



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL  
LUCAS 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: 04-01462**

**Fac ID: 0448000012**

**DATE: 5/22/2007**

Johns Manville Plant 1  
Ron Hudson  
6050 River Rd  
Waterville, OH 43566

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

TDES



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**Permit To Install  
Terms and Conditions**

**Issue Date: 5/22/2007  
Effective Date: 5/22/2007**

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**FINAL PERMIT TO INSTALL 04-01462**

Application Number: 04-01462  
Facility ID: 0448000012  
Permit Fee: **\$3750**  
Name of Facility: Johns Manville Plant 1  
Person to Contact: Ron Hudson  
Address: 6050 River Rd  
Waterville, OH 43566

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**6050 River Rd  
Waterville, Ohio**

Description of proposed emissions unit(s):  
**To add gypsum dryer, two direct dry chop dryers, two direct dry classifiers, one dielectric dryer and modify an existing dielectric dryer.**

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

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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.

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- 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**

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

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	2.36
PM10	2.36
SO2	0.03
NOx	3.52
CO	2.94
VOC	27.58

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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 - (P033) - Dielectric drying oven - modification**

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	VOC emissions shall not exceed 0.786 pound VOC per ton glass dried and 4.13 tons VOC per year. See section A.I.2.a.
OAC rule 3745-21-07(B)	See section A.I.2.b.
ORC 3704.03(T)(4)	See section A.I.2.c.

**2. Additional Terms and Conditions**

- 2.a The short term pound per ton and annual emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and or reporting requirements to ensure compliance with these limitations.
- 2.b The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C).
- 2.c The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled VOC emissions from this air contaminant source since the potential to emit for VOC is less than ten tons per year.

**II. Operational Restrictions**

1. The amount of glass dried in emissions unit P033 shall not exceed 21,000,000 pounds per year.

**III. Monitoring and/or Recordkeeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

1. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

- a. Emission Limitation:

0.786 pound VOC per ton glass dried

Applicable Compliance Method:

This calculation was based upon the most recent stack test derived emission factor (0.000393 pounds of VOC per pound of glass dried (2/06)) multiplied by 2000 pounds per ton.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 25 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-21-10; or other U.S. EPA-approved test methods, with prior approval from the Ohio EPA.

- b. Emission Limitation:

4.13 tons of VOC per year

Applicable Compliance Method:

Compliance may be demonstrated by multiplying the 12-month summation of glass dried, in pounds, (21,000,000 pounds) by the most recent stack test derived emission factor (0.000393 pounds of VOC per pound of glass dried (2/06)) and dividing by 2000 pounds per ton.

**VI. Miscellaneous Requirements**

1. The terms and conditions contained in this PTI supercede those contained in PTI 04-01345 for emissions unit P033.

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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 - (P033) - Dielectric drying oven - modification**

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

Issued: 5/22/2007

**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 - (P054) - 3.0 MMBtu/hr Direct Dry Chop Dryer-1 w/baghouse control**

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	Both Particulate Emissions (PE) and PM10 emissions shall be less than 0.06 pounds per ton of glass dried and 0.51 tons per year each. See sections A.I.2.a and A.I.2.f.  Volatile Organic Compound (VOC) emissions shall not exceed 0.68 lb per ton of glass dried and 5.81 tons per year. See section A.I.2.e.  Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.6 pound per million standard cubic feet natural gas and 0.01 ton per year. See section A.I.2.e.
OAC rule 3745-17-07(A)(1)	Visible Emissions (VE) from this emissions unit shall not exceed 20% opacity as a six minute average.
OAC rule 3745-17-11(B)(1)	PE shall not exceed 6.41 pounds per hour.
OAC rule 3745-18-06(E)	See section A.I.2.d.
OAC rule 3745-21-07(B)	See section A.I.2.d.
OAC rule 3745-21-08(B)	See sections A.I.2.b and A.I.2.c.
ORC 3704.03(T)(4)	See section A.I.2.c.

