



State of Ohio Environmental Protection Agency

**RE: DRAFT PERMIT TO INSTALL MODIFICATION
LAWRENCE COUNTY**

CERTIFIED MAIL

Street Address:

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

Mailing Address:

Lazarus Gov. Center

Application No: 07-00494

DATE: 1/29/2002

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

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install modification for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit modification. 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 modification 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 modification 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 modification a fee of **\$ 100** 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 PCHD KY WV



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install

Issue Date: To be entered upon final issuance

DRAFT MODIFICATION OF 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 456388687

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

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

Description of proposed emissions unit(s):

Modification due to change in baghouse pressure drop range, to correct typographical errors and to correct the placement of an emission limit.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

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

1. Monitoring and Related Record keeping 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 record keeping 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 record keeping 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.10 below if no deviations occurred during the quarter.

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- iii. Written reports, which identify any deviations from the federally enforceable monitoring, record keeping, 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

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

6. General Requirements

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

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit

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

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10. Source Operation and Operating Permit Requirements After Completion of Construction

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

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B. State Only Enforceable Permit To Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements Related to Monitoring and Record keeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or record keeping 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 record keeping 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 cannot meet the requirements of this permit 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 cannot meet the requirements of this permit 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).

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9. 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.

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

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

C. Permit To Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

**SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons Per Year</u>
PM/PM ₁₀	12
SO ₂	0.53
NO _x	26.3
VOC	210

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Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

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

None

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

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P019 - Performance Foams Product Storage Warehouse #1	OAC 3745-31-05(A)(3) OAC rule 3745-31-05(D) Synthetic minor to avoid PSD	Allowable VOC (Isobutane) emissions from this emission unit shall not exceed 800 lbs/day. The requirements of this rule also include compliance with OAC rule 3745-31-05(D). See A.I.2.a. below.

2. Additional Terms and Conditions

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

II. Operational Restrictions

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

III. Monitoring and/or Record keeping Requirements

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

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

IV. Reporting Requirements

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

V. Testing Requirements

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

- a. Emission Limitation:

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

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

Applicable Compliance Method:

Compliance shall be determined based upon the monitoring and record keeping 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

Dow C
PTI A

Emissions Unit ID: P019

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>
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 Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P020 - Performance Foams Product Storage Warehouse #2	OAC 3745-31-05(A)(3) OAC rule 3745-31-05(D) Synthetic minor to avoid PSD	Allowable VOC (Isobutane) emissions from this emission unit shall not exceed 600 lbs/day. The requirements of this rule also include compliance with OAC rule 3745-31-05(D). See A.I.2.a. below.

2. Additional Terms and Conditions

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

II. Operational Restrictions

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

III. Monitoring and/or Record keeping Requirements

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

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

IV. Reporting Requirements

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

V. Testing Requirements

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

- a. Emission Limitation:

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

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

Applicable Compliance Method:

Compliance shall be determined based upon the monitoring and record keeping 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

Dow C

PTI A

Emissions Unit ID: P020

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>
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 Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P021 - Performance Foams Product Storage Warehouse #3	OAC 3745-31-05(A)(3) OAC rule 3745-31-05(D) Synthetic minor to avoid PSD	Allowable VOC (Isobutane) emissions from this emission unit shall not exceed 200 lbs/day. The requirements of this rule also include compliance with OAC rule 3745-31-05(D). See A.I.2.a. below.

2. Additional Terms and Conditions

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

II. Operational Restrictions

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

III. Monitoring and/or Record keeping Requirements

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

**Dow C
PTI A**

Emissions Unit ID: P021

Issued: To be entered upon final issuance

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

IV. Reporting Requirements

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

V. Testing Requirements

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

- a. Emission Limitation:

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

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

Applicable Compliance Method:

Compliance shall be determined based upon the monitoring and record keeping 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

Dow C

PTI A

Emissions Unit ID: P021

Issued: To be entered upon final issuance

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 Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P018

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 (Modification)	OAC rule 3745-31-05(A)(3)	Controlled VOC (Isobutane) emissions from this emission unit shall not exceed 19.2 lbs/hr.
		Allowable emissions from the thermal oxidizer (see section A.I.2.b. for sources) shall not exceed:
		2.75 lbs/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 40.2 lbs/hr VOC (Isobutane)
		The requirements of this rule also include compliance with OAC rule 3745-31-05(D).
		See section A.I.2. b, c, d, f., g below.
	OAC rule 3745-31-05(D) Synthetic minor to avoid PSD	See section A.I.2.a below.
	OAC rule 3745-17-07(A)	See section A.I.2.e. below.

