



Environmental Protection Agency

John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

3/16/2011

Certified Mail

Mark Arnold  
Owens Corning Insulating Systems, LLC  
400 Case Ave.  
Newark, OH 43055-5893

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 0145020185  
Permit Number: P0107520  
Permit Type: OAC Chapter 3745-31 Modification  
County: Licking

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director 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, made payable to "Ohio Treasurer Josh Mandel," 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

The Ohio EPA is encouraging 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 Compliance Assistance and Pollution Prevention at (614) 644-3469. If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Central District Office. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA  
Ohio EPA-CDO





Response to Comments

Response to comments for: Permit-To-Install

Table with 2 columns and 7 rows containing permit details: Facility ID, Facility Name, Facility Description, Facility Address, Permit #, public notice information, and hearing dates.

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. Topic: Owens Corning requests

Comment: Owens Corning insulating Systems, LLC (OCIS) has reviewed Draft PTIs P0107520 and P0107269 for the Molded Pipe Factory Upgrade Project at the Newark Plant, as issued by Ohio EPA on February 10, 2011.

- 1) PTI P0107520 - Section 2.b)(1)a for P130: Please delete the filterable and condensable PE, VOC, and CO limits...
2) PTI P0107520 and PTI P0207269 - All units Throughout both PTIs, OCIS proposes use of the term "bare glass delivered" in place of "glass feed" wherever referenced.



- 3) PTI P0107520 - Sections X.d)(5) for P130 and P143:  
OCIS proposes to modify the monitoring language to be consistent with 40 CFR 60, Subpart PPP, by revising the language in d)(5) and adding the NSPS PPP calibration requirements in d)(6).
- 4) PTI P0107520 - Section X.d)(5) for P130 and P143:  
Please revise the lettering sequence for the corrective action recordkeeping requirements from "a - f" to "f - k".
- 5) PTI P0107520 - Sections X.d)(6) and e)(6) for P130 and P143:  
OCIS proposes revised language to reference the alternative monitoring request submitted to U.S. EPA Region V
- 6) PTI P0107520 - Section 3.b)(1)a for P143:  
Please delete the filterable and condensable PE limit, as the old BAT citation is the incorrect citation for this requirement, and this requirement is already listed under ORC 3704.03(T) in Section 3.b)(1)b.
- 7) PTI P0107520 - Section 1.f)(1)a for P025:  
NOTE: This source has no stack and would be very difficult to perform emissions testing on. In the past similar sources have been used to show compliance.
- 8) PTI P0107269 - Section 1.b)(1)b for P200:  
Please delete the reference "See b)(2)a," as this paragraph relates to the "less than 10 tpy BAT exemption" that does not apply to the BAT requirements in b)(2)b.
- 9) PTI P0107269 - Section 3.b)(1)a for P201/P202:  
Please add clarification that the 0.8 lb/hr and 3.38 tpy limits apply to *each* P201 or P202, separately.
- 10) PTI P0107269 - Section 3.b)(1)d and 3.b)(2) for P201/P202:  
OCIS proposes to clarify that the requirements under OAC 3745-17-11 will no longer be less stringent once U.S. EPA approves the December 1, 2006 version of BAT.

Response: Ohio EPA has accepted and adopted all comments excluding comment No. 7. The permit specifies that the emissions unit has been permitted at its potential to emit and therefore testing will only be required by a specific request of the Ohio EPA. At such time that the Ohio EPA determines that a test of P025 would be necessary Owens Corning, per the permit, will have the opportunity to suggest alternate methods of testing.



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install  
for  
Owens Corning Insulating Systems, LLC**

Facility ID: 0145020185  
Permit Number: P0107520  
Permit Type: OAC Chapter 3745-31 Modification  
Issued: 3/16/2011  
Effective: 3/16/2011





Division of Air Pollution Control
Permit-to-Install
for
Owens Corning Insulating Systems, LLC

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## Authorization

Facility ID: 0145020185  
Facility Description: Mineral Wool  
Application Number(s): A0040736  
Permit Number: P0107520  
Permit Description: This Chapter 31 permit modification accomodates the installation of a new in-line pipe machine and all-electric furnace and establishes federally enforceable limitations on VOC emissions.  
Permit Type: OAC Chapter 3745-31 Modification  
Permit Fee: \$1,200.00  
Issue Date: 3/16/2011  
Effective Date: 3/16/2011

This document constitutes issuance to:

Owens Corning Insulating Systems, LLC  
400 CASE AVE.  
NEWARK, OH 43055-5893

of a Permit-to-Install for the emissions unit(s) identified on the following page.

