



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
SUMMIT COUNTY**

CERTIFIED MAIL

Street Address:

50 West Town Street, Suite 700

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

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 16-02490

Fac ID: 1677120043

DATE: 11/15/2007

Owens Corning Tallmadge Facility
Jim Keyerleder
PO Box 37 170 South Ave
Tallmadge, OH 44728

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

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00 which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

ARAQMD



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install

FINAL PERMIT TO INSTALL 16-02490

Application Number: 16-02490
Facility ID: 1677120043
Permit Fee: **\$2500**
Name of Facility: Owens Corning Tallmadge Facility
Person to Contact: Jim Keyerleder
Address: PO Box 37 170 South Ave
Tallmadge, OH 44728

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

170 South Ave
Tallmadge, Ohio

Description of proposed emissions unit(s):

Modification to Existing Reclaim Units to Remove Rrestrictions, Replaces PTIs 16-1746, 16-1961, and 16-1834.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Chris Korleski
Director

Part I - GENERAL TERMS AND CONDITIONS

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

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to

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the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.9 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency every six months, 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. If this permit is for an emissions unit located at a Title V facility, then 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.
- d. The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

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

4. Title IV Provisions

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

5. Severability Clause

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

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification
- 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, 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 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.

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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 any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

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 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 and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

- iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit-To-Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 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 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 ninety (90) 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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12. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

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13. Permit-To-Install

A permit-to-install must be obtained pursuant to OAC Chapter 3745-31 prior to "installation" of "any air contaminant source" as defined in OAC rule 3745-31-01, or "modification", as defined in OAC rule 3745-31-01, of any emissions unit included in this permit.

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

1. Compliance Requirements

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

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, 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.

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The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

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4. Authorization To Install or Modify

If applicable, authorization to install or modify any new or existing emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit 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.

5. Construction of New Sources(s)

This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. 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 this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit 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.

6. 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.

7. 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).

8. Construction Compliance Certification

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If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) 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.

9. 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., postmarked), 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 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>
*VOC	28.1
*PE	14.5
OC	839.9

* emissions restricted to avoid BAT

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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.

Operations, Property, and/or Equipment - (P008) - Nelmor Foam Grinder

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	Organic compound emissions (OC) shall not exceed 138.5 pounds per hour, nor 608.6 tons per year. Volatile organic compound emissions (VOC) shall not exceed 2.5 pounds per hour.
OAC rule 3745-17-07(A)	Visible particulate emissions (VE) not exceed 20% opacity, as a six-minute average, except as provided by rule.
OAC rule 3745-17-11(B)	Particulate emissions (PE) shall not exceed 3.82 pounds per hour.
OAC rule 3745-31-05(C)	Particulate matter less than 10 microns (PM10) emissions shall not exceed 7.9 tons per year (see A.2.a). VOC emissions shall not exceed 11.04 tons per rolling, 12-month period.

2. Additional Terms and Conditions

- 2.a Permit to Install 16-02490 for this air contaminant source takes into account the use of a baghouse system, whenever this air contaminant source is in operation, with a minimum control efficiency of 98%, by weight for PE, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) for particulate emissions.

II. Operational Restrictions

1. The maximum annual polystyrene usage shall not exceed 200,000 pounds of R&D scrap expanded polystyrene (EPS) or R&D extruded polystyrene (XPS) foam based on a rolling 12-month summation of the polystyrene foam throughput.
2. The permittee shall operate the baghouse installed on this emissions unit, in

Emissions Unit ID: P008

accordance with the manufacturer's specifications, instructions and operating manual(s), with modification deemed necessary by the permittee, at all times while the emissions unit is in operation.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse during operation of this emissions unit, including periods of startup and shutdown. 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 on a daily basis.

Whenever the monitored value for the pressure drop deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

Except for an initial operating period after filter media replacement to attain design filtering efficiency, the acceptable range for the pressure drop across the baghouse is 0.1 to 5.0 inches of water.