Issued: To be entered upon final issuance**2. Additional Terms and Conditions**

- 2.a** VOC (Isobutane) vent emissions from this emissions unit shall not exceed 31.5 tons per year, based upon a rolling, 365-day summation of the daily emissions.
- 2.b** The following sources are vented to the Regenerative Thermal Oxidizer (RTO): P003 (Performance Foams line #1), P022 (Performance Foams line #2), P023 (Performance Foams Recycle line), P014 (Performance Foams line #3), P017 (Performance Foams Primary Curing Warehouse #1) and P018 (Performance Foams Primary Curing Warehouse #2).
- 2.c** VOC (Isobutane) emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at maximum operating capacity.
- 2.d** There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.
- 2.e** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) (best available technology).
- 2.f** The 19.2 lbs VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.
- 2.g** Combined VOC (Isobutane) emissions from Performance Foams Primary Curing Warehouse #1 (P017) and #2 (P018) shall not exceed 16,000 lbs/day when the thermal oxidizer is shutdown.

II. Operational Restrictions

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

III. Monitoring and/or Record keeping Requirements

Issued: To be entered upon final issuance

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;
 - g. Daily curing warehouse emissions when thermal oxidizer is shutdown;
 - h. Rolling 365 day total of the tons of isobutane used for all performance foam process lines (P003, P022 and P014), calculated each day.

IV. Reporting Requirements

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

V. Testing Requirements

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

Allowable emissions from the thermal oxidizer shall not exceed:

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

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

Dow Chemical Co - Hanging Rock Plant

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Issued

Facility ID: 0744000029

Emissions Unit ID: P018

at maximum operating capacity.

Applicable Compliance Method:

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

Issued: To be entered upon final issuance

b. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY PM/PM₁₀

0.53 TPY SO₂

26.3 TPY NO_x

Applicable Compliance Method:

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

c. Emission Limitation:

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

Applicable Compliance Method:

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

d. Emission Limitation:

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

Applicable Compliance Method:

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

e. Emission Limitation:

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

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Applicable Compliance Method:

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

f. Emission Limitation:

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

Applicable Compliance Method:

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

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

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

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

Emissions Unit ID: P018

capacity, unless otherwise specified or approved by Portsmouth local air agency.

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

- e. Since multiple emissions units vent to a common regenerative thermal oxidizer (RTO) and it is not technically feasible to isolate specific emission units for the purpose of emission testing, the summation of the total emission rates for each pollutant from the RTO will be compared against the allowable emission limitations for each pollutant from the RTO for the purposes of demonstrating compliance.
3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

VI. Miscellaneous Requirements

None

**Dow C
PTI A**

Emissions Unit ID: P018

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>
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 Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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Dow Chemical Co - Hanging Rock Plant

PTI Application: 07-00404

Issued

Facility ID: 0744000029

Emissions Unit ID: P018

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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P003 - Performance Foams Plant- line #1 controlled by Thermal Oxidizer	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-31-05(D) SYNTHETIC MINOR TO AVOID PSD (THIS LIMITATION UPON P003 AND P022 WAS PART OF AN EARLIER PTI TO AVOID PSD)
	OAC rule 3745-17-07(A)

Dow C
PTI A

Emissions Unit ID: P003

Issued: To be entered upon final issuance

OAC rule 3745-17-11(B)

Applicable Emissions
Limitations/Control Measures

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

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

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

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

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

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

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

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

2. Additional Terms and Conditions

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

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- 2.b** The following sources are vented to the Regenerative Thermal Oxidizer (RTO): P003 (Performance Foams line #1), P022 (Performance Foams line #2), P023 (Performance Foams Recycle line), P014 (Performance Foams line #3), P017 (Performance Foams Primary Curing Warehouse #1) and P018 (Performance Foams Primary Curing Warehouse #2).
- 2.c** VOC (Isobutane) emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at maximum operating capacity.
- 2.d** The shutdown of the Regenerative Thermal Oxidizer shall be accompanied by the shutdown of all the Performance Foam process units which are vented to it.
- 2.e** There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.
- 2.f** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) (best available technology).
- 2.g** The 4.4 lbs VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

II. Operational Restrictions

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

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

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

III. Monitoring and/or Record keeping 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

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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. Hole punching factor;
 - e. Daily isobutane vent emissions;
 - f. Total combined isobutane emissions (tons) calculated on a 365 day rolling average for sources P003 and P022;
 - g. Date and time thermal oxidizer shutdown;
 - h. Duration of time thermal oxidizer shutdown;
 - i. Total combined rolling 365 day total of the tons of isobutane used for sources P003 and P022, calculated each day.