**2. Additional Terms and Conditions**

- 2.a Permit to install 04-01462 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding

Emissions Unit ID: P054

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

- a. The use of a baghouse filter system, whenever this air contaminant source is in operation, with a capture efficiency of 100% and a minimum control efficiency of 99%, by weight of PE and PM10.
- 2.b** On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.
- 2.c** The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled VOC, SO<sub>2</sub>, NO<sub>x</sub>, and CO emissions from this air contaminant source since the potential to emit for VOC, SO<sub>2</sub>, NO<sub>x</sub>, and CO is less than 10 tons per year.
- 2.d** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C).
- 2.e** The short term pound per ton or pound per million cubic feet and annual emissions limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.
- 2.f** The permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system.
  - i. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems including, but not limited to, devices using light scattering and other effects, shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.
  - ii. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PE emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
  - iii. The bag leak detection system sensor shall produce an output relative

Emissions Unit ID: P054

particulate emissions.

- iv. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PE emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.
- v. The bag leak detection system shall be installed downstream of the baghouse. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.
- vi. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
- vii. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm setpoints, or alarm delay time except as detailed in the operations, maintenance and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operating condition.

## **II. Operational Restrictions**

1. The permittee shall burn only natural gas in this emissions unit.
2. The permittee shall initiate corrective action within one hour of an alarm from a bag leak detection system and complete corrective actions in a timely manner. Example corrective actions may include:
  - i. inspecting the baghouse for air leaks, torn or broken bags or filter media, or an other conditions that may cause an increase in emission,
  - ii. sealing off defective bags or filter media,
  - iii. replacing defective bags or filter media, or otherwise repairing the control device,
  - iv. sealing off a defective baghouse compartment,
  - v. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system, and
  - vi. shutting down the process producing the particulate emissions.

**Issued: 5/22/2007**

3. The amount of glass dried in emissions unit P054 shall not exceed 34,164,000 pounds per year.

Issued: 5/22/2007

### **III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall maintain records of any bag leak detection system alarms, including the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which any bag leak detection system alarms were sounded. The reports shall include a summary of the date and time of the alarm(s), when corrective actions were initiated, the cause of the alarm(s), the explanation of the corrective actions taken, and when the cause of the alarm(s) was corrected.
3. If no deviations occurred during the quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that period.
4. The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c.

### **V. Testing Requirements**

Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

1. Emission Limitation:

VE shall not exceed 20% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations

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performed in accordance with Method 9 of 40 CFR Part 60, Appendix A and the procedures specified in OAC rule 3745-17-03(B)(1).

2. Emission Limitation:

0.68 pounds of VOC per ton of glass dried

Emissions Unit ID: P054

**Applicable Compliance Method:**

This emission limitation was established to reflect the potential to emit for this emission unit. This limit results from two different processes. This limitation is a combination of the combustion of natural gas and from the burn off of the sizing material on the drying glass.

The VOC resulting from the combustion of natural gas was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 5.5 pound of VOC emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then divide by the maximum pounds of glass dried per hour (5,200 pounds/hour) and multiply by 2000 pounds per ton.

The VOC resulting from the burn off of the sizing material is based on multiplying the percentage of VOC content in the sizing mix (0.56%) by the overall moisture content of the drying glass which is defined by the sizing material (6.00%) and multiplying this number by 2000 pounds per ton.

The combination of these two results is the uncontrolled potential to emit of VOC in this emission unit.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 25 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-21-10; or other U.S. EPA approved test method, with prior approval of the Ohio EPA.

**3. Emission Limitation:**

5.81 tons of VOC per year

**Applicable Compliance Method:**

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.68 pounds of VOC per ton of glass dried by 17,082 tons of glass dried per year and dividing by 2,000 pounds per ton.