This range is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the pressure drop range based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the pressure drop range will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

Emissions Unit ID: P008

2. The permittee shall maintain monthly records of the following information for this emissions unit:
 - a. the total amount of scrap EPS foam processed, including R&D EPS, in pounds;
 - b. the total amount of scrap XPS foam processed, including R&D XPS, in pounds;
 - c. the rolling, 12-month total amount of EPS foam processed, including R&D EPS, in pounds;
 - d. the rolling, 12-month total amount of XPS foam processed, including R&D XPS, in pounds;
 - e. the calculated VOC emission rate, in tons , as calculated using the actual emission factors developed by the permittee for each type of XPS foam processed in the grinder (actual emission factor varies depending on type of XPS foam ground and the VOC content of each type of XPS foam); and
 - f. the calculated, rolling, 12-month VOC emission rate, in tons.
3. The permittee shall maintain records documenting any time periods when the emissions unit was in operation and the baghouse was not operating.

IV. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:
 - a. each period of time when the pressure drop across the baghouse field was outside of the acceptable range;
 - b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - d. an identification of each incident of deviation described in (a) where proper *records were not maintained for the investigation and/or the corrective action.*

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

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Emissions Unit ID: P008

Issued: 11/15/2007

2. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the annual material usage restriction of 200,000 pounds of R&D scrap EPS or R&D extruded XPS)foam; and
 - b. all exceedances of the rolling, 12-month VOC emission limitation of 11.04 tons.

The quarterly deviation reports shall be submitted in accordance with the General Terms and Conditions of this permit.

3. The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions unit was in operation and the baghouse was not operating. Each report shall be submitted within 30 days after the deviation occurs.

V. Testing Requirements

1. Compliance with the emission limitations and the operational restriction in Sections A.I.1 and A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:

The visible PE emissions limit, shall not exceed 20% opacity as a six-minute average, except as provided for by rule.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the allowable visible PE limitation above in accordance with OAC rule 3745-17-03(B)(1).

- b. Emission Limitations:

PE shall not exceed 3.82 pounds per hour
PM10 shall not exceed 7.9 tons per year.

Applicable Compliance Method:

If required, compliance with the hourly allowable PE limitation shall be based on the results of stack testing conducted in accordance with OAC rule 3745-17-

Emissions Unit ID: P008

03(B)(10).

The permittee may demonstrate compliance with the annual allowable PM10 emission limitation above by multiplying the maximum hourly uncontrolled PE rate [(1,800 pounds/hr) by (1 - 0.95*) and by (1-.98**)]. The result is then multiplied by the maximum annual number of hours of operation (8760 hours/yr), and then divided by 2000 lbs/ton.

* The capture efficiency is assumed to be 95%.

** The control efficiency is assumed to be 98%.

c. Emission Limitation:

OC emissions shall not exceed 138.5 pounds per hour, nor 608.6 tons per year.

Applicable Compliance Method:

Compliance with the hourly allowable OC emission limitation shall be demonstrated by multiplying the maximum hourly polystyrene usage rate by the appropriate OC emission factor*.

As long as compliance with the hourly allowable OC emission limitation is maintained, compliance with the annual OC emission limitation shall be assumed (the annual limitation was derived by multiplying the hourly limitation by 8760, and then dividing by 2000).

*Emission Factors:

Extruded Polystyrene foam XPS, including R&D XPS = 0.0176 lb OC per pound of polystyrene**

Expanded polystyrene EPS, including R&D EPS = 0.0014 lb OC per pound of polystyrene**

d. Emission Limitation:

VOC emissions shall not exceed 2.5 pounds per hour, nor 11.04 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with the hourly allowable VOC emission limitation shall be demonstrated by multiplying the maximum hourly usage rate by the appropriate VOC emission factor*.

Compliance with the annual VOC emission limitation shall be demonstrated based on the record keeping requirements established in section III.2 of this

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permit.

*Emission Factors:

Expanded polystyrene EPS, including R&D EPS = 0.0014 lb VOC per pound of polystyrene**

**The emission factors were provided by the permittee and are based on analytical sampling that was performed on various batches of polystyrene scrap foam.

VI. Miscellaneous Requirements

None

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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.

Operations, Property, and/or Equipment - (P008) - Nelmor Foam Grinder

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
None	None

2. **Additional Terms and Conditions**

- 2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment -(P009) - Reclaim Unit No. 1 - Polystyrene Extruder

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	Organic compound emissions (OC) shall not exceed 15.6 pounds per hour, nor 62.3 tons per year.
OAC rule 3745-31-05(C)	Volatile organic compound emissions (VOC) shall not exceed 1.5 tons per rolling, 12-month summation.