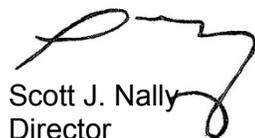
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Central District Office  
50 West Town Street, 6th Floor  
P.O. Box 1049  
Columbus, OH 43216-1049  
(614)728-3778

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section 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 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

  
Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0107520  
Permit Description: This Chapter 31 permit modification accommodates the installation of a new in-line pipe machine and all-electric furnace and establishes federally enforceable limitations on VOC emissions.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

<b>Emissions Unit ID:</b>	<b>P025</b>
Company Equipment ID:	Pipe A-3 Conditioning Channel/Forehearth
Superseded Permit Number:	01-08902
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P130</b>
Company Equipment ID:	Pipe A-4 Forming
Superseded Permit Number:	01-08902
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P143</b>
Company Equipment ID:	Pipe A-5 Forming
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



## **A. Standard Terms and Conditions**

**1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
  - (1) Standard Term and Condition A.2.a), Severability Clause
  - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A.9., Reporting Requirements
  - (5) Standard Term and Condition A.10., Applicability
  - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A.14., Public Disclosure
  - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A.16., Fees
  - (10) Standard Term and Condition A.17., Permit Transfers

**2. Severability Clause**

- a) 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.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

**3. 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.

#### 4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) 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:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Central District Office.
  - (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Central District Office. 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 A.15. below if no deviations occurred during the quarter.

- (3) 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 Ohio EPA DAPC, Central District Office 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.
  - (4) This permit is for an emissions unit located at a Title V facility. 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.

## 5. 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 Ohio EPA DAPC, Central District Office 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).

## 6. Compliance Requirements

- a) 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.
- b) 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.
- c) 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:
  - (1) 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.
  - (2) 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.

- (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) 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.
- d) The permittee shall submit progress reports to the Ohio EPA DAPC, Central District Office 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:
- (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) 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.

#### **7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

#### **8. 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.

#### **9. 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 Ohio EPA DAPC, Central District Office.
- 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 Ohio EPA DAPC, Central District Office. 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.)

**10. 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).

**11. Construction of New Sources(s) and Authorization to Install**

- a) 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.
- b) If applicable, authorization to install any new 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 has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. 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.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.



No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

## 12. Permit-To-Operate Application

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).

## 13. Construction Compliance Certification

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

## 14. 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.

## 15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

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.

## 16. 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.

**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

**18. 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.

**19. 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.

## **B. Facility-Wide Terms and Conditions**



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - a) None.

## **C. Emissions Unit Terms and Conditions**



1. P025, Pipe A-3 Conditioning Channel/Forehearth

Operations, Property and/or Equipment Description:

A-3 Pipe Conditioning Channel/Forehearth.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) None
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Filterable and condensable particulate emissions (PE) shall not exceed 2.1 pounds per hour and 9.11 tons per year.  Sulfur dioxide emissions shall not exceed 0.06 pound per hour and 0.28 ton per year.  Nitrogen oxide emissions shall not exceed 0.35 pound per hour and 1.6 tons per year.  Carbon monoxide emissions shall not exceed 0.30 pound per hour and 1.3 tons per year.  Volatile organic compound emissions shall not exceed 0.02 pound per hour and 0.08 ton per year.  Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a three-minute average.  See b)(2)a-b
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/06	See b)(2)c



c.	OAC rules 3745-17-07(B) and 3745-17-08(B)	This facility is not located in an Appendix A area as described in OAC rule 3745-17-08; therefore, OAC rules 3745-17-07(B) and 3745-17-08(B) do not apply to this fugitive emissions unit.
d.	OAC rule 3745-18-06(E)	Sulfur dioxide emissions shall not exceed 45.7 pounds per hour.  The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A).  See b)(2)d

(2) Additional Terms and Conditions

- a. The hourly and annual emission limitations for this emissions unit were established to reflect the potentials to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.
- b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by 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 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006, version of 3745-31-05, then these emission limits/control measures no longer apply.
- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.
  - i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and CO emissions from this air contaminant source since the uncontrolled potential to emit for PE, SO<sub>2</sub>, NO<sub>x</sub>, VOC, and CO is each less than 10 tons/yr.
  - d. Once US EPA approves the December 1, 2006 version of 3745-31-05, then the requirements of OAC rule 3745-18-06(E) become effective.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.

**d) Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (2) 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.

**e) Reporting Requirements**

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

- (3) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- f) Testing Requirements
- (1) Compliance with the emission limitation(s) in Section b)(1) of these terms and conditions shall be determined in accordance with the following methods:
- a. Emission Limitation:
- Particulate emissions shall not exceed 2.1 pounds per hour and 9.11 tons per year.
- Applicable Compliance Method:  
This emission limitation was established as the emission units' potential to emit using the worst-case batch formulation (PTI Application submitted 12/3/2010).
- If required, the permittee shall demonstrate compliance with the allowable mass emission rate for PE in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5 and 40 CFR Part 51, Appendix M, Method 202. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
- Compliance with the annual limitation may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.
- b. Emission Limitation:
- Sulfur dioxide emissions shall not exceed 0.06 pound per hour and 0.28 ton per year
- Applicable Compliance Method:  
This emission limitation was established as the emission units' potential to emit using the worst-case batch formulation (PTI Application submitted 12/3/2010).
- If required, the permittee shall demonstrate compliance with the allowable mass emission rate for SO<sub>2</sub> in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6C. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
- Compliance with the annual limitation may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

c. Emission Limitation:

Nitrogen oxide emissions shall not exceed 0.35 pound per hour and 1.6 tons per year.