**4. Emission Limitation:**0.6 pound of SO<sub>2</sub> per million standard cubic feet of natural gas.

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Applicable Compliance Method:

Compliance may be determined through the emission factor specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 6 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-18-04; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

5. Emission Limitation:

0.01 ton of SO<sub>2</sub> per year.

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO<sub>2</sub> emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

6. Emission Limitation:

6.41 pounds of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

7. Emission Limitation:

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0.06 pounds of PE or PM10 per ton of dried glass.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable limitations with the most recent stack test derived emission factor (0.06 pound PM10 per ton of glass dried (7/99)).

If required, the permittee shall demonstrate compliance with the stack derived emission factor through emission testing performed in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

8. Emission Limitation:

PM10 shall be less than 0.51 tons per year.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the most recent stack test derived emission factor (0.06 pound PM10 per ton of glass dried (7/99)) by the tons of glass dried per year (17,082 tons/year) and divide by 2000 pounds per ton.

9. Emission Limitation:

PE shall be less than 0.51 tons per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10); or other U.S. EPA approved test method, with prior approval from the Ohio EPA. The results of the emissions testing shall be used to determine the potential to emit (PTE) on an annual basis (i.e. 8760 hours per year or 365 days per year) for this air contaminant source.

10. Emission Limitation:

Emissions Unit ID: P054

NOx emissions shall be less than 10 tons per year.

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NOx emissions per million standard cubic feet (MMscf) by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

11. Emission Limitation:

CO emissions shall be less than 10 tons per year.

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet (MMscf) by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

## **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 - (P054) - 3.0 MMBtu/hr Direct Dry Chop Dryer-1 w/baghouse control**

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 - (P055) - 3.0 MMBtu/hr Direct Dry Chop Dryer-2 w/baghouse control**

<b>Applicable Rules/Requirements</b>	<b>Applicable Emissions Limitations/Control Measures</b>
OAC rule 3745-31-02(A)	Both Particulate Emissions (PE) and PM10 emissions shall be less than 0.06 pound per ton of glass dried and 0.51 ton per year each. See section A.I.2.a and A.I.2.f.  Volatile Organic Compound (VOC) emissions shall not exceed 0.68 lb per ton of glass dried and 5.81 tons per year. See section A.I.2.e.  Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.6 pound per million standard cubic feet natural gas and 0.01 ton per year. See section A.I.2.e.
OAC rule 3745-17-07(A)(1)	Visible Emissions (VE) from this emissions unit shall not exceed 20% opacity as a six minute average.
OAC rule 3745-17-11(B)(1)	PE shall not exceed 6.41 pounds per hour.
OAC rule 3745-18-06(E)	See section A.I.2.d.
OAC rule 3745-21-07(B)	See section A.I.2.d.
OAC rule 3745-21-08(B)	See section A.I.2.b and A.I.2.c.
ORC 3704.03(T)(4)	See section A.I.2.c.

**2. Additional Terms and Conditions**

- 2.a Permit to install 04-01462 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule

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3745-31-05(A)(3):

- a. The use of a baghouse filter system, whenever this air contaminant source is in operation, with a capture efficiency of 100% and a minimum control efficiency of 99%, by weight of PE and PM10.
- 2.b** On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.
  - 2.c** The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled VOC, SO<sub>2</sub>, NO<sub>x</sub>, and CO emissions from this air contaminant source since the potential to emit for VOC, SO<sub>2</sub>, NO<sub>x</sub>, and CO is less than 10 tons per year.
  - 2.d** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C).
  - 2.e** The short term pound per ton or pound per million cubic feet and annual emissions limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.
  - 2.f** The permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system.
    - i. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems including, but not limited to, devices using light scattering and other effects, shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.
    - ii. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PE emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
    - iii. The bag leak detection system sensor shall produce an output relative particulate emissions.

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- iv. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PE emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.
- v. The bag leak detection system shall be installed downstream of the baghouse. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.
- vi. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
- vii. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm set points, or alarm delay time except as detailed in the operations, maintenance and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operating condition.