2. Additional Terms and Conditions

- 2.a None

II. Operational Restrictions

1. The maximum annual polystyrene usage shall not exceed 200,000 pounds of R&D scrap expanded polystyrene (EPS) or R&D extruded polystyrene (XPS) foam based on a rolling 12-month summation of the polystyrene foam throughput.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for this emissions unit:
 - a. the amount of polystyrene used for each category (R&D EPS scrap foam, scrap expanded foam EPS), in pounds;
 - b. the amount of extruded polystyrene (XPS), including R&D XPS used, in pounds;
 - c. the rolling, 12-month total amount of polystyrene used for each category (R&D

Emissions Unit ID: P009

EPS scrap foam, scrap expanded foam EPS), in pounds;

- d. the VOC emission rate, in tons, calculated using the actual emission factors developed by the permittee for each type of XPS foam processed in the extruder (actual emission factor varies depending on type of XPS foam and the VOC content of each type of XPS foam); and
- e. the calculated, rolling, 12-month VOC emission rate, in tons.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the annual material usage restriction of 200,000 pounds of R&D scrap EPS or R&D XPS foam based; and
 - b. all exceedances of the rolling, 12-month VOC emission limitation of 1.5 tons.

The quarterly deviation reports shall be submitted in accordance with the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emission limitations and the operational restriction in Sections A.I.1 and A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

1.a Emission Limitation:

OC shall not exceed 15.60 pounds per hour, nor 62.3 tons per year

Applicable Compliance Method:

Compliance with the hourly allowable OC emission limitation shall be demonstrated by multiplying the maximum hourly polystyrene usage rate by the appropriate OC emission factor*.

As long as compliance with the hourly allowable OC emission limitation is maintained, compliance with the annual OC emission limitation shall be assumed (the annual limitation was derived by multiplying the hourly limitation by 8760, and then dividing by 2000).

* Emission Factors

R&D scrap EPS polystyrene = 0.0016 lb OC per pound of polystyrene**

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Scrap EPS polystyrene = 0.0002 lb OC per pound of polystyrene**

XPS ground foam and R&D XPS foam = 0.0142 lb OC per pound of polystyrene**

Reclaim XPS foam = 0.0053 lb OC per lb polystyrene**

**The emission factors were provided by the permittee and are based on analytical sampling that was performed on various batches of polystyrene scrap foam.

1.b Emission Limitation:

VOC shall not exceed 1.50 tons per rolling, 12-month period

Applicable Compliance Method:

Compliance with the annual VOC emission limitation shall be demonstrated based on the record keeping requirements established in section III.1 of this permit.

VI. Miscellaneous Requirements

None

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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.

Operations, Property, and/or Equipment -(P009) - Reclaim Unit No. 1 - Polystyrene Extruder

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
None	None

2. **Additional Terms and Conditions**

- 2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. State and Federally Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

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

Operations, Property, and/or Equipment -(P010) - Reclaim Unit No. 2 - Polystyrene Extruder

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	Organic compound emissions (OC) shall not exceed 20.2 pounds per hour, nor 80.3 tons per year.
OAC rule 3745-31-05(C)	VOC emissions shall not exceed 1.9 tons per rolling, 12-month period.

2. Additional Terms and Conditions

- 2.a None

II. Operational Restrictions

1. The maximum annual polystyrene usage shall not exceed 200,000 pounds of R&D scrap expanded polystyrene (EPS) or R&D extruded polystyrene (XPS) foam based on a rolling 12-month summation of the polystyrene foam throughput.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for this emissions unit:
 - a. the amount of polystyrene used for each category (R&D EPS scrap foam, scrap expanded foam EPS), in pounds;
 - b. the amount of extruded polystyrene (XPS), including R&D XPS used, in pounds;
 - c. the rolling, 12-month total amount of polystyrene used for each category (R&D EPS scrap foam, scrap expanded foam EPS), in pounds;
 - d. the VOC emission rate, in tons, as calculated using the actual emission factors developed by the permittee for each type of XPS foam processed in the extruder (actual emission factor varies depending on type of XPS foam and the VOC

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content of each type of XPS foam); and

- e. the calculated, rolling, 12-month VOC emission rate, in tons.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the annual material usage restriction of 200,000 pounds of R&D scrap EPS) or R&D XPS foam based; and
 - b. all exceedances of the rolling, 12-month VOC emission limitation of 1.9 tons.