Applicable Compliance Method:

Compliance with the hourly limit may be demonstrated by multiplying the rated input capacity of 3.5 MMBtu per hour by the AP-42 emission factor for natural gas combustion (100 lbs NO<sub>x</sub>/mmscf) from Table 1.4-1 (7/98), and then dividing by the conversion factor of 1020 MMBtu/mmscf.

Compliance with the annual limit may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

d. Emission Limitation:

Carbon monoxide emissions shall not exceed 0.30 pounds per hour and 1.3 tons per year.

Applicable Compliance Method:

Compliance with the hourly limit may be demonstrated by multiplying the rated input capacity of 3.5 MMBtu per hour by the AP-42 emission factor for natural gas combustion (84 lbs CO/mmscf) from Table 1.4-1 (7/98), and then dividing by the conversion factor of 1020 MMBtu/mmscf.

Compliance with the annual limit may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

e. Emission Limitation:

VOC emissions shall not exceed 0.02 pound per hour and 0.08 ton per year.

Applicable Compliance Method:

Compliance with the hourly limit may be demonstrated by multiplying the rated input capacity of 3.5 MMBtu per hour by the AP-42 emission factor for natural gas combustion (5.5 lbs VOC/mmscf) from Table 1.4-1 (7/98), and then dividing by the conversion factor of 1020 MMBtu/mmscf.

Compliance with the annual limit may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

## f. Emission Limitation:

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

## Applicable Compliance Method:

Based upon the physical characteristics of this emissions unit, expected emissions and previous compliance history, compliance testing is not specified herein.

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Method 22 and the procedures in OAC rule 3745-17-03(B)(3).

## g) Miscellaneous Requirements

- (1) None.



2. P130, Pipe A-4 Forming

Operations, Property and/or Equipment Description:

A-4 Pipe Forming.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) None
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.8 pound per hour and 3.56 tons per year.  Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 1.3 pounds per hour and 5.49 tons per year. See b)(2)a-b.
b.	ORC 3704.03(T)	Filterable and condensable particulate emissions (PE) shall not exceed 7.1 pounds per ton bare glass delivered to P130.  Volatile organic compound emissions shall not exceed 3.4 pounds per ton bare glass delivered to P130.  Carbon monoxide emissions shall not exceed 1.7 pounds per ton bare glass delivered to P130.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/06	See b)(2)c.
d.	OAC rule 3745-31-05(D) (federally enforceable limitation to avoid PSD)	Total volatile organic compound emissions from P130, P143, and P200 shall not exceed 39.5 tons per rolling 12-month summation.  See c)(5)

e.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule.
f.	OAC rule 3745-17-11(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
g.	OAC rule 3745-18-06(E)(2)	Sulfur dioxide emissions shall not exceed 56.0 pounds per hour. [See b)(2)d]  [The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).]
h.	OAC rule 3745-21-07(G)(2)	Exempt; see c)(2)-(3)
i.	40 CFR Part 60, Subpart PPP (40 CFR 60.680-60.685)	11.0 lb particulate matter per ton of glass pulled (i.e., bare glass delivered to P130) See b)(2)f
j.	40 CFR Part 60, Subpart A	General Provisions in 40 CFR 60.1-60.19
k.	40 CFR Part 63, Subpart NNN	Exempt; see b)(2)e

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by 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 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006, version of 3745-31-05, then these emission limits/control measures no longer apply.
- b. The hourly and annual CO, NO<sub>x</sub> and SO<sub>2</sub> emission limitations for this emissions unit were established to reflect the potentials to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.
- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO<sub>2</sub> and NO<sub>x</sub> emissions from this air contaminant source since the uncontrolled potential to emit for SO<sub>2</sub> and NO<sub>x</sub> is less than 10 tons/yr.

- d. Once US EPA approves the December 1, 2006 version of 3745-31-05, then the requirements of OAC rule 3745-18-06(E) become effective.
- e. This emissions unit is exempt from the requirements for 40 CFR Part 63, Subpart NNN since it is a component of a rotary spin wool fiberglass manufacturing line that produces a bonded, heavy-density wool fiberglass insulation product with an LOI > 8% and a density >2 lbs/ft<sup>3</sup> and therefore does not meet the applicability requirement of 40 CFR 63.1380(a)(2).
- f. In accordance with 40 CFR 60.682, on and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 lb/ton) of glass pulled (i.e., bare glass delivered to P130).