## II. Operational Restrictions

- 1. The permittee shall burn only natural gas in this emissions unit.
- 2. The permittee shall initiate corrective action within one hour of an alarm from a bag leak detection system and complete corrective actions in a timely manner. Example corrective actions may include:
  - i. inspecting the baghouse for air leaks, torn or broken bags or filter media, or an other conditions that may cause an increase in emission,
  - ii. sealing off defective bags or filter media,
  - iii. replacing defective bags or filter media, or otherwise repairing the control device,
  - iv. sealing off a defective baghouse compartment,

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- v. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system, and
  - vi. shutting down the process producing the particulate emissions.
3. The amount of glass dried in emissions unit P055 shall not exceed 34,164,000 pounds per year.

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### **III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall maintain records of any bag leak detection system alarms, including the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which any bag leak detection system alarms were sounded. The reports shall include a summary of the date and time of the alarm(s), when corrective actions were initiated, the cause of the alarm(s), the explanation of the corrective actions taken, and when the cause of the alarm(s) was corrected.
3. If no deviations occurred during the quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that period.
4. The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c.

### **V. Testing Requirements**

Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

1. Emission Limitation:

VE shall not exceed 20% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations

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performed in accordance with Method 9 of 40 CFR Part 60, Appendix A and the procedures specified in OAC rule 3745-17-03(B)(1).

2. Emission Limitation:

0.68 pounds of VOC per ton of glass dried

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Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. This limit results from two different processes. This limitation is a combination of the combustion of natural gas and from the burn off of the sizing material on the drying glass.

The VOC resulting from the combustion of natural gas was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 5.5 pound of VOC emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then divide by the maximum pounds of glass dried per hour (5,200 pounds/hour) and multiply by 2000 pounds per ton.

The VOC resulting from the burn off of the sizing material is based on multiplying the percentage of VOC content in the sizing mix (0.56%) by the overall moisture content of the drying glass which is defined by the sizing material (6.00%) and multiplying this number by 2000 pounds per ton.

The combination of these two results is the uncontrolled potential to emit of VOC in this emission unit.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 25 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-21-10; or other U.S. EPA approved test method, with prior approval of the Ohio EPA.

3. Emission Limitation:

5.81 tons of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.68 pounds of VOC per ton of glass dried by 17,082 tons of glass dried per year and dividing by 2,000 pounds per ton.

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4. Emission Limitation:

0.6 pound of SO<sub>2</sub> per million standard cubic feet of natural gas.

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Applicable Compliance Method:

Compliance may be determined through the emission factor specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 6 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-18-04; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

5. Emission Limitation:

0.01 ton of SO<sub>2</sub> per year.

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO<sub>2</sub> emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

6. Emission Limitation:

6.41 pounds of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

7. Emission Limitation:

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0.06 pounds of PE or PM10 per ton of dried glass.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable limitations with the most recent stack test derived emission factor (0.06 pound PM10 per ton of glass dried (7/99)).

If required, the permittee shall demonstrate compliance with the stack derived emission factor through emission testing performed in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

8. Emission Limitation:

PM10 shall be less than 0.51 tons per year.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the most recent stack test derived emission factor (0.06 pound PM10 per ton of glass dried (7/99)) by the tons of glass dried per year (17,082 tons/year) and divide by 2000 pounds per ton.

9. Emission Limitation:

PE shall be less than 0.51 tons per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10); or other U.S. EPA approved test method, with prior approval from the Ohio EPA. The results of the emissions testing shall be used to determine the potential to emit (PTE) on an annual basis (i.e. 8760 hours per year or 365 days per year) for this air contaminant source.

10. Emission Limitation:

Emissions Unit ID: P055

NOx emissions shall be less than 10 tons per year.

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NOx emissions per million standard cubic feet (MMscf) by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

11. Emission Limitation:

CO emissions shall be less than 10 tons per year.