IV. Reporting Requirements

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

V. Testing Requirements

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

Allowable emissions from the thermal oxidizer shall not exceed:

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

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

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PTI Application: 07-00404

Issued

Facility ID: 0744000029

Emissions Unit ID: P003

at maximum operating 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. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY PM/PM₁₀
0.53 TPY SO₂
26.3 TPY NO_x

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

Applicable Compliance Method:

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

c. Emission Limitation:

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

Applicable Compliance Method:

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

d. Emission Limitation:

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

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through monitoring and

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record keeping as described in section A.III.2.

e. Emission Limitation:

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

Applicable Compliance Method:

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

f. Emission Limitation:

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

Applicable Compliance Method:

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

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

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

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

Emissions Unit ID: P003

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

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.
- e. Since multiple emissions units vent to a common regenerative thermal oxidizer (RTO) and it is not technically feasible to isolate specific emission units for the purpose of emission testing, the summation of the total emission rates for each pollutant from the RTO will be compared against the allowable emission limitations for each pollutant from the RTO for the purposes of demonstrating compliance.

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

- 3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

VI. Miscellaneous Requirements

None

Dow C
PTI A

Emissions Unit ID: P003

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

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07(A)
P022 - Performance Foams Plant- line #2 controlled by Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11(B)
	OAC rule 3745-31-05(D) SYNTHETIC MINOR TO AVOID PSD (THIS LIMITATION UPON P003 AND P022 WAS PART OF AN EARLIER PTI TO AVOID PSD)	

**Dow C
PTI A**

Emissions Unit ID: P022

Issued: To be entered upon final issuance

Applicable Emissions
Limitations/Control
Measures

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

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

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

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

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

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

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

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

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Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P022

Issued: To be entered upon final issuance**2. Additional Terms and Conditions**

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

II. Operational Restrictions

- 1.** Combined Isobutane (VOC) usage for sources P003 and P022 shall not exceed 2540 tons per year, based upon a rolling, 365-day summation of the daily usage.

The permittee shall comply with this limitation upon startup, based upon usage records for the previous 365 days.
- 2.** A minimum temperature of 1425 degrees Fahrenheit shall be maintained in the combustion zone of the thermal oxidizer.
- 3.** The thermal oxidizer, including any associated equipment and piping, shall be designed, operated, and maintained so as to prevent the emissions of objectionable odors.

Issued: To be entered upon final issuance**III. Monitoring and/or Record keeping Requirements**

1. The facility shall install, operate, and maintain electronic storage of daily 5-minute averaged temperature data for the thermal oxidizer. The sensor shall be located at the end of the combustion zone. The unit shall have a continuous display at the operating controls and an audible alarm to indicate if the temperature is less than 1425 degrees Fahrenheit.
2. The permittee shall maintain daily records of the following information:
 - a. Daily usage of isobutane (lbs) for this source (P022);
 - b. Product type groups produced;
 - c. Product type die loss factors;
 - d. Hole punching factor;
 - e. Daily isobutane vent emissions;
 - f. total combined isobutane emissions (tons) calculated on a 365 day rolling average for sources P003 and P022;
 - g. Date and time thermal oxidizer shutdown;
 - h. Duration of time thermal oxidizer shutdown;
 - i. Total combined rolling 365 day total of the tons of isobutane used for sources P003 and P022, calculated each day.

