

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

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 from 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



State of Ohio Environmental Protection Agency

RE: **DRAFT PERMIT TO INSTALL** **CERTIFIED MAIL**
LAWRENCE COUNTY

Street Address:

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

Mailing Address:
Lazarus Gov. Center

Application No: 07-00494

DATE: 8/31/2000

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

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

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$2000** will be due. Please do not submit any payment now.

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

Very truly yours,

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

CC: USEPA
WV

PCHD

KY



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install

Issue Date: To be entered upon final issuance

DRAFT PERMIT TO INSTALL 07-00494

Application Number: 07-00494
APS Premise Number: 0744000029
Permit Fee: **To be entered upon final issuance**
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

Dow Chemical Co - Hanging Rock Plant
PTI Application: 07-00494
Issued: To be entered upon final issuance
Part I - GENERAL TERMS AND CONDITIONS

Facility ID: 0744000029

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.

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- 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.

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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.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally

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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.

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

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3745-77-08(C)(3)(d).

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- 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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Issued: To be entered upon final issuance

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.

5. Termination of Permit To Install

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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.

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

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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.

Dow Chemical Co - Hanging Rock Plant

Facility ID: 0744000029

PTI Application: 07-00494

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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	251.7

Dow Chemical Co - Hanging Rock Plant

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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

Dow C

PTI A

Emissions Unit ID: P019

Issued: To be entered upon final issuance

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 emissions from this emission unit shall not exceed 447 lb/day. See A.I.2.a. below.

2. Additional Terms and Conditions

- 2.a Isobutane (VOC) vent emissions from this emissions unit shall not exceed 81.6 tons per year, based upon a rolling, 365-day summation of the daily emissions.

II. Operational Restrictions

None

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 each performance foam line (P003 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

Dow C**PTI A**

Emissions Unit ID: P019

Issued: To be entered upon final issuance

daily emissions limitation for VOC from this emission unit.

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 emissions from the product storage warehouse shall not exceed 447 lb/day.

Isobutane (VOC) vent emissions from this emissions unit shall not exceed 81.6 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

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 C
PTI A

Emissions Unit ID: P020

Issued: To be entered upon final issuance

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 emissions from this emission unit shall not exceed 336 lb/day. See A.I.2.a. below.

2. Additional Terms and Conditions

- 2.a Isobutane (VOC) vent emissions from this emissions unit shall not exceed 61.3 tons per year, based upon a rolling, 365-day summation of the daily emissions.

II. Operational Restrictions

None

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 each performance foam line (P003 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.

Dow C

PTI A

Emissions Unit ID: P020

Issued: To be entered upon final issuance

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the daily emissions limitation for VOC from this emission unit.

Dow C**PTI A**

Emissions Unit ID: P020

Issued: To be entered upon final issuance**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 emissions from the product storage warehouse shall not exceed 336 lb/day.

Isobutane (VOC) vent emissions from this emissions unit shall not exceed 61.3 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.

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>
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

**Dow C
PTI A**

Emissions Unit ID: P021

Issued: To be entered upon final issuance

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)	Allowable VOC emissions from this emission unit shall not exceed 112 lb/day. See A.I.2.a. below.

2. Additional Terms and Conditions

- 2.a Isobutane (VOC) vent emissions from this emissions unit shall not exceed 20.4 tons per year, based upon a rolling, 365-day summation of the daily emissions.

II. Operational Restrictions

None

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 each performance foam line (P003 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.

Dow C

PTI A

Emissions Unit ID: P021

Issued: To be entered upon final issuance

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the daily emissions limitation for VOC from this emission unit.

Dow C**PTI A**

Emissions Unit ID: P021

Issued: To be entered upon final issuance**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 emissions from the product storage warehouse shall not exceed 112 lb/day.