The quarterly deviation reports shall be submitted in accordance with the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emission limitations and the operational restriction in Sections A.I.1 and A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

- 1.a Emission Limitation:

OC shall not exceed 20.20 pounds per hour, nor 80.3 tons per year

Applicable Compliance Method:

Compliance with the hourly allowable OC emission limitation shall be demonstrated by multiplying the maximum hourly polystyrene usage rate by the appropriate OC emission factor*.

As long as compliance with the hourly allowable OC emission limitation is maintained, compliance with the annual OC emission limitation shall be assumed (the annual limitation was derived by multiplying the hourly limitation by 8760, and then dividing by 2000).

* Emission Factors

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R&D scrap EPS polystyrene = 0.0016 lb OC per pound of polystyrene**

Scrap EPS polystyrene = 0.0002 lb OC per pound of polystyrene**

XPS ground foam and R&D XPS foam = 0.0142 lb OC per pound of polystyrene**

Reclaim XPS foam = 0.0053 lb OC per lb polystyrene**

1.b Emission Limitation:

VOC emissions shall not exceed 1.9 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with the hourly allowable VOC emission limitation shall be demonstrated by multiplying the maximum hourly usage rate by the appropriate OC emission factor*.

Compliance with the annual VOC emission limitation shall be demonstrated based on the record keeping requirements established in section III.1 of this permit.

*Emission Factors:

R&D scrap EPS polystyrene = 0.0016 lb VOC/pound of polystyrene**

Scrap EPS polystyrene = 0.0002 lb VOC per pound of polystyrene**

**The emission factors were provided by the permittee and are based on analytical sampling that was performed on various batches of polystyrene scrap foam.

VI. Miscellaneous Requirements

None

Emissions Unit ID: P010

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.

Operations, Property, and/or Equipment -(P010) - Reclaim Unit No.2 Polystyrene Extruder

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
None	None

2. **Additional Terms and Conditions**

- 2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. State and Federally Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

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

Operations, Property, and/or Equipment -(P012) - Vortex Foam grinder

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	Particulate matter emissions less than 10 microns (PM10) shall not exceed 6.6 tons per year (see A.2.a)
OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
OAC rule 3745-17-11(B)	PE shall not exceed 3.4 pounds per hour.
OAC rule 3745-31-05(A)(3)(b)	See A.2.b.

2. Additional Terms and Conditions

- 2.a Permit to Install 16-02490 for this air contaminant source takes into account the use of a baghouse system, whenever this air contaminant source is in operation, with a minimum control efficiency of 98%, by weight for PE, as a voluntary restriction as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) for particulate emissions.
- 2.b The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the uncontrolled potential to emit for VOCs is less than ten tons per year.

II. Operational Restrictions

1. The permittee shall grind only scrap expanded polystyrene (EPS) foam in this emission

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unit.

2. The permittee shall operate the baghouse installed on this emissions unit, in accordance with the manufacturer's specifications, instructions and operating manual(s), with modification deemed necessary by the permittee, at all times while the emissions unit is in operation.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse during operation of this emissions unit, including periods of startup and shutdown. 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 on a daily basis.

Whenever the monitored value for the pressure drop deviates from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the pressure drop readings immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

Except for an initial operating period after filter media replacement to attain design filtering efficiency, the acceptable range for the pressure drop across the baghouse is 0.1 to 5.0 inches of water.

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This range is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the pressure drop range based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the pressure drop range will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

2. The permittee shall maintain records documenting any time periods when the emissions unit was in operation and the baghouse was not operating.
3. The permittee shall maintain records documenting any time periods when the permittee was grinding anything other than scrap EPS foam in this emission unit.

IV. Reporting Requirements

1. The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:
 - a. each period of time when the pressure drop across the baghouse field was outside of the acceptable range;
 - b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - c. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - d. an identification of each incident of deviation described in (a) where proper *records were not maintained for the investigation and/or the corrective action.*

These quarterly reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

2. The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions unit was in operation and the baghouse was not operating. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit deviation (excursion) reports that identify any time periods when the permittee was grinding anything other than scrap EPS foam in this emission unit. Each report shall be submitted within 30 days after the deviation occurs.

