emissions of objectionable odors.

III. Monitoring and/or Recordkeeping Requirements

Dow Chemical Co - Hanging Rock Plant

PTI Application: 07-00404

Issued

Facility ID: 0744000029

Emissions Unit ID: P017

1. The facility shall install, operate, and maintain electronic storage of daily 5-minute averaged temperature data for the thermal oxidizer. 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 degrees Fahrenheit.

Issued: October 19, 2000

2. The permittee shall maintain daily records of the following information:
 - a. curing warehouse factor;
 - b. curing warehouse inventory;
 - c. daily isobutane vent emissions for each curing warehouse;
 - d. isobutane emissions (tons) calculated on a 365 day rolling average from each curing warehouse;
 - e. date and time thermal oxidizer shutdown;
 - f. duration of time thermal oxidizer shutdown;
 - g. daily curing warehouse emissions when thermal oxidizer is shutdown;
 - h. rolling 365 day total of the tons of isobutane used for all performance foams lines (P003, P022 and P014), calculated each day.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day VOC (Isobutane) emission limitation .
2. The permittee shall submit deviation (excursion) reports that identify all blocks of time during which the thermal oxidizer combustion zone temperature does not comply with the temperature limitation specified above.

V. Testing Requirements

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

- a. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

2.75 lb/hr PM/PM₁₀
0.12 lb/hr SO₂
6.0 lbs/hr NO_x
40.2 lbs/hr VOC (*Isobutane*)

VOC (Isobutane) emissions from the thermal oxidizer shall be controlled by at least 98% at maximum operating capacity.

Applicable Compliance Method:

120

Dow C

PTI A

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Emissions Unit ID: P017

Compliance with this emission limitation shall be determined through emission tests performed in accordance with the procedures specified in section A.V.2.

b. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY PM/PM₁₀

0.53 TPY SO₂

26.3 TPY NO_x

Applicable Compliance Method:

Compliance with this emission limitation can be assumed provided that the permittee demonstrates compliance with the lb/hr PM/PM₁₀, SO₂ and NO_x limitations.

c. Emission Limitation:

VOC (Isobutane) emissions from this emission unit shall not exceed 8.1 lb/hr.

Applicable Compliance Method:

Compliance shall be determined using the computerized mathematical emissions calculating program developed by Dow Chemical personnel. This program shall include calculations based on emission factors developed based on the product mix to calculate emissions rates from this emission unit. This program shall be available to an OEPA representative at any time during normal business hours.

d. Emission Limitation:

VOC (Isobutane) vent emissions from this emissions unit shall not exceed 14 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through monitoring and recordkeeping as described in section A.III.2.

e. Emission Limitation:

Combined VOC (*Isobutane*) emissions from Performance Foams Primary Curing Warehouse #1 (P017) and #2 (P018) shall not exceed 16,000 lbs/day when the thermal

Issued: October 19, 2000

oxidizer is shutdown.

Applicable Compliance Method:

Compliance shall be determined using the computerized mathematical emissions calculating program developed by Dow Chemical personnel. This program shall include calculations based on emission factors developed based on the product mix to calculate emissions rates from this emission unit. This program shall be available to an OEPA representative at any time during normal business hours.

f. Emission Limitation:

There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.

Applicable Compliance Method:

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

2. The following emission units vent to the regenerative thermal oxidizer: P003 (performance foam line #1), P022 (performance foams line #2), P014 (performance foams line #3), P023 (performance foams recycle line), P017 (curing warehouse) and P018 (curing warehouse).

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

- a. The emission testing shall be conducted within 3 months after issuance of the permit
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate(s) for PM/PM10, SO₂, NO_x and VOC, and control efficiency limitation for VOC.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): for PM/PM10, Method 5 of 40 CFR Part 60, Appendix A; for SO₂, Method 6C of 40 CFR Part 60, Appendix A; for NO_x Method 7 of 40 CFR Part 60, Appendix A and for VOC, Method 25A of 40 CFR Part 60, Appendix A. The test method(s) which must be employed to demonstrate compliance with the control efficiency limitation for VOC is specified below. Alternative U.S. EPA approved test

Emissions Unit ID: P017

methods may be used with prior approval from the Ohio EPA.