IV. Reporting Requirements

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

V. Testing Requirements

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

Allowable emissions from the thermal oxidizer shall not exceed:

2.75 lbs/hr PM/PM₁₀
0.12 lb/hr SO₂

Dow Chemical Co - Hanging Rock Plant

PTI Application: 07-00404

Issued

Facility ID: 0744000029

Emissions Unit ID: P022

6.0 lbs/hr NO_x

40.2 lbs/hr VOC (Isobutane)

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

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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. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY PM/PM₁₀
0.53 TPY SO₂
26.3 TPY NO_x

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

Applicable Compliance Method:

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

c. Emission Limitation:

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

Applicable Compliance Method:

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

d. Emission Limitation:

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

Applicable Compliance Method:

Compliance with this emission limitation shall be determined through monitoring and

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record keeping as described in section A.III.2.

e. Emission Limitation:

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

Applicable Compliance Method:

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

f. Emission Limitation:

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

Applicable Compliance Method:

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

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

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

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

Emissions Unit ID: P022

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

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.
- e. Since multiple emissions units vent to a common regenerative thermal oxidizer (RTO) and it is not technically feasible to isolate specific emission units for the purpose of emission testing, the summation of the total emission rates for each pollutant from the RTO will be compared against the allowable emission limitations for each pollutant from the RTO for the purposes of demonstrating compliance.

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

- 3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

VI. Miscellaneous Requirements

None

**Dow C
PTI A**

Emissions Unit ID: P022

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

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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Dow Chemical Co - Hanging Rock Plant

PTI Application: 07-00404

Issued

Facility ID: 0744000029

Emissions Unit ID: P022

Dow C

PTI A

Emissions Unit ID: P014

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>
P014 - Performance Foams Plant - line #3 controlled by Thermal Oxidizer (Modification)	OAC rule 3745-31-05(A)(3)	VOC (Isobutane) emission from this emission unit shall not exceed 3.3 lbs/hr. Allowable emissions from the thermal oxidizer (see section A.I.2.b. for sources) shall not exceed : 2.75 lbs/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 40.2 lbs/hr VOC (Isobutane) The requirements of this rule also include compliance with OAC rule 3745-31-05(D) See sections A.I.2.a, b, c, d, e, g below.
	OAC rule 3745-31-05(D) Synthetic Minor to avoid PSD	23.2 Tons VOC per rolling 365 day period combined limit for P003, P022, P014 and P023.
	OAC rule 3745-17-07(A)	See section A.I.2.f. below.
	OAC rule 3745-17-11(B)	See section A.I.2.f below.

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Dow C

PTI A

Issued: To be entered upon final issuance

Emissions Unit ID: P014

Issued: To be entered upon final issuance**2. Additional Terms and Conditions**

- 2.a** VOC (Isobutane) vent emissions from this emissions unit shall not exceed 14.5 tons per year, based upon a rolling, 365-day summation of the daily emissions.
- 2.b** The following sources are vented to the Regenerative Thermal Oxidizer (RTO): P003 (Performance Foams line #1), P022 (Performance Foams line #2), P023 (Performance Foams Recycle line), P014 (Performance Foams line #3), P017 (Performance Foams Primary Curing Warehouse #1) and P018 (Performance Foams Primary Curing Warehouse #2).
- 2.c** VOC (Isobutane) emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at maximum operating capacity.
- 2.d** The shutdown of the Regenerative Thermal Oxidizer shall be accompanied by the shutdown of all the Performance Foam process units which are vented to it..
- 2.e** There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.
- 2.f** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) (best available technology).
- 2.g** The 3.3 lbs VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

II. Operational Restrictions

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

<u>MONTH</u>	<u>ISOBUTANE USAGE (Tons)</u>
1	295
2	590
3	885
4	1180

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Emissions Unit ID: P014

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5	1475
6	1770
7	2065
8	2360
9	2655
10	2950
11	3245
12	3540

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

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

III. Monitoring and/or Record keeping Requirements

1. The facility shall install, operate, and maintain electronic storage of daily 5-minute averaged temperature data for the thermal oxidizer. The sensor shall be located at the end of the combustion zone. The unit shall have a continuous display at the operating controls and an audible alarm to indicate if the temperature is less than 1425 degrees Fahrenheit.
2. The permittee shall maintain daily records of the following information:
 - a. Daily usage of isobutane (lbs) for this source (P014);
 - b. Product type groups produced;
 - c. Product type die loss factors;
 - d. Daily isobutane vent emissions;
 - e. Total combined isobutane emissions (tons) calculated on a 365 day rolling average for sources P003, P022, P014 and P023;
 - f. Date and time thermal oxidizer shutdown;
 - g. Duration of time thermal oxidizer shutdown;
 - h. Rolling 365 day total of the tons of isobutane used for this emission unit, calculated each day.
 - i. Total combined rolling 365 day total of the tons of isobutane used for sources P003, P022, and P014, calculated each day.