Isobutane (VOC) vent emissions from this emissions unit shall not exceed 20.4 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.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

<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

**Dow C
PTI A**

Emissions Unit ID: P018

Issued: To be entered upon final issuance

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>
P018 -Performance Foams Primary Curing Warehouse #2 controlled by Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	Allowable emissions from the thermal oxidizer shall not exceed : 2.75 lb/hr PM/PM ₁₀ , 12 TPY PM/PM ₁₀ 0.12 lb/hr SO ₂ , 0.53 TPY SO ₂ 6.0 lbs/hr NO _x , 26.3 TPY NO _x 20.3 lbs/hr VOC Controlled VOC emissions from this emission unit shall not exceed 9.5 lb/hr. See section A.I.2.a and b below.

2. Additional Terms and Conditions

- 2.a Isobutane (VOC) vent emissions from this emissions unit shall not exceed 41.4 tons per year, based upon a rolling, 365-day summation of the daily emissions.
- 2.b This source, along with sources P003 (Performance Foams process line #1 and 2), P014 (Performance foams process line #3) and P017 (Performance Foams Primary Curing Warehouse #1) are all vented to the Regenerative Thermal Oxidizer (RTO).
- 2.c VOC emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98%

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at maximum operating capacity.

II. Operational Restrictions

1. Combined VOC 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. 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. 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;

Emissions Unit ID: P018

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

IV. Reporting Requirements

- 1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the daily emissions limitation for VOC from this emission unit.

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/PM
10
0.12
lb/hr
SO₂
6.0

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lbs/hr

NOx

20.3

lbs/hr

VOC

VOC

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

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Emissions Unit ID: P018

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

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this
emission
limitation
can be
assumed
provided that
the
permittee
demonstrates
compliance
with
the lb/hr
PM₁₀/PM_{2.5}
and
NO_x
limitations.

c. Emission Limitation:

VOC
emissions
from
this
source
shall not
exceed
9.5
lb/hr.

Applicable
Compliance
Method
:

Dow C

PTI A

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

d. Emission Limitation:

Isobutane (VOC) vent emissions from this emissions unit shall not exceed 41.4 tons per

Dow C

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Emissions Unit ID: P018

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upon a
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Applica
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section
A.III.2.

e. Emission Limitation:

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Combined VOC 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.

Applicable Compliance Method :

Compliance shall be determined using the comput

**Dow C
PTI A**

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Emissions Unit ID: P018

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program

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Emissions Unit ID: P018

shall be
available
to an
OEPA
representative at
any time
during
normal
business
hours.

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Emissions Unit ID: P018

f. Emission Limitation:

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

Applicable Compliance Method :

Compliance shall be determined by visible emission evaluations performed

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Emissions Unit ID: P018

ed 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 plant), P014 (performance foams plant), 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:

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- 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, NOx and VOC, and control efficiency limitation for VOC.

- c. The following test method(s) shall be employed to

Dow C

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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 25A of 40 CFR Part 60, Appendix A.

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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

Dow C

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operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

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

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Emissions Unit ID: P018
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

**Dow C
PTI A**

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Emissions Unit ID: P018

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

Dow C

PTI A

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emission testing, the summation of the total emission rates for each pollutant from the RTO will be compared against the summation of the allowable emission limitations for each pollutant for all of the emission units venting to the RTO for the purposes of demonstr

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PTI A**

Emissions Unit ID: P018

Issued: To be entered upon final issuance

rating
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 appropriate Ohio EPA District Office or 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 appropriate Ohio EPA District Office or 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 appropriate Ohio EPA District Office or 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

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Emissions Unit ID: P018

None

Dow C

PTI A

Emissions Unit ID: P018

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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>
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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Issued: To be entered upon final issuance

VI. Miscellaneous Requirements

Emissions Unit ID: P018

None

**Dow C
PTI A**

Emissions Unit ID: P003

Issued: To be entered upon final issuance

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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions <u>Limitations/Control Measures</u>
P003 - Performance Foams Plant- lines #1 and #2 controlled by Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	Allowable emissions from the thermal oxidizer shall not exceed : 2.75 lb/hr PM/PM ₁₀ , 12 TPY PM/PM ₁₀ 0.12 lb/hr SO ₂ , 0.53 TPY SO ₂ 6.0 lbs/hr NO _x , 26.3 TPY NO _x 20.3 lbs/hr VOC Controlled VOC emissions from this emission unit shall not exceed 4.4 lb/hr. See sections A.I.2.a,b,c,d below.
	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six minute average, except as provided by rule.
	OAC rule 3745-17-11(B)	See section A.I.2.e. below.