- 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 Portsmouth local air agency.

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10" or the approved alternative test protocol (e.g., "the mass balance protocol approved on 10/25/95"). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

- e. Since multiple emissions units vent to a common regenerative thermal oxidizer (RTO) and it is not technically feasible to isolate specific emission units for the purpose of emission testing, the summation of the total emission rates for each pollutant from the RTO will be compared against the allowable emission limitations for each pollutant from the RTO for the purposes of demonstrating compliance.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. 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 Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency 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 Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. 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>
P017 - Performance Foams Primary Curing Warehouses controlled by Thermal Oxidizer	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

NEW SOURCE REVIEW FORM B

PTI Number: 07-00494 Facility ID: 0744000029

FACILITY NAME The Dow Chemical Co - Hanging Rock Plant

FACILITY DESCRIPTION Modification to P014 to convert to a Performance Foams Line with Thermal Oxidizer as control; Modification to source POO3 to separate warehouses.

CITY/TWP Ironton

SIC CODE 3086 SCC CODE 30101811 EMISSIONS UNIT ID P018

EMISSIONS UNIT DESCRIPTION Performance Foams Primary Curing Warehouse #2

DATE INSTALLED Upon issuance of PTI

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	Attainment	2.75 lb/hr	12 TPY	2.75 lb/hr	12 TPY
PM ₁₀	Attainment	2.75 lb/hr	12 TPY	2.75 lb/hr	12 TPY
Sulfur Dioxide	Attainment	0.12 lb/hr	0.53 TPY	0.12 lb/hr	12 TPY
Organic Compounds	Attainment	9.519.2 lb/hr	41.4 31.5 TPY	9.519.2 lb/hr	41.4 31.5 TPY
Nitrogen Oxides	Attainment	6 lb/hr	26.3 TPY	6 lb/hr	26.3 TPY
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination Regenerative Thermal Oxidizer requiring 98% VOC control efficiency.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? YES NO

IDENTIFY THE AIR CONTAMINANTS:

NEW SOURCE REVIEW FORM B

PTI Number: 07-00494

Facility ID: 0744000029

FACILITY NAME The Dow Chemical Co - Hanging Rock Plant

FACILITY DESCRIPTION Modification to P014 to convert to a CITY/TWP Ironton

Emissions Unit ID: P017

SIC CODE 3086 SCC CODE 30101814 EMISSIONS UNIT ID P014

EMISSIONS UNIT DESCRIPTION Performance Foams Plant - Line #3 controlled by Thermal Oxidizer

DATE INSTALLED Upon issuance of PTI

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	Attainment	2.75 lb/hr	12 TPY	2.75 lb/hr	12 TPY
PM ₁₀	Attainment	2.75 lb/hr	12 TPY	2.75 lb/hr	12 TPY
Sulfur Dioxide	Attainment	0.12 lb/hr	0.53 TPY	0.12 lb/hr	0.53 TPY
Organic Compounds	Attainment	2.3 3.3 lb/hr	10.2 23.2 TPY combined for P003,P022,P014, P023	2.3 3.3 lb/hr	10.2 23.2 TPY combined for P003,P022,P014 , P023
Nitrogen Oxides	Attainment	6 lb/hr	26.3 TPY	6 lb/hr	26.3 TPY
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination Regenerative Thermal Oxidizer requiring 98% VOC control efficiency.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$ _____

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

PTI Number: 07-00494 Facility ID: 0744000029
 FACILITY NAME The Dow Chemical Co - Hanging Rock Plant
 FACILITY DESCRIPTION Modification to P014 to convert to a Performance Foams Line with Thermal Oxidizer as control; Modification to source POO3 to separate warehouses. CITY/TWP Ironton
 SIC CODE 3086 SCC CODE 30101811 EMISSIONS UNIT ID P021
 EMISSIONS UNIT DESCRIPTION Performance Foams Product Storage Warehouse #3
 DATE INSTALLED upon issuance of PTI