IV. Reporting Requirements

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

V. Testing Requirements

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

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

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

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

Applicable Compliance Method:

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

- b. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY PM/PM₁₀
0.53 TPY SO₂
26.3 TPY NO_x

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

Applicable Compliance Method:

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

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

c. Emission Limitation:

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

Applicable Compliance Method:

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

d. Emission Limitation:

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

Applicable Compliance Method:

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

e. Emission Limitation:

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

Applicable Compliance Method:

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

f. Emission Limitation:

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

Applicable Compliance Method:

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

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

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

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

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

presence of interfering gases.

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

VI. Miscellaneous Requirements

None

Dow C

PTI A

Emissions Unit ID: P014

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>
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 Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Performance Foams Recycle Line controlled by Thermal Oxidizer (Modification)	OAC rule 3745-31-05(A)(3)	VOC (Isobutane) emission from this emission unit shall not exceed 17 lbs/hr. Allowable emissions from the thermal oxidizer (see section A.I.2.b for sources) shall not exceed : 2.75 lbs/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 40.2 lbs/hr VOC (Isobutane)
	OAC rule 3745-31-05(D)	The requirements of this rule also include compliance with OAC rule 3745-31-05(D)
	Synthetic minor to avoid PSD	See sections A.I.2.a, b, c, d, e, f, h below.
	OAC rule 3745-17-07(A)	23.2 Tons VOC per rolling 365 day period combined limit for P003, P022, P014 and P023,
	OAC rule 3745-17-11(B)	See section A.I.2.g. below.

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Emissions Unit ID: P023

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

2. Additional Terms and Conditions

- 2.a** VOC (Isobutane) vent emissions from this emissions unit shall not exceed 23.2 tons per year, based upon a rolling, 365-day summation of the daily emissions.
- 2.b** The following sources are vented to the Regenerative Thermal Oxidizer (RTO): P003 (Performance Foams line #1), P022 (Performance Foams line #2), P023 (Performance Foams Recycle line), P014 (Performance Foams line #3), P017 (Performance Foams Primary Curing Warehouse #1) and P018 (Performance Foams Primary Curing Warehouse #2).
- 2.c** This source is controlled by a baghouse. The outlet of the baghouse is vented to the Regenerative Thermal Oxidizer (RTO).
- 2.d** VOC (Isobutane) emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at maximum operating capacity.
- 2.e** The shutdown of the Regenerative Thermal Oxidizer shall be accompanied by the shutdown of all the Performance Foam process units which are vented to it..
- 2.f** There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.
- 2.g** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) (best available technology).
- 2.h** The 17 lbs VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

II. Operational Restrictions

- 1.** The VOC (Isobutane) usage restriction on the Performance Foams lines (P003, P022 and P014) results in restricted annual emissions from this source.
- 2.** A minimum temperature of 1425 degrees Fahrenheit shall be maintained in the combustion zone of the thermal oxidizer.

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3. The thermal oxidizer, including any associated equipment and piping, shall be designed, operated, and maintained so as to prevent the emissions of objectionable odors.
4. The pressure drop across the baghouse shall be maintained within the range of 0 (zero) to 10 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record keeping Requirements

1. The facility shall install, operate, and maintain electronic storage of daily 5-minute averaged temperature data for the thermal oxidizer. The sensor shall be located at the end of the combustion zone. The unit shall have a continuous display at the operating controls and an audible alarm to indicate if the temperature is less than 1425 degrees Fahrenheit.
2. The permittee shall maintain daily records of the following information:
 - a. Amount of scrap products ground;
 - b. Concentration of blowing agent used in recycle products from each source (P003, P022 and P014);
 - c. Scrap cure factor;
 - d. Daily scrap inventory (lbs);
 - e. Hole punching factor;
 - f. Daily isobutane vent emissions;
 - g. Total combined isobutane emissions (tons) calculated on a 365 day rolling average for sources P003, P022, P014 and P023;
 - h. Date and time thermal oxidizer shutdown;
 - i. Duration of time thermal oxidizer shutdown;
3. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.