2. **Additional Terms and Conditions**
 - 2.a Isobutane (VOC) vent emissions from

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Emissions Unit ID: P003
this
emissions unit
shall not
exceed
19.3
tons per
year,
based
upon a
rolling,
365-day
summation of
the daily
emissions.

2.b This source, along with sources P014
(Performance
Foams
process
line #3),
P017
(Performance
Foams
Primary
Curing
Warehouse #1)
and
P018
(Performance
Foams
Primary
Curing
Warehouse #2)
are all
vented
to the
Regenerative

**Dow C
PTI A**

Issued: To be entered upon final issuance

Emissions Unit ID: P003

Thermal
Oxidize
r
(RTO).

2.c VOC 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 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).

II. Operational Restrictions

1. Isobutane (VOC) usage shall not exceed 1270 tons per year, based upon a rolling, 365-day summation of the daily 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

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P003

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

Dow C

PTI A

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- n. rolling 365 day total of the tons of isobutane used, calculated each day. thermal oxidizer is shutdown;

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PTI A**

Emissions Unit ID: P003

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IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day emission limitation and 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
20.3
lbs/hr

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P003

VOC

VOC 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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Emissions Unit ID: P003
ed 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/PM
10
0.53
TPY
SO2
26.3
TPY
NOx

VOC
emissions from
the
thermal
oxidizer
shall be
controlled by at
least
98% at
maximum

Dow C

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operating
capacity
.

Applicable
Compliance
Method
:

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

c. Emission Limitation:

VOC
emission

**Dow C
PTI A**

Issued: To be entered upon final issuance

Emissions Unit ID: P003

ns from
this
source
shall not
exceed
4.4
lb/hr.

Applica
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Complia
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accorda
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the
procedu
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specifie
d in
section
A.V.2.

d. Emission Limitation:

Dow C

PTI A

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Emissions Unit ID: P003

Isobutane (VOC) vent emissions from this emissions unit shall not exceed 19.3 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

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P003

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d in
section
A.III.2.

e. Emission Limitation:

Visible
particul
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ns from
any
stack
shall not
exceed
twenty
percent
opacity,
as a six
minute
average,
except
as
provide
d by
rule.

Applica
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Method
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**Dow C
PTI A**

Issued: To be entered upon final issuance

Emissions Unit ID: P003

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 plant), P014 (performance foams plant), P017 (curing warehouse) and P018 (curing warehouse).

The permittee shall conduct, or have conducted,

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P003

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/PM 10, SO2, NOx and

Dow C

PTI A

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Emissions Unit ID: P003

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 NOX Method 7 of 40

Dow C

PTI A

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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

Dow C

PTI A

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Emissions Unit ID: P003

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 appropriate Ohio EPA District Office or local air agency.

e. Since multiple emissions units vent to a common regenerative

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Emissions Unit ID: P003

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 summation of the allowable emission

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to the
RTO
for the
purpose
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rating
complia
nce.