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter					
PM ₁₀					
Sulfur Dioxide					
Organic Compounds	Attainment	112 200 lb/day	20.4 18 TPY	112 200 lb/day	20.4 18 TPY
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No
 OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$ _____

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SOURCE REVIEW FORM B

SIC CODE 3086 SCC CODE 30101811 EMISSIONS UNIT ID P023
 EMISSIONS UNIT DESCRIPTION Performance Foams Recycle Line controlled by Thermal Oxidizer
 DATE INSTALLED upon issuance of pti

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	2.75 lb/hr	12 TPY	2.75 lb/hr	12 TPY
PM ₁₀	attainment	2.75 lb/hr	12 TPY	2.75 lb/hr	12 TPY
Sulfur Dioxide	attainment	0.12 lb/hr	0.53 TPY	0.12 lb/hr	0.53 TPY

NEW SOURCE REVIEW FORM B

PTI Number: 07-00494

Facility ID: 0744000029

FACILITY NAME The Dow Chemical Co - Hanging Rock Plant

FACILITY DESCRIPTION Modification to P014 to convert to a Performance Foams Line with Thermal Oxidizer as control; Modification to source POO3 to separate warehouses. CITY/TWP Ironton

Organic Compounds	attainment	17 lb/hr	23.3 TPY combined for P003,P022,P014, P023	17 lb/hr	23.3 TPY combined for P003,P022,P014 , P023
Nitrogen Oxides	attainment	6 lb/hr	26.3 TPY	6 lb/hr	26.3 TPY
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination Regenerative Thermal Oxidizer requiring 98% VOC control efficiency

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to containinants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES NO

IDENTIFY THE AIR CONTAMINANTS: _____

SIC CODE 3086 SCC CODE 30101811 EMISSIONS UNIT ID P022

EMISSIONS UNIT DESCRIPTION Performance Foams Line #2 controlled by Thermal Oxidizer

DATE INSTALLED upon issuance of pti

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter	attainment	2.75 lb/hr	12 TPY	2.75 lb/hr	12 TPY
PM ₁₀	attainment	2.75 lb/hr	12 TPY	2.75 lb/hr	12 TPY
Sulfur Dioxide	attainment	0.12 lb/hr	0.53 TPY	0.12 lb/hr	0.53 TPY

NEW SOURCE REVIEW FORM B

PTI Number: 07-00494

Facility ID: 0744000029

FACILITY NAME The Dow Chemical Co - Hanging Rock Plant

FACILITY DESCRIPTION Modification to P014 to convert to a Performance CITY/TWP Ironton

Emissions Unit ID: P017

Organic Compounds	attainment	3.3 lb/hr	23.2 TPY combined for P003,P022,P014, P023	3.3 lb/hr	23.2 TPY combined for P003,P022,P014 , P023
Nitrogen Oxides	attainment	6.0 lb/hr	26.3 TPY	6.0 lb/hr	26.3 TPY
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination Regenerative Thermal Oxidizer requiring 98% VOC control efficiency.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY?

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: _____

NEW SC

PTI Num

FACILITY

Emissions Unit ID: P017

FACILITY DESCRIPTION

Modification to P014 to convert to a Performance Foams Line with Thermal Oxidizer as control; Modification to source P003 to separate warehouses.

CITY/TWP Ironton

Ohio EPA Permit to Install Information Form Please describe below any documentation which is being submitted with this recommendation (must be sent the same day). Electronic items should be submitted with the e-mail transmitting the PTI terms, and in software that CO can utilize. If mailing any hard copy, this section must be printed as a cover page. All items must be clearly labeled indicating the PTI name and number. Submit **hard copy items to Pam McGraner**, AQM&P, DAPC, Central Office, and electronic files to airpti@epa.state.oh.us

Please fill out the following. If the checkbox does not work, replace it with an 'X'