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet (MMscf) by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

## **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 - (P055) - 3.0 MMBtu/hr Direct Dry Chop Dryer-2 w/baghouse control**

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 - (P056) - Direct Dry Classifier-1 w/baghouse control

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	Both PE and PM10 emissions shall be less than 0.078 pounds per ton of glass dried and 0.67 ton per year each. See sections A.I.2.a and A.I.2.b.
OAC rule 3745-17-07(A)(1)	Visible Emissions (VE) shall not exceed 20% opacity as a 6-minute average.
OAC rule 3745-17-11(B)(1)	Particulate Emissions (PE) shall not exceed 6.41 pounds per hour.

##### 2. Additional Terms and Conditions

- 2.a Permit to install 04-01462 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):
  - a. The use of a baghouse filter system, whenever this air contaminant source is in operation, with a capture efficiency of 100% and a minimum control efficiency of 99%, by weight of PE and PM10.
- 2.b The permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system.
  - i. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag

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leak detection systems including, but not limited to, devices using light scattering and other effects, shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

- ii. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PE emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
- iii. The bag leak detection system sensor shall produce an output of relative particulate emissions.
- iv. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PE emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.
- v. The bag leak detection system shall be installed downstream of the baghouse. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.
- vi. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
- vii.. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm set points, or alarm delay time except as detailed in the operations, maintenance, and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operating condition.

## II. Operational Restrictions

1. The permittee shall initiate corrective action within 1 hour of an alarm from a bag leak detection system and complete corrective action in a timely manner. Example correction actions may include:
  - i. inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emission,
  - ii. sealing off defective bags or filter media,
  - iii. replacing defective bags or filter media, or otherwise repairing the control

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device,

- iv. sealing off a defective baghouse compartment,
  - v. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system, and
  - vi. shutting down the process producing the particulate emissions.
2. The amount of glass dried in emissions unit P056 shall not exceed 34,164,000 pounds per year.

### **III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain records of any bag leak detection system alarms, including the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which any bag leak detection system alarms were sounded. The reports shall include a summary of the date and time of the alarm(s), when corrective actions were initiated, the cause of the alarm(s), an explanation of the corrective actions taken, and when the cause of the alarm(s) was corrected.
2. If no deviations occurred during the quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that period.
3. The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c.

### **V. Testing Requirements**

Compliance with the allowable emissions limitations in this permit shall be determined according to the following methods:

1. Emission Limitation:

**Johns Manville Plant 1**

DTI Application: 01-01162

**Facility ID:****0448000012**

Emissions Unit ID: P056

Visible emissions shall not exceed 20% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(1); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

2. Emission Limitation:

6.41 pounds of PE per hour

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Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

3. Emission Limitation:

0.078 pounds of PE or PM10 per ton of glass dried

Applicable Compliance Method:

The permittee shall demonstrate compliance with the allowable PE and PM10 limitation above with the most recent stack test derived emission factor (0.078 pound PM10 per ton of glass dried (6/01)).

4. Emission Limitation:

PM10 emissions shall be less than 0.67 ton per year.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable PM10 limitation above by multiplying the most recent stack test derived emission factor (0.078 pound PM10 per ton of glass dried (6/01)) by the annual amount of glass dried (17,082 tons) and dividing the result by 2000 pounds per ton.

If required, the permittee shall demonstrate compliance with the stack derived emission factor through emission testing performed in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

5. Emission Limitation:

PE shall be less than 0.67 ton per year.

Applicable Compliance Method:

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If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10); or other U.S. EPA approved test method, with prior approval from the Ohio EPA. The results of the emissions testing shall be used to determine the potential to emit (PTE) on an annual basis (i.e. 8760 hours per year or 365 days per year) for this air contaminant source.