The
control
efficienc
y (i.e.,
the
percent
reductio
n in
mass
emissio
ns
between
the inlet
and
outlet of
the
control
system)
shall be
determi
ned in

Dow C

PTI A

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Emissions Unit ID: P003

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

**Dow C
PTI A**

Emissions Unit ID: P003

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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 appropriate Ohio EPA District Office or 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 appropriate Ohio EPA District Office or 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

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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 appropriate Ohio EPA District Office or 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

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PTI A**

Emissions Unit ID: P003

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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>
P003 - Performance Foams Plant - lines #1 and #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

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Dow C

PTI A

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VI. Miscellaneous Requirements

Emissions Unit ID: P003

None

**Dow C
PTI A**

Emissions Unit ID: P014

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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>
P014 - Performance Foams Plant - line #3 controlled by Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	Allowable emissions from the thermal oxidizer shall not exceed : 2.75 lb/hr PM/PM ₁₀ , 12 TPY PM/PM ₁₀ 0.12 lb/hr SO ₂ , 0.53 TPY SO ₂ 6.0 lbs/hr NO _x , 26.3 TPY NO _x 20.3 lbs/hr VOC VOC emission from this source shall not exceed 2.3 lb/hr See sections A.I.2.a,b,c,d below.
	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six minute average, except as provided by rule.
	OAC rule 3745-17-11(B)	See section A.I.2.e. below.

2. **Additional Terms and Conditions**
 - 2.a Isobutane (VOC) vent emissions

Dow C

PTI A

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Emissions Unit ID: P014

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this
emissio
ns unit
shall not
exceed
10.2
tons per
year,
based
upon a
rolling,
365-day
summati
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2.b This source, along with sources P003
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mance
foams
process
line #1
& #2),
P017
(Perfor
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Curing
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use #1)
and
P018
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Curing

**Dow C
PTI A**

Issued: To be entered upon final issuance

Emissions Unit ID: P014

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use #2)
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Thermal
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(RTO).

2.c VOC emissions from the
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**Dow C
PTI A**

Emissions Unit ID: P014

Issued: To be entered upon final issuance

Performance
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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).

II. Operational Restrictions

1. Isobutane (VOC) usage shall not exceed 1000 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

**Dow C
PTI A**

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Emissions Unit ID: P014

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0

Dow C**PTI A**

Emissions Unit ID: P014

Issued: To be entered upon final issuance

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.

**Dow C
PTI A**

Emissions Unit ID: P014

Issued: To be entered upon final issuance

2. The permittee shall maintain daily records of the following information:
 - a. daily usage of isobutane (lbs);
 - b. product type groups produced;
 - c. product type die loss factors;
 - d. daily isobutane vent emissions;
 - e. isobutane emissions (tons) calculated on a 365 day rolling average;
 - f. date and time thermal oxidizer shutdown;
 - g. duration of time thermal oxidizer shutdown;
 - h. daily curing warehouse emissions when thermal oxidizer is shutdown;
 - i. rolling 365 day total of the tons of isobutane used, calculated each day.

IV. Reporting Requirements

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

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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/PM

10
0.12
lb/hr

SO₂
6.0
lbs/hr

NO_x
20.3
lbs/hr

VOC

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

Dow C

PTI A

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Emissions Unit ID: P014

capacity

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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

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P014

PM/PM

¹⁰

0.53

TPY

SO₂

26.3

TPY

NO_x

VOC

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PTI A**

Issued: To be entered upon final issuance

Emissions Unit ID: P014

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compliance with
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PM₁₀, SO₂
and
NO_x
limitations.

b. Emission Limitation:

VOC
emissions from
this
source
shall not
exceed
2.3
lb/hr.

Applicable
Compliance
Method
:

Compliance with
this
emission

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PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P014

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c. Emission Limitation:

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year,
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upon a
rolling,
365-day

Dow C

PTI A

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Emissions Unit ID: P014

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d. Emission Limitation:

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PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P014

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Applica
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3745-17-
03(B)(1

Dow Chemical Co - Hanging Rock Plant
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Issued

Facility ID: 0744000029

Emissions Unit ID: P014
) 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 plant), P014 (performance foams plant), 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

Dow C

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10,
SO2,
NOx
and
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y
limitatio
n for
VOC.

- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) for PM/PM

Dow C

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10,
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

Dow C

PTI A

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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

Dow C

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d by the
appropri
ate
Ohio
EPA
District
Office
or 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

Dow C

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n rates for each pollutant from the RTO will be compared against the summation of the allowable emission limitations for each pollutant for all of the emission units venting to the RTO for the purpose of demonstrating compliance.

The control efficiency (i.e.,

Dow C

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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

**Dow C
PTI A**

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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 appropriate Ohio EPA District Office or local air agency.

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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 appropriate Ohio EPA District Office or 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 appropriate Ohio EPA District Office or 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>
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

**Dow C
PTI A**

Emissions Unit ID: P017

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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>
P017 - Performance Foams Primary Curing Warehouse #1 controlled by Thermal Oxidizer	OAC rule 3745-31-05 (A)(3)	Allowable emissions from the thermal oxidizer shall not exceed : 2.75 lb/hr PM/PM ₁₀ , 12 TPY PM/PM ₁₀ 0.12 lb/hr SO ₂ , 0.53 TPY SO ₂ 6.0 lbs/hr NO _x , 26.3 TPY NO _x 20.3 lbs/hr VOC Controlled VOC emissions from this emission unit shall not exceed 4 lb/hr. See section A.I.2.a, b, and c below.

2. **Additional Terms and Conditions**
 - 2.a Isobutane (VOC) vent emissions from this emissions unit shall not exceed 17.5

Dow C

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tons per year, based upon a rolling, 365-day summation of the daily emissions.

2.b This source, along with sources P003 (Performance Foams process line #1 and 2), P014 (Performance foams process line #3) and P018 (Performance Foams Primary Curing Warehouse #2) are all vented to the Regenerative Thermal Oxidize

**Dow C
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r
(RTO).

2.c VOC emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at maximum operating capacity.

II. Operational Restrictions

1. Combined VOC 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. 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

Dow C**PTI A****Issued: To be entered upon final issuance**

Emissions Unit ID: P017

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. curing warehouse factor;
 - b. curing warehouse inventory;
 - c. daily isobutane vent emissions for each curing warehouse use;
 - d. isobutane emissions (tons) calculated on a 365 day rolling average from each curing warehouse use;
 - e. date and time thermal oxidizer shutdown;
 - f. duration of time thermal oxidizer shutdown;
 - g. daily curing warehouse emissions when thermal oxidizer is shutdown;
 - f. rolling 365 day total of the tons of isobutane used, calculated

**Dow C
PTI A**

Emissions Unit ID: P017

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ed each
day.

IV. Reporting Requirements

- 1. 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
20.3
lbs/hr
VOC

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Emissions Unit ID: P017

VOC
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

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PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

specified 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

Dow C

PTI A

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Emissions Unit ID: P017

assumed
provide
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the
permitted
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demonstrates
rates
compliance
with
the lb/hr
PM₁₀, SO₂
and
NO_x
limitations.

c. Emission Limitation:

VOC
emissions
from
this
source
shall not
exceed
4 lb/hr.

Applicable
Compliance
Method
:

Compliance
with
this
emission

Dow C

PTI A

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Emissions Unit ID: P017

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

d. Emission Limitation:

Isobutane (VOC) vent emissions from this emissions unit shall not exceed 17.5 tons per year, based upon a rolling, 365-day summati

Dow C

PTI A

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Emissions Unit ID: P017

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Applica
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**Dow C
PTI A**

Issued: To be entered upon final issuance

Emissions Unit ID: P017

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Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

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e. Emission Limitation:

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

Combined VOC 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.

Applicable Compliance Method :

Compliance shall be determined using the

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

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Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

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

f. Emission Limitation:

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

Applicable Compliance Method

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

:

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 plant), P014 (performance foams plant), P017 (curing warehouse) and P018 (curing warehouse).

The permittee shall conduct, or have

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

conduct ed, emissio n testing for this emissio n unit in accorda nce with the followin g require ments:

- a. The emission testing shall be conduct ed within 3 months after issuance of the permit .