	<u>Electronic</u>	<u>Additional information File Name Convention (your PTI # plus this letter)</u>	<u>Hard Copy</u>	<u>None</u>
<u>Calculations (required)</u>	<input type="checkbox"/>	000000c.wpd	X	
<u>Modeling form/results</u>	<input type="checkbox"/>	000000s.wpd	<input type="checkbox"/>	<input type="checkbox"/>
<u>PTI Application (complete or partial)*</u>	<input type="checkbox"/>	000000a.wpd	X	<input type="checkbox"/>
<u>BAT Study</u>	<input type="checkbox"/>	000000b.wpd	<input type="checkbox"/>	<input type="checkbox"/>
<u>Other/misc.</u>	<input type="checkbox"/>	000000t.wpd	X	<input type="checkbox"/>

* Mandatory for netting, PSD, nonattainment NSR, 112(g), 21-07(G)(9)(g) and 21-09(U)(2)(f) - 2 complete copies.

Please complete (see comment bubble to the left for additional instructions):

[NSR Discussion](#)

In the current PTI (07-381), source P003 includes the foam process line and 1 curing warehouse, both vented to a thermal oxidizer, and 4 uncontrolled storage warehouses (all warehouses were dedicated to this process line).

Dow has submitted a PTI to modify source P014 (Styrofoam line) to convert to another performance foam line, which will share curing and storage warehouses with P003. Dow is also planning to convert one of the uncontrolled storage warehouses to a controlled curing warehouse. Due to the extra sources being vented to the thermal oxidizer, the thermal oxidizer will be revamped. Because the curing and storage warehouses will no longer be dedicated to one foam line, they will all be given separate source numbers (P017-P021) with this modification.

Dow's pti application included an increase in isobutane usage from P003. When reviewing the current PTI (07-381) for P003, it was discovered that it was a Synthetic minor restricting the isobutane usage to avoid PSD. When lifting a synthetic minor restriction, emission are to start at zero for netting purposes. Since Dow is rushed to get this PTI issued they have decided to keep the isobutane restriction on source P003 and avoid PSD. Emissions from P003 would not change , but emissions from the thermal oxidizer would due to the extra line and curing warehouse being controlled. Dow also has netting credits due to a warehouse going from uncontrolled to

NEW SOURCE REVIEW FORM B

PTI Number: 07-00494

Facility ID: 0744000029

FACILITY NAME The Dow Chemical Co - Hanging Rock Plant

FACILITY DESCRIPTION Modification to P014 to convert to a Performance CITY/TWP Ironton

Emissions Unit ID: P017

controlled, a net decrease in current actual to new allowables due to the change in P014, and other credits back five years.

Please complete for these type permits (For PSD/NSR Permit, place mouse over this text):

Synthetic Minor Determination and/or Netting Determination Permit To Install 07-00494

A. Source Description

Dow Chemical Company is proposing to modify the existing styrofoam line (OEPA source P014) to convert to a performance foam line which will share curing warehouses and storage warehouses with another performance foam line (OEPA source P003). Currently, source P003 includes the process line, curing warehouses and storage warehouses. These warehouses will be separated from P003 and given separate source numbers.

B. Facility Emissions and Attainment Status

Dow Chemical Company is a major stationary source for volatile organic compounds (VOC). Lawrence County is classified as attainment for all criteria pollutants.

C. Source Emissions

This permit is a netting permit. The synthetic minor for source P003 remains in effect. Netting credits fro P014 were established using actual emissions from the last two years of operation of the emission unit. See attached table titled "Dow Chemical Emission tracking" for a description of contemporaneous emission increase and decrease.

D. Conclusion

The total net emissions from these emission units, demonstrate emissions that are less significant emission rate for VOC as described in 40 CFR 52.21 (b)(23). Therefore, this project will not be subject to Prevention of Significant Deterioration (PSD) review. Compliance with the allowable emission rates will be determined by requiring emission testing, recordkeeping and reporting requirements

PLEASE PROVIDE ADDITIONAL NOTES OR COMMENTS AS NECESSARY:

None

Please complete:

SUMMARY (for informational purposes only)	
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS	
<u>Pollutant</u>	<u>Tons Per Year</u>
PM/PM ₁₀	12

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SO₂,	0.53
NO_x	26.3
VOC	251.7 210