IV. Reporting Requirements

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

3. The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

V. Testing Requirements

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

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

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

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

Applicable Compliance Method:

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

- b. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY PM/PM₁₀
0.53 TPY SO₂
26.3 TPY NO_x

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

Applicable Compliance Method:

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

- c. Emission Limitation:

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

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Applicable Compliance Method:

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

d. Emission Limitation:

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

Applicable Compliance Method:

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

e. Emission Limitation:

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

Applicable Compliance Method:

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

f. Emission Limitation:

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

Applicable Compliance Method:

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

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

Emissions Unit ID: P023

(performance foams recycle line), P017 (curing warehouse) and P018 (curing warehouse).

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

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

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

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine

Dow C**PTI A**

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the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Performance Foams Recycle line controlled by Thermal Oxidizer	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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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 (Modification)	OAC rule 3745-31-05 (A)(3)	Controlled VOC (Isobutane) emissions from this emission unit shall not exceed 8.1 lbs/hr.
		Allowable emissions from the thermal oxidizer (see section A.I.2.b. for sources) shall not exceed :
		2.75 lbs/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 40.2 lbs/hr VOC (Isobutane)
		The requirements of this rule also include compliance with OAC rule 3745-31-05(D).
		See section A.I.2. b, c, d, f, g below.
	OAC rule 3745-31-05(D) Synthetic Minor to avoid PSD	See section A.I.2.a. below.
	OAC rule 3745-17-07(A)	See section A.I.2.e. below.

Issued: To be entered upon final issuance**2. Additional Terms and Conditions**

- 2.a** VOC (Isobutane) vent emissions from this emissions unit shall not exceed 14 tons per year, based upon a rolling, 365-day summation of the daily emissions.
- 2.b** The following sources are vented to the Regenerative Thermal Oxidizer (RTO): P003 (Performance Foams line #1), P022 (Performance Foams line #2), P023 (Performance Foams Recycle line), P014 (Performance Foams line #3), P017 (Performance Foams Primary Curing Warehouse #1) and P018 (Performance Foams Primary Curing Warehouse #2).
- 2.c** VOC (Isobutane) emissions from the Regenerative Thermal Oxidizer shall be controlled by at least 98% at maximum operating capacity.
- 2.d** There shall be no visible emissions in excess of 10% opacity as a six minute average in any 60 minute observation period.
- 2.e** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) (best available technology).
- 2.f** The 8.1 lb VOC/hr limitation for this emissions unit was established to reflect the hourly potential to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.
- 2.g** Combined VOC (Isobutane) emissions from Performance Foams Primary Curing Warehouse #1 (P017) and #2 (P018) shall not exceed 16,000 lbs/day when the thermal oxidizer is shutdown.

II. Operational Restrictions

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

III. Monitoring and/or Record keeping Requirements

Issued

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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 for each curing warehouse;
 - d. Isobutane emissions (tons) calculated on a 365 day rolling average from each curing warehouse;
 - e. Date and time thermal oxidizer shutdown;
 - f. Duration of time thermal oxidizer shutdown;
 - g. Daily curing warehouse emissions when thermal oxidizer is shutdown;
 - h. Rolling 365 day total of the tons of isobutane used for all performance foams lines (P003, P022 and P014), calculated each day.

IV. Reporting Requirements

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

V. Testing Requirements

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

- a. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

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

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

Applicable Compliance Method:

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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.

b. Emission Limitation:

Allowable emissions from the thermal oxidizer shall not exceed:

12 TPY PM/PM₁₀
0.53 TPY SO₂
26.3 TPY NO_x

Applicable Compliance Method:

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

c. Emission Limitation:

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

Applicable Compliance Method:

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

d. Emission Limitation:

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

Applicable Compliance Method:

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

e. Emission Limitation:

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

Applicable Compliance Method:

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

f. Emission Limitation:

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

Applicable Compliance Method:

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

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

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

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

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method(s) which must be employed to demonstrate compliance with the control efficiency limitation for VOC is specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Portsmouth local air agency.

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

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

3. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Portsmouth local air agency's refusal to accept the results of the emission test(s).

Personnel from the Portsmouth local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth local air agency.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P017 - Performance Foams Primary Curing Warehouses controlled by Thermal Oxidizer	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None