**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 - (P056) - Direct Dry Classifier-1 w/baghouse control**

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 - (P057) - Direct Dry Chop Classifier-2 w/baghouse control

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	Both PE and PM10 emissions shall be less than 0.078 pounds per ton of glass dried and 0.67 ton per year each. See section A.I.2.a and A.I.2.b.
OAC rule 3745-17-07(A)(1)	Visible Emissions (VE) shall not exceed 20% opacity as a 6-minute average.
OAC rule 3745-17-11(B)(1)	Particulate Emissions (PE) shall not exceed 6.41 pounds per hour.

##### 2. Additional Terms and Conditions

- 2.a Permit to install 04-01462 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):
  - a. The use of a baghouse filter system, whenever this air contaminant source is in operation, with a capture efficiency of 100% and a minimum control efficiency of 99%, by weight of PE and PM10.
- 2.b The permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system.
  - i. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak

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Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems including, but not limited to, devices using light scattering and other effects, shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

- ii. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PE emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
- iii. The bag leak detection system sensor shall produce an output of relative particulate emissions.
- iv. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PE emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.
- v. The bag leak detection system shall be installed downstream of the baghouse. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.
- vi. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
- vii.. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm set points, or alarm delay time except as detailed in the operations, maintenance, and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operating condition.

## **II. Operational Restrictions**

1. The permittee shall initiate corrective action within 1 hour of an alarm from a bag leak detection system and complete corrective action in a timely manner. Example correction actions may include:
  - i. inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emission,
  - ii. sealing off defective bags or filter media,

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- iii. replacing defective bags or filter media, or otherwise repairing the control device,
  - iv. sealing off a defective baghouse compartment,
  - v. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system, and
  - vi. shutting down the process producing the particulate emissions.
2. The amount of glass dried in emissions unit P057 shall not exceed 34,164,000 pounds per year.

### **III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain records of any bag leak detection system alarms, including the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which any bag leak detection system alarms were sounded. The reports shall include a summary of the date and time of the alarms(s), when corrective actions were initiated, the cause of the alarm(s), an explanation of the corrective actions taken, and when the cause of the alarm(s) was corrected.
2. If no deviations occurred during the quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that period.
3. The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c.

### **V. Testing Requirements**

Compliance with the allowable emissions limitations in this permit shall be determined according to the following methods:

1. Emission Limitation:

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Visible emissions shall not exceed 20% opacity of visible PE, as a 6-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(1); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

2. Emission Limitation:

6.41 pounds of PE per hour

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Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

3. Emission Limitation:

0.078 pounds of PE or PM10 per ton of glass dried

Applicable Compliance Method:

The permittee shall demonstrate compliance with the allowable PE and PM10 limitation above with the most recent stack test derived emission factor (0.078 pound PM10 per ton of glass dried (6/01)).

4. Emission Limitation:

PM10 shall be less than 0.67 ton per year.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable PM10 limitation above by multiplying the most recent stack test derived emission factor (0.078 pound PM10 per ton of glass dried (6/01)) by the annual amount of glass dried (17,082 tons) and dividing the result by 2000 pounds per ton.

If required, the permittee shall demonstrate compliance with the stack derived emission factor through emission testing performed in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

5. Emission Limitation:

PE shall be less than 0.67 ton per year.

Applicable Compliance Method:

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If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10); or other U.S. EPA approved test method, with prior approval from the Ohio EPA. The results of the emissions testing shall be used to determine the potential to emit (PTE) on an annual basis (i.e. 8760 hours per year or 365 days per year) for this air contaminant source.