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V. Testing Requirements

1. Compliance with the emission limitations and the operational restriction in Sections A.I.1 and A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:

The visible PE limitations shall not exceed 20% opacity, as a six-minute average, except as provided for by rule.

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Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the allowable visible PE limitation above in accordance with OAC rule 3745-17-03(B)(1).

b. Emission Limitation:

PE shall not exceed 3.4 pounds per hour
PM10 shall not exceed 6.6 tons per year

Applicable Compliance Method:

If required, compliance with the hourly allowable PE limitation shall be based on the results of stack testing conducted in accordance with OAC rule 3745-17-03(B)(10).

The permittee may demonstrate compliance with the annual allowable PM10 emission limitation above by multiplying the maximum hourly uncontrolled PE rate [(1,500 pounds/hr) by (1 - 0.95*) and by (1-.98**)]. The result is then multiplied by the maximum annual number of hours of operation (8760 hours/yr), and then divided by 2000 lbs/ton.

* The capture efficiency is assumed to be 95%.

** The control efficiency is assumed to be 98%.

VI. Miscellaneous Requirements

None

Emissions Unit ID: P012

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.

Operations, Property, and/or Equipment -(P012) - Vortex Foam grinder

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment -(P013) - Reclaim Unit No. 3 - Polystyrene Extruder

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	Organic compound emissions (OC) shall not exceed 20.2 pounds per hour, nor 88.7 tons per year. Volatile organic compound(VOC) emissions shall not exceed 3.1 pounds/hr, nor 13.7 tons per year.

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for this emissions unit:
 - a. the amount of polystyrene used for each category (R&D EPS scrap foam, scrap expanded foam EPS), in pounds;
 - b. the amount of extruded polystyrene (XPS), including R&D XPS used, in pounds;
 - c. the monthly VOC emission rate, in tons, as calculated using the actual emission factors developed by the permittee for each type of XPS foam processed in the

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extruder (actual emission factor varies depending on type of XPS foam and the VOC content of each type of XPS foam); and

- d. the year-to-date VOC emissions, in tons.

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IV. Reporting Requirements

1. The permittee shall submit annual reports that summarize the actual annual VOC emissions for this emissions unit. The reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

V. Testing Requirements

1. Compliance with the emission limitations and the operational restriction in Sections A.I.1 and A.II.1 of these terms and conditions shall be determined in accordance with the following methods:

- 1.a Emission Limitations:

OC shall not exceed 20.20 pounds per hour, nor 88.7 tons per year

Applicable Compliance Method:

Compliance with the hourly allowable OC emission limitation shall be demonstrated by multiplying the maximum hourly polystyrene usage rate by the appropriate OC emission factor*.

As long as compliance with the hourly allowable OC emission limitation is maintained, compliance with the annual OC emission limitation shall be assumed (the annual limitation was derived by multiplying the hourly limitation by 8760, and then dividing by 2000).

* Emission Factors

R&D scrap EPS polystyrene = 0.0016 lb OC per pound of polystyrene**

Scrap EPS polystyrene = 0.0002 lb OC per pound of polystyrene**

XPS ground foam and R&D XPS foam = 0.0142 lb OC per pound of polystyrene**

Reclaim XPS foam = 0.0053 lb OC per lb polystyrene**

- 1.b Emission Limitations:

Emissions Unit ID: P013

VOC shall not exceed 3.1 pounds/hr and 13.7 tons per year

Applicable Compliance Method:

Compliance with the hourly allowable VOC emission limitation shall be demonstrated by multiplying the maximum hourly usage rate by the appropriate VOC emission factor*.

Compliance with the annual VOC emission limitation shall be demonstrated based on the record keeping requirements established in section III.1 of the terms and condition of this permit.

*Emission Factors

R&D scrap EPS polystyrene = 0.0016 lb VOC per pound of polystyrene**

Scrap EPS polystyrene = 0.0002 lb VOC per pound of polystyrene**

**The emission factors were provided by the permittee and are based on analytical sampling that was performed on various batches of polystyrene scrap foam.

VI. Miscellaneous Requirements

None

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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.

Operations, Property, and/or Equipment - (P013) - Reclaim No. 3 Polystyrene Extruder

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
None	None

2. **Additional Terms and Conditions**

- 2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None