



Environmental
Protection Agency

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

3/11/2010

Certified Mail

Carry Jo Perry
Johns Manville / Plant #01 - wtv1
6050 River Road
Waterville, OH 43566

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

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0448000012
Permit Number: P0105875
Permit Type: Administrative Modification
County: Lucas

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 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 Kevin Boyce," 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 Toledo Department of Environmental Services. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, 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
TDES; Michigan; Indiana; Canada



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
Johns Manville / Plant #01 - wtv1**

Facility ID: 0448000012
Permit Number: P0105875
Permit Type: Administrative Modification
Issued: 3/11/2010
Effective: 3/11/2010



Division of Air Pollution Control
Permit-to-Install
for
Johns Manville / Plant #01 - wtv1

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Authorization

Facility ID: 0448000012
Facility Description: Fiber Glass Manufacturer
Application Number(s): M0000685
Permit Number: P0105875
Permit Description: Administrative modification to correct error in control equipment for P045
Permit Type: Administrative Modification
Permit Fee: \$0.00
Issue Date: 3/11/2010
Effective Date: 3/11/2010

This document constitutes issuance to:

Johns Manville / Plant #01 - wtv1
6050 River Road
Waterville, OH 43566

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

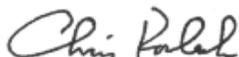
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604
(419)936-3015

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



Chris Korleski
Director



Authorization (continued)

Permit Number: P0105875

Permit Description: Administrative modification to correct error in control equipment for P045

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

Emissions Unit ID:	P045
Company Equipment ID:	Gypsum Line Oven
Superseded Permit Number:	04-01345
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 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 Toledo Department of Environmental Services.

- (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 Toledo Department of Environmental Services. 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 Toledo Department of Environmental Services 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 Toledo Department of Environmental Services 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 Toledo Department of Environmental Services 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 Toledo Department of Environmental Services.
- 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 Toledo Department of Environmental Services. 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. P001, Furnace 9211

Operations, Property and/or Equipment Description:

Direct Melt Furnace 9211 - Melter+Forehearth+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
	8.0 ton/hr glass melting furnace with natural gas oxyfuel firing and electric boost, controlled by wet caustic scrubber and fabric filter	
a.	OAC rule 3745-31-05(A)(3)	0.01 pound of carbon monoxide (CO) per ton of glass pull
		0.35 ton of CO per rolling, 12-month period
		1.71 pounds of nitrogen oxides (NOx) per ton of glass pull
		60 tons of NOx per rolling, 12-month period
		17.34 tons of filterable particulate emissions (PE) per year
		1.87 pounds of particulate matter less than 10 microns (PM10) per ton of glass pull
		66 tons of PM10 per rolling, 12-month period
		2.02 pounds of sulfur dioxide (SO2) per ton of glass pull
		71 tons of SO2 per rolling, 12-month period
		0.04 pound of volatile organic compounds (VOC) per ton of glass pull
		1.4 tons per rolling, 12-month period of VOC
		0.36 pound of fluorides (F-) per ton of glass pull
		13 tons of F- per rolling, 12-month period
		See b)(2)a. and b)(2)b.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)(1)	See b)(2)c.
c.	OAC rule 3745-17-11(B)(1)	See b)(2)c.
d.	OAC rule 3745-18-06(E)(2)	See b)(2)c.
e.	OAC rule 3745-21-07(B)	See b)(2)d.
f.	OAC rule 3745-21-08(B)	See b)(2)e.
g.	OAC rule 3745-31-05(D)	See b)(2)f. and b)(2)g.
h.	OAC rule 3745-31-10 thru 20	See b)(2)h.
i.	40 CFR Part 60, Subpart CC	0.50 pound of PE per ton of glass pull.
Fiberglass forehearth area with natural gas over firing and no controls		
j.	OAC rule 3745-31-05(A)(3)	1.8 pounds of CO per hour
		7.9 tons of CO per rolling, 12-month period
		2.1 pounds of NOx per hour
		9.2 tons of NOx per rolling, 12-month period
		0.20 pound of PE per hour
		0.88 ton per year of PE
		0.011 pound of PM10 per ton of glass pull
		0.39 ton of PM10 per rolling, 12-month period
		0.02 pound of SO2 per hour
		0.09 ton of SO2 per rolling, 12-month period
		0.12 pound of VOC per hour
		0.53 ton of VOC per rolling, 12-month period
		0.038 pound of F- per ton of glass pull
		1.32 tons of F- per rolling, 12-month period
		See b)(2)i. and b)(2)j.
k.	OAC rule 3745-17-07(A)(1)	See b)(2)c.
l.	OAC rule 3745-17-08(B)	See b)(2)c.
m.	OAC rule 3745-18-06(A)	See b)(2)r.
n..	OAC rule 3745-21-07(B)	See b)(2)d.
o.	OAC rule 3745-21-08(B)	See b)(2)e.
p.	OAC rule 3745-31-05(D)	See b)(2)k. and b)(2)l.
q.	OAC rule 3745-31-10 thru 20	See b)(2)m.
Fiberglass forming area with rolled-on binder application and no controls		
r.	OAC rule 3745-31-05(A)(3)	0.50 pound of PE per hour
		2.2 tons of PE per year
		0.20 pound of PM10 per ton of glass pull
		7.0 tons of PM10 per rolling, 12-month period
		0.09 pound of VOC per ton of glass pull
		3.2 tons of VOC per rolling, 12-month period