In accordance with 40 CFR 60.681, "Manufacturing line" means the manufacturing equipment comprising the forming section, where molten glass is fiberized and a fiberglass mat is formed; the curing section, where the binder resin in the mat is thermally "set"; and the cooling section, where the mat is cooled.

c) **Operational Restrictions**

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) To avoid the emission limitations/control requirements contained in OAC rule 3745-21-07(G)(2), no photochemically reactive materials (i.e., as raw materials or cleanup materials) shall be employed in this emissions unit.

Note: The definition of "photochemically reactive material" is based upon OAC rule 3745-21-01(C)(5).

- (3) The requirement that no photochemically reactive materials (i.e., as raw materials or cleanup materials) shall be employed in this emissions unit shall cease to be effective and federally enforceable on the date the U.S. EPA approves the revisions to OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds. After the rule is added to the Ohio SIP, the emission limitations, monitoring, record keeping, reporting and testing requirements related to this limitation shall be void.
- (4) The permittee shall vent all the emissions from this emissions unit to a process drop-out box followed by a cyclone.
- (5) The maximum amount of bare glass delivered to P130 and P143 combined shall not exceed the following, based upon a rolling, 12-month summation of the bare glass delivered:

$$P_T = \frac{79,000 + EF_{P130} \times P_{143} + (EF_{P143} + EF_{IPM}) \times P_{P130}}{EF_{P130} + EF_{P143} + EF_{IPM}}$$

Where:

$P_T$  = total tons bare glass delivered to P130 and P143, combined

$EF_{P130}$  = VOC emission factor for P130, lb VOC/ton bare glass delivered to P130. Use 3.4 lb/ton or the value determined from the most recent stack test performed.

$EF_{P143}$  = VOC emission factor for P143, lb VOC/ton bare glass delivered to P130. Use 4.3 lb/ton or the value determined from the most recent stack test performed.

$EF_{IPM}$  = VOC emission factor for P200, lb VOC/ton bare glass delivered to P130. Use 5.5 lb/ton or the value determined from the most recent stack test performed.

$P_{P130}$  = tons bare glass delivered to A-4 Forming Section (P130)

$P_{P143}$  = tons bare glass delivered to A-5 Forming Section (P143)

- (6) In accordance with 40 CFR 60.684, after completion of the performance test the permittee shall maintain the water flow rate (gpm) to the drop-out box to no less than 70 percent of the lowest value and no more than 130 percent of the highest value recorded during the most recent performance test when the emissions unit is in operation.

d) 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 for each material employed in this emissions unit that indicate whether or not the material is a photochemically reactive material.
- (3) The permittee shall maintain monthly records of the following information:
- Tons of bare glass delivered to P130;
  - Tons of bare glass delivered to P143;
  - Total combined tons of bare glass delivered to P130 and P143;
  - Rolling, 12-month summation of the tons of bare glass delivered to P130 and P143;
  - VOC emissions from P130, tons/month, calculated as follows: (3.4 lb/ton bare glass delivered to P130 (or the emission factor determined from the most recent stack test)) \* a / 2000 lb/ton,
  - VOC emissions from P143, tons/month, calculated as follows: (4.3 lb/ton bare glass delivered to P143 (or the emission factor determined from the most recent stack test)) \* b / 2000 lb/ton,

- g. VOC emissions from P200, tons/month, calculated as follows: (5.5 lb/ton bare glass delivered to P143 (or the emission factor determined from the most recent stack test)) \* b / 2000 lb/ton,
  - h. Total VOC emissions from P130, P143, and P200, tons/month, calculated as follows: e + f + g; and
  - i. Rolling, 12-month summation of VOC emissions from P130, P143, and P200.
- (4) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (5) The permittee shall properly install, operate, and maintain equipment to continuously monitor the water flow rate to the drop-out box (in gallons per minute) during operation of this emissions unit(s), including periods of startup and shutdown. The permittee shall record the water flow rate at least once every four hours. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The flow rate monitor is to be certified by its manufacturer to be accurate within  $\pm 5$  percent over its operating range in accordance with 40 CFR 60.683(a).

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- a. a description of the corrective action;
- b. the date the corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the flow rate readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

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

- (6) In accordance with 40 CFR 60.683(c), the flow rate monitor is to be recalibrated quarterly in accordance with procedures under 40 CFR 60.13(b).
- (7) See 40 CFR Part 60, Subpart PPP (40 CFR 60.680-685) as applicable per b)(2)f, except as specified in the U.S. EPA approved alternative monitoring request.