**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 - (P057) - Direct Dry Chop Classifier-2 w/baghouse control**

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 - (P058) - 2.0 MMBtu/hr Finishing Gypsum Dryer-1 w/baghouse control**

<b>Applicable Rules/Requirements</b>	<b>Applicable Emissions Limitations/Control Measures</b>
OAC rule 3745-31-05(C)	Both Particulate Emissions (PE) and PM10 emissions shall be less than 0.000014 pounds per ton of glass dried and 0.01 tons per year. See section A.I.2.a and A.I.2.f.  Volatile Organic Compound (VOC) emissions shall not exceed 0.68 lb per ton of glass dried and 7.70 tons per year. See section A.I.2.e.  Sulfur Dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.6 pound per million standard cubic feet natural gas and 0.01 ton per year. See section A.I.2.e.
OAC rule 3745-17-07(A)(1)	Visible Emissions (VE) from this emissions unit shall not exceed 20% opacity as a six minute average.
OAC rule 3745-17-11(B)(1)	PE shall not exceed 7.78 pounds per hour.
OAC rule 3745-18-06(E)	See section A.I.2.d.
OAC rule 3745-21-07(B)	See section A.I.2.d.
OAC rule 3745-21-08(B)	See sections A.I.2.b and A.I.2.c.
ORC 3704.03(T)(4)	See section A.I.2.c.

**2. Additional Terms and Conditions**

- 2.a Permit to install 04-01462 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):
  - a. The use of a baghouse filter system, whenever this air contaminant source is in operation, with a capture efficiency of 100% and a minimum control efficiency of 99%, by weight of PE and PM10.

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- 2.b** On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.
- 2.c** The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled VOC, SO<sub>2</sub>, NO<sub>x</sub>, and CO emissions from this air contaminant source since the potential to emit for VOC, SO<sub>2</sub>, NO<sub>x</sub>, and CO is less than 10 tons per year.
- 2.d** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C).
- 2.e** The short term pound per ton or pound per million cubic feet and annual emissions limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.
- 2.f** The permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system.
- i. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems including, but not limited to, devices using light scattering and other effects, shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.
  - ii. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PE emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
  - iii. The bag leak detection system sensor shall produce an output of relative

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particulate emissions.

- iv. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PE emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.
- v. The bag leak detection system shall be installed downstream of the baghouse. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.
- vi. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
- vii. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm set points, or alarm delay time except as detailed in the operations, maintenance, and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operating condition.

## **II. Operational Restrictions**

1. The permittee shall burn only natural gas in this emissions unit.
2. The permittee shall initiate corrective action within 1 hour of an alarm from a bag leak detection system and complete corrective action in a timely manner. Example correction actions may include:
  - i. inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emission,
  - ii. sealing off defective bags or filter media,
  - iii. replacing defective bags or filter media, or otherwise repairing the control device,
  - iv. sealing off a defective baghouse compartment,
  - v. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system, and
  - vi. shutting down the process producing the particulate emissions.

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3. The amount of glass dried in emissions unit P058 shall not exceed 45,552,000 pounds per year.

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### **III. Monitoring and/or Recordkeeping Requirements**

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
2. The permittee shall maintain records of any bag leak detection system alarms, including the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

### **IV. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which any bag leak detection system alarms were sounded. The reports shall include a summary of the date and time of the alarm(s), when corrective actions were initiated, the cause of the alarm(s), an explanation of the corrective actions taken, and when the cause of the alarm(s) was corrected.
3. If no deviations occurred during the quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that period.
4. The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c.

### **V. Testing Requirements**

Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

1. Emission Limitation:

Visible emissions shall not exceed 20% opacity, as a six minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations

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performed in accordance with Method 9 of 40 CFR part 60, Appendix A and the procedures specified in OAC rule 3745-17-03(B)(1); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

2. Emission Limitation:

0.68 pounds of VOC per ton of glass dried

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. This limit results from two different processes. This limitation is a combination of the combustion of natural gas and from the burn off of the sizing material on the drying glass.

The VOC resulting from the combustion of natural gas was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 5.5 pound of VOC emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then divide by the maximum pounds of glass dried per hour (5,200 pounds/hour) and multiply by 2000 pounds per ton.

The VOC resulting from the burn off of the sizing material is based on multiplying the percentage of VOC content in the sizing mix (0.56%) by the overall moisture content of the drying glass which is defined by the sizing material (6.00%) and multiplying this number by 2000 pounds per ton.