- b. The emission testing shall be conduct ed to demonst rate complia nce with the allowabl e mass emissio n rate(s) for PM/PM 10, SO2,

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

NOx
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/PM
10,
Method
5 of 40
CFR
Part 60,
Appendix A; for
SO2,
Method
6C of
40 CFR
Part 60,
Appendix A; for
NOX

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

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(
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must be
employe
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control
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VOC is
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Alternat
ive U.S.
EPA
approve
d test
methods
may be

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

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 appropriate Ohio EPA District Office or local air agency.

The control efficiency (i.e.,

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Issued

Facility ID: 0744000029

Emissions Unit ID: P017
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

Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

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

Dow C

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(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 summation of the allowable emission limitation

Dow C**PTI A****Issued: To be entered upon final issuance**

Emissions Unit ID: P017

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pollutan
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complia
nce.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or 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 appropriate Ohio EPA District Office or 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.

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Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P017

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 appropriate Ohio EPA District Office or 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

**Dow C
PTI A**

Emissions Unit ID: P017

Issued: To be entered upon final issuance

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

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Dow C

PTI A

Issued: To be entered upon final issuance

VI. Miscellaneous Requirements

Emissions Unit ID: P017

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	9.5 lb/hr	41.4 TPY	9.5 lb/hr	41.4 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 containinants 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 CITY/TWP Ironton

Emissions Unit ID: P017

SIC CODE 3086 SCC CODE 30101814 EMISSIONS UNIT ID P003

EMISSIONS UNIT DESCRIPTION Performance Foams Plant - Line #1 and 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
Organic Compounds	Attainment	4.4 lb/hr	19.3 TPY	4.4 lb/hr	19.3 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 containinants 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 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 lb/hr	10.2 TPY	2.3 lb/hr	10.2 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 containinants 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 CITY/TWP Ironton

Emissions Unit ID: P017

SIC CODE 3086 SCC CODE 30101811 EMISSIONS UNIT ID P017

EMISSIONS UNIT DESCRIPTION Performance Foams Primary Curing Warehouse #1 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	2.75 lb/hr	12 TPY	2.75 lb/hr	12 TPY
Organic Compounds	Attainment	4.01 lb/hr	17.5 TPY	4.01 lb/hr	17.5 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 containinants 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 CITY/TWP Ironton

Emissions Unit ID: P017

SIC CODE 3086

SCC CODE 30101811

EMISSIONS UNIT ID P019

EMISSIONS UNIT DESCRIPTION Performance Foams Product Storage Warehouse #1

DATE INSTALLED August 19, 2000

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	447 lb/day	81.6 TPY	447 lb/day	81.6 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

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

SIC CODE 3086

SCC CODE 30101811

EMISSIONS UNIT ID P020

EMISSIONS UNIT DESCRIPTION Performance Foams Product Storage 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					
PM ₁₀					
Sulfur Dioxide					
Organic Compounds	Attainment	336 lb/hr	61.3 TPY	336 lb/hr	61.3 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:

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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

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 lb/day	20.4 TPY	112 lb/day	20.4 TPY
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NPSPS?

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

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

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"/>	0000000c.wpd	X	
<u>Modeling form/results</u>	<input type="checkbox"/>	0000000s.wpd	<input type="checkbox"/>	<input type="checkbox"/>
<u>PTI Application (complete or partial)*</u>	<input type="checkbox"/>	0000000a.wpd	X	<input type="checkbox"/>
<u>BAT Study</u>	<input type="checkbox"/>	0000000b.wpd	<input type="checkbox"/>	<input type="checkbox"/>
<u>Other/misc.</u>	<input type="checkbox"/>	0000000t.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 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 **X** Netting Determination
Permit To Install 07-00494

A. Source Description

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

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
SO ₂ ,	0.53
NO _x	26.3
VOC	251.7