## e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. each period of time (start time and date, and end time and date) when the drop-out box water flow rate was outside of the acceptable range following any required compliance demonstration;
  - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the drop-out box and cyclone;
  - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
  - d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the water flow rate into compliance with the acceptable range, was determined to be necessary and was not taken; and
  - e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (4) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (5) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all exceedances of the rolling, 12-month bare glass delivery limitation; and
  - b. all exceedance of the rolling, 12-month VOC emission limitation;

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (6) See 40 CFR Part 60, Subpart PPP (40 CFR 60.680-685) as applicable per b)(2)f, except as specified in the U.S. EPA approved alternative monitoring request Testing Requirements
- f) Testing Requirements
- (1) Compliance with the emission limitation(s) in Section b)(1) of these terms and conditions shall be determined in accordance with the following methods:
- a. Emission Limitation:
- Filterable and condensable particulate emissions shall not exceed 7.1 pounds per ton bare glass delivered to P130.
- Applicable Compliance Method:
- The permittee shall conduct, or have conducted, emission testing for P130 in accordance with the following requirements:
- i. The emission testing shall be conducted no later than 180 days of initial startup of P130 following the installation of the new Pipe A-3 furnace (P203).
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulate.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E and 40 CFR Part 51, Appendix M, Method 202. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
- iv. Concurrent visible emission observations at the stack egress point shall be conducted during the emission testing in accordance with 40 CFR Part 60, Method 9.
- v. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.
- b. Emission Limitation:
- Particulate matter emissions shall not exceed 11.0 lb/ton glass pulled (i.e., bare glass delivered to P130).
- Applicable Compliance Method:
- The permittee shall conduct, or have conducted, emission testing for P130 in accordance with the following requirements:

- i. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated, but no more than 180 days after initial startup of the new Pipe A-3 furnace (P203).
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulate.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.
- v. In accordance with 40 CFR 60.685, testing shall be conducted as follows:
  - (a) In conducting the performance tests required in 60.8, the owner/operator shall use as reference methods and procedures the test methods in Appendix A of this part of other methods and procedures as specified in this section, except as provided in 60.8(b).
  - (b) The owner/operator shall conduct performance tests while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.
  - (c) The owner/operator shall determine compliance with the particulate matter standard in 60.682 as follows:
    - (i) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = (C_t Q_{sd}) / (P_{avg} K)$$

Where:

E = emission rate of particulate matter, kg/Mg (lb/ton)

C<sub>t</sub> = concentration of particulate matter, g/dscm (gr/dscf)

Q<sub>sd</sub> = volumetric flow rate of effluent gas, dscm/hr (dscf/hr)

P<sub>avg</sub> = average glass pull rate, Mg/hr (ton/hr)

K = 1,000 g/kg (7,000 gr/lb)

- (ii) Method 5E shall be used to determine the particulate matter concentration ( $C_t$ ) and the volumetric flow rate ( $Q_{sd}$ ) of the effluent gas. The sampling time and sample volume shall be at least 120 minutes and 2.55 dscm (90.1 dscf).
- (iii) The average glass pull rate ( $P_{avg}$ ) for the manufacturing line shall be the arithmetic average of three glass pull rate ( $P_i$ ) determinations taken at intervals of at least 30 minutes during each run.

The individual glass pull rates ( $P_i$ ) shall be computed using the following equation

$$P_i = K' L_s W_m M [1.0 - (LOI/100)]$$

Where:

- $P_i$  = glass pull rate at interval "i", Mg/hr (ton/hr)
  - $L_s$  = line speed, m/min (ft/min)
  - $W_m$  = trimmed mat width, m (ft)
  - $M$  = mat gram weight, g/m<sup>2</sup> (lb/ft<sup>2</sup>)
  - $LOI$  = loss on ignition, weight percent
  - $K'$  = conversion factor,  $6 \times 10^{-5}$  (min-Mg)/(hr-g) [ $3 \times 10^{-2}$  (min-ton)/(hr-lb)]
- 1) ASTM D2584-68 (Reapproved 1985) or 94 (incorporated by reference-see 40 CFR 60.17), shall be used to determine the LOI for each run.
  - 2) Line speed ( $L_s$ ), trimmed mat width ( $W_m$ ), and mat gram weight ( $M$ ) shall be determined for each run from the process information or from direct measurements.

- (iv) To comply with 40 CFR 60.684(d), the permittee shall record measurements as required in Section d)(5) using the monitoring devices during the particulate matter runs.

c. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 1.3 pounds per hour and 5.49 tons per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

Compliance with the annual limit may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

d. Emission Limitation:

CO emissions shall not exceed 1.7 pounds per ton bare glass delivered to P130.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

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

f. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 0.8 pound per hour and 3.56 tons per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 6C. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

Compliance with the annual limit may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

g. Emission Limitation:

VOC emissions shall not exceed 3.4 pounds per ton bare glass delivered to P130.

Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for P130 in accordance with the following requirements:

- i. The emission testing shall be conducted within 180 days of initial startup of P130 following the installation of the new Pipe A-3 furnace (P203).
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC.
- iii. Compliance with the hourly limitation may be determined by summing the hourly stack test results for formaldehyde (using 40 CFR Part 63, Appendix A, Method 316 or 318), methanol (using 40 CFR Part 63, Appendix A, Method 308 or 318), and phenol (using 40 CFR Part 63, Appendix A, Method 318 or 40 CFR Part 60, Appendix A, Method 18) with the hourly VOC emissions from natural gas combustion for this emissions unit. Hourly VOC emissions from natural gas combustion are derived by multiplying the burner rating of 3.5 MMBtu per hour by the AP-42 emission factor for natural gas (5.5 lbs VOC/mmscf) from Table 1.4-1, 7/98, and divide by the conversion factor of 1020 MMBtu per mmscf.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

h. Emission Limitation:

Total combined volatile organic compound emissions from P130, P143, and P200 shall not exceed 39.5 tons per rolling 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements in section d)(3)i.

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

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

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

- g) Miscellaneous Requirements
  - (1) None.



3. P143, Pipe A-5 Forming

Operations, Property and/or Equipment Description:

Pipe A-5 Forming.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) None
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.27 pound per hour and 1.19 tons per year.  Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 0.54 pound per hour and 2.36 tons per year.  Carbon monoxide (CO) emissions shall not exceed 0.90 pound per hour and 3.94 tons per year.  Volatile organic compound (VOC) emissions shall not exceed 2.1 pounds per hour.  See b)(2)a-b.
b.	ORC 3704.03(T)	Filterable and condensable particulate emissions (PE) shall not exceed 11.0 pounds per ton bare glass delivered to P143.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)c.

d.	OAC rule 3745-31-05(D) (federally enforceable limitation to avoid PSD)	Total volatile organic compound emissions from P130, P143, and P200 shall not exceed 39.5 tons per rolling 12-month summation.  See c)(5)
e.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as provided by rule.
f.	OAC rule 3745-17-11(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
g.	OAC rule 3745-18-06(E)(2)	Sulfur dioxide emissions shall not exceed 26.9 pounds per hour. [See b)(2)d]  [The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).]
h.	OAC rule 3745-21-07(G)(2)	Exempt; see c)(2)-(3)
i.	40 CFR Part 60, Subpart PPP (40 CFR 60.680-60.685)	11.0 lb particulate matter per ton glass pulled (i.e., bare glass delivered to P143) See b)(2)f
j.	40 CFR Part 60, Subpart A	General Provisions in 40 CFR 60.1-60.19
k.	40 CFR Part 63, Subpart NNN (40 CFR 63.1380-63.1399)	Exempt; see b)(2)e

(2) **Additional Terms and Conditions**

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by 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 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006, version of 3745-31-05, then these emission limits/control measures no longer apply.
- b. The hourly and annual CO, NO<sub>x</sub>, and SO<sub>2</sub> emission limitations for this emissions unit were established to reflect the potentials to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.

- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC, SO<sub>2</sub>, NO<sub>x</sub>, and CO emissions from this air contaminant source since the uncontrolled potential to emit for VOC, SO<sub>2</sub>, NO<sub>x</sub>, and CO is less than 10 tons/yr.

- d. Once US EPA approves the December 1, 2006 version of 3745-31-05, then the requirements of OAC rule 3745-18-06(E) become effective.
- e. This emissions unit is exempt from the requirements for 40 CFR Part 63, Subpart NNN since it is a component of a rotary spin wool fiberglass manufacturing line that produces a bonded, heavy-density wool fiberglass insulation product with an LOI >8% and a density >2 lbs/ft<sup>3</sup> and therefore does not meet the applicability requirement of 40 CFR 63.1380(a)(2).
- f. In accordance with 40 CFR 60.682, on and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 lb/ton) of glass pulled (i.e., bare glass delivered to P143).

In accordance with 40 CFR 60.681, "manufacturing line" means the manufacturing equipment comprising the forming section, where molten glass is fiberized and a fiberglass mat is formed; the curing section, where the binder resin in the mat is thermally "set"; and the cooling section, where the mat is cooled.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) To avoid the emission limitations/control requirements contained in OAC rule 3745-21-07(G)(2), no photochemically reactive materials (i.e., as raw materials or cleanup materials) shall be employed in this emissions unit.

Note: The definition of "photochemically reactive material" is based upon OAC rule 3745-21-01(C)(5).

- (3) The requirement that no photochemically reactive materials (i.e., as raw materials or cleanup materials) shall be employed in this emissions unit shall cease to be effective and federally enforceable on the date the U.S. EPA approves the revisions to OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds. After the rule is added to the Ohio SIP, the emission limitations, monitoring, record keeping, reporting and testing requirements related to this limitation shall be void.
- (4) The permittee shall vent all the emissions from this emissions unit to a drop-out box followed by a cyclone.