The combination of these two results is the uncontrolled potential to emit of VOC in this emission unit.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 25 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-21-10; or other U.S. EPA approved test method, with prior approval of the Ohio EPA.

3. Emission Limitation:

7.70 tons of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.68 pounds of VOC per ton of glass dried by 22,776 tons of glass dried per year and

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dividing by 2,000 pounds per ton.

4. Emission Limitation:

0.6 pound of SO<sub>2</sub> per million standard cubic feet of natural gas.

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Applicable Compliance Method:

Compliance may be determined through the emission factor specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 6 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-18-04; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

5. Emission Limitation:

0.01 ton of SO<sub>2</sub> per year.

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO<sub>2</sub> emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

6. Emission Limitation:

7.78 pounds of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

7. Emission Limitation:

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0.000014 pounds of PE or PM10 per ton of glass dried

Applicable Compliance Method:

The permittee shall demonstrate compliance with the allowable limitations above by multiplying the most recent stack test derived emission factor ( $7.11 \times 10E-09$  pound PM10 per pound of glass dried (8/05)) by 2000 pounds per ton.

8. Emission Limitation:

0.01 tons per year of PM10.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable limitations above by multiplying the most recent stack test derived emission factor ( $7.11 \times 10E-09$  pound PM10 per pound of glass dried (8/05)) by the annual amount of glass dried (45,552,000 pounds) and dividing by 2000 pounds per ton.

If required, the permittee shall demonstrate PM10 compliance with the stack derived emission factor through emission testing performed in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

9. Emission Limitation:

0.01 tons per year of PE.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10); or other U.S. EPA approved test method, with prior approval from the Ohio EPA. The results of the emissions testing shall be used to determine the potential to emit (PTE) on an annual basis (i.e. 8760 hours per year or 365 days per year) for this air contaminant source.

10. Emission Limitation:

NOx emissions shall be less than 10 tons per year.

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA

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reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NO<sub>x</sub> emissions per million standard cubic feet (MMscf) by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

11. Emission Limitation:

CO emissions shall be less than 10 tons per year.

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet (MMscf) by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

**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 - (P058) - 2.0 MMBtu/hr Finishing Gypsum Dryer-1 w/baghouse control**

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 - (P059) - Dielectric Oven 2

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	Volatile Organic Compounds (VOC) emissions shall not exceed 0.786 pound per ton of glass dried and 4.13 tons per year. See section A.I.2.a.
OAC rule 3745-21-07(B)	See section A.I.2.b.
ORC 3704.03(T)(4)	See section A.I.2.c.

##### 2. Additional Terms and Conditions

- 2.a The short term pound per ton and annual emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and or reporting requirements to ensure compliance with these limitations.
- 2.b The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C).
- 2.c The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the uncontrolled VOC emissions from this air contaminant source since the potential to emit for VOC is less than ten tons per year.

##### II. Operational Restrictions

1. The amount of glass dried in emissions unit P059 shall not exceed 21,000,000 pounds per year.

**III. Monitoring and/or Recordkeeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

1. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

- a. Emission Limitation:

0.786 pound of VOC per ton of glass dried

Applicable Compliance Method:

Compliance may be demonstrated by multiplying the most recent stack test derived emission factor (0.000393 lb of VOC per pound of glass dried (2/06)) by 2000 pounds per ton.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 25 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-21-10; or other US. EPA-approved test methods, with prior approval from the Ohio EPA.

- b. Emission Limitation:

4.13 tons of VOC per year

Applicable Compliance Method:

Compliance may be demonstrated by multiplying the rolling, 12-month summation of glass dried (21,000,000 pounds) by the most recent stack test derived emission factor (0.000393 lb of VOC per pound of glass dried (2/06)) and dividing by 2000 pounds per ton.

**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 - (P059) - Dielectric Oven 2**

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