- (5) The maximum amount of bare glass delivered to P130 and P143 combined shall not exceed the following, based upon a rolling, 12-month summation of the bare glass delivered:

$$P_T = \frac{79,000 + EF_{P130} \times P_{143} + (EF_{P143} + EF_{IPM}) \times P_{P130}}{EF_{P130} + EF_{P143} + EF_{IPM}}$$

Where:

$P_T$  = total tons bare glass delivered to P130 and P143, combined

$EF_{P130}$  = VOC emission factor for P130, lb VOC/ton bare glass delivered to P130. Use 3.4 lb/ton or the value determined from the most recent stack test performed.

$EF_{P143}$  = VOC emission factor for P143, lb VOC/ton bare glass delivered to P143. Use 4.3 lb/ton or the value determined from the most recent stack test performed.

$EF_{IPM}$  = VOC emission factor for P200, lb VOC/ton bare glass delivered to P143. Use 5.5 lb/ton or the value determined from the most recent stack test performed.

$P_{P130}$  = tons bare glass delivered to A-4 Forming Section (P130)

$P_{P143}$  = tons bare glass delivered to A-5 Forming Section (P143)

- (6) In accordance with 40 CFR 60.684, after completion of the performance test the permittee shall maintain the water flow rate (gpm) to the drop-out box to no less than 70 percent of the lowest value and no more than 130 percent of the highest value recorded during the most recent performance test when the emissions unit is in operation.

d) **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 for each material employed in this emissions unit that indicate whether or not the material is a photochemically reactive material.
- (3) The permittee shall maintain monthly records of the following information:
  - a. Tons of bare glass delivered to P130;
  - b. Tons of bare glass delivered to P143;
  - c. Total combined tons of bare glass delivered to P130 and P143;
  - d. Rolling, 12-month summation of the tons of bare glass delivered to P130 and P143;

- e. VOC emissions from P130, tons/month, calculated as follows: (3.4 lb/ton bare glass delivered to P130 (or the emission factor determined from the most recent stack test)) \* a / 2000 lb/ton,
  - f. VOC emissions from P143, tons/month, calculated as follows: (4.3 lb/ton bare glass delivered to P143 (or the emission factor determined from the most recent stack test)) \* b / 2000 lb/ton,
  - g. VOC emissions from P200, tons/month, calculated as follows: (5.5 lb/ton bare glass delivered to P143 (or the emission factor determined from the most recent stack test)) \* b / 2000 lb/ton,
  - h. Total VOC emissions from P130, P143, and P200, tons/month, calculated as follows: e + f + g; and
  - i. Rolling, 12-month summation of VOC emissions from P130, P143, and P200.
- (4) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.
- If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.
- (5) The permittee shall properly install, operate, and maintain equipment to continuously monitor the water flow rate to the drop-out box (in gallons per minute) during operation of this/these emissions unit(s), including periods of startup and shutdown. The permittee shall record the water flow rate at least once every four hours. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The flow rate monitor is to be

certified by its manufacturer to be accurate within  $\pm 5$  percent over its operating range in accordance with 40 CFR 60.683(a).

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- a. a description of the corrective action;
- b. the date the corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the flow rate readings immediately after the corrective action was implemented;  
and
- f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

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

- (6) In accordance with 40 CFR 60.683(c), the flow rate monitor is to be recalibrated quarterly in accordance with procedures under 40 CFR 60.13(b).
  - (7) See 40 CFR Part 60, Subpart PPP (40 CFR 60.680-685) as applicable per b)(2)f, except as specified in the U.S. EPA approved alternative monitoring request.
- e) Reporting Requirements
- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
  - (2) The permittee shall submit semiannual written reports that identify:
    - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
    - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
  - (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
    - a. each period of time (start time and date, and end time and date) when the water flow rate was outside of the acceptable range following any required compliance demonstration;
    - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the drop-out box and cyclone;
    - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
    - d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the water flow rate into compliance with the acceptable range, was determined to be necessary and was not taken; and
    - e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
  - (4) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

- (5) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- a. all exceedances of the rolling, 12-month bare glass delivery limitation; and
  - b. all exceedance of the rolling, 12-month VOC emission limitation;

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (6) See 40 CFR Part 60, Subpart PPP (40 CFR 60.680-685) as applicable per b)(2)f, except as specified in the U.S. EPA approved alternative monitoring request.

f) Testing Requirements

- (1) Compliance with the emission limitation(s) in Section b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Filterable and condensable particulate emissions shall not exceed 11.0 pounds per ton bare glass delivered to P143.

Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for P143 in accordance with the following requirements:

- i. The emission testing shall be conducted no later than 180 days of initial startup of P143 following the installation of the new IPM (P200).
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulate.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E and 40 CFR Part 51, Appendix M, Method 202. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
- iv. Concurrent visible emission observations at the stack egress point shall be conducted during the emission testing in accordance with 40 CFR Part 60, Method 9.
- v. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

b. Emission Limitation:

Particulate matter emissions shall not exceed 11.0 lb/ton glass pulled (i.e., bare glass delivered to P143).

## Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for P143 in accordance with the following requirements:

- i. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated, but no more than 180 days after initial startup of the new IPM (P200).
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for particulate.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.
- v. In accordance with 40 CFR 60.685, testing shall be conducted as follows:
  - (a) In conducting the performance tests required in 60.8, the owner/operator shall use as reference methods and procedures the test methods in Appendix A of this part of other methods and procedures as specified in this section, except as provided in 60.8(b).
  - (b) The owner/operator shall conduct performance tests while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.
  - (c) The owner/operator shall determine compliance with the particulate matter standard in 60.682 as follows:
    - (i) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = (C_t Q_{sd}) / (P_{avg} K)$$

Where:

E = emission rate of particulate matter, kg/Mg (lb/ton)

C<sub>t</sub> = concentration of particulate matter, g/dscm (gr/dscf)

Q<sub>sd</sub> = volumetric flow rate of effluent gas, dscm/hr (dscf/hr)

$P_{avg}$  = average glass pull rate, Mg/hr (ton/hr)

$K$  = 1,000 g/kg (7,000 gr/lb)

- (ii) Method 5E shall be used to determine the particulate matter concentration ( $C_t$ ) and the volumetric flow rate ( $Q_{sd}$ ) of the effluent gas. The sampling time and sample volume shall be at least 120 minutes and 2.55 dscm (90.1 dscf).
- (iii) The average glass pull rate ( $P_{avg}$ ) for the manufacturing line shall be the arithmetic average of three glass pull rate ( $P_i$ ) determinations taken at intervals of at least 30 minutes during each run.

The individual glass pull rates ( $P_i$ ) shall be computed using the following equation

$$P_i = K' L_s W_m M [1.0 - (LOI/100)]$$

Where:

$P_i$  = glass pull rate at interval "i", Mg/hr (ton/hr)

$L_s$  = line speed, m/min (ft/min)

$W_m$  = trimmed mat width, m (ft)

$M$  = mat gram weight, g/m<sup>2</sup> (lb/ft<sup>2</sup>)

$LOI$  = loss on ignition, weight percent

$K'$  = conversion factor,  $6 \times 10^{-5}$  (min-Mg)/(hr-g)  
[ $3 \times 10^{-2}$  (min-ton)/(hr-lb)]

- 1) ASTM D2584-68 (Reapproved 1985) or 94 (incorporated by reference-see 40 CFR 60.17), shall be used to determine the LOI for each run.
  - 2) Line speed ( $L_s$ ), trimmed mat width ( $W_m$ ), and mat gram weight ( $M$ ) shall be determined for each run from the process information or from direct measurements.
- (iv) To comply with 40 CFR 60.684(d), the permittee shall record measurements as required in Section d)(5) using the monitoring devices during the particulate matter runs.

c. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 0.54 pound per hour and 2.36 tons per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

Compliance with the annual limit may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

d. Emission Limitation:

CO emissions shall not exceed 0.90 pound per hour and 3.94 tons per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

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

f. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 0.27 pound per hour and 1.19 tons per year.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 6C. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

Compliance with the annual limit may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

g. Emission Limitation:

VOC emissions shall not exceed 2.1 pounds per hour.

## Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for P143 in accordance with the following requirements:

- i. The emission testing shall be conducted within 180 days of initial startup of P143 following the installation of the new IPM (P200).
  - ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC.
  - iii. Compliance with the hourly limitation may be determined by summing the hourly stack test results for formaldehyde (using 40 CFR Part 63, Appendix A, Method 316 or 318), methanol (using 40 CFR Part 63, Appendix A, Method 308 or 318), and phenol (using 40 CFR Part 63, Appendix A, Method 318 or 40 CFR Part 60, Appendix A, Method 18) with the hourly VOC emissions from natural gas combustion for this emissions unit. Hourly VOC emissions from natural gas combustion are derived by multiplying the burner rating of 2.4 MMBtu per hour by the AP-42 emission factor for natural gas (5.5 lbs VOC/mmscf) from Table 1.4-1, 7/98, and divide by the conversion factor of 1020 MMBtu per mmscf.
  - iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.
- h. Emission Limitation:

Total combined volatile organic compound emissions from P130, P143, and P200 shall not exceed 39.5 tons per rolling 12-month summation.

## Applicable Compliance Method:

Compliance shall be based upon the recordkeeping requirements in section d)(3)i.

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

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

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

g) Miscellaneous Requirements

- (1) None.