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		0.021 pound of F- per ton of glass pull
		0.73 ton of F- per rolling, 12-month period
		See b)(2)j. and b)(2)q.
s.	OAC rule 3745-17-07(A)(1)	See b)(2)c.
t.	OAC rule 3745-17-08(B)	See b)(2)c.
u.	OAC rule 3745-21-07(B)	See b)(2)d.
v.	OAC rule 3745-31-05(D)	See b)(2)n. and b)(2)o.
w.	OAC rule 3745-31-10 thru 20	See b)(2)p.

(2) Additional Terms and Conditions

- a. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-11(B)(1), OAC rule 3745-18-06(E)(2), OAC rule 3745-21-07(B), OAC rule 3745-21-08(B), OAC rule 3745-31-05(D), 3745-31-10 thru 20, and 40 CFR Part 60, Subpart CC.
- b. Visible particulate emissions from the furnace stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average.
- c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- d. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).

On February 18, 2008, OAC rule 3745-21-07 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- e. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- f. The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 0.71 ton of CO per rolling, 12-month period.
- g. The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 121.71 tons of NO_x, 142.77 tons of SO₂ and 2.85 tons of VOC per rolling, 12-month period.
- h. The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 133.10 tons of PM₁₀ and 25.62 tons of F- per rolling, 12-month period.
- i. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-08(B), OAC rule 3745-21-07(B), OAC rule 3745-21-08(B), OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.
- j. The permittee shall install best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. Such equipment shall meet the following requirements:
 - i. the collection efficiency shall be sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and
 - ii. there shall be no visible particulate emissions from the exhaust stack(s).
- k. The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 13.36 tons of CO per rolling, 12-month period.
- l. The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 15.91 tons of NO_x, 0.78 ton of PM₁₀, 0.10 ton of SO₂ and 0.87 ton of VOC per rolling, 12-month period.
- m. The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.78 ton of PM₁₀ and 2.70 tons of F- per rolling, 12-month period.
- n. The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 5.18 tons of methanol per rolling, 12-month period.
- o. The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 6.41 tons of VOC per rolling, 12-month period.
- p. The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 14.24 tons of PM₁₀ and 1.49 tons of F- per rolling, 12-month period.

- q. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-08(B), OAC rule 3745-21-07(B), OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.
- r. OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for the fuel burning equipment associated with this emissions unit because the emissions unit only employs natural gas as a fuel. However, OAC rule 3745-18-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the State, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure ongoing compliance with OAC rule 3745-18-06(A).

On September 1, 2003, OAC rule 3745-18-06 was revised to delete the following phase: "having a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pounds per million standard cubic feet". Therefore, this phase is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-18-06, the requirements still exists as part of the federally-approved SIP for Ohio.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas as fuel in this emissions unit.
- (2) The glass pull rate shall not exceed by more than 10% the maximum glass pull rate established during the most recent emissions tests that demonstrated compliance with the emissions limitations from the glass furnace, the forehearth, and the forming area.
- (3) The rate of glass pull from this emissions unit shall not exceed 69,350 tons per rolling, 12-month period, based upon a rolling, 12-month summation of the daily pull rates.
- (4) The NaOH addition rate to the quench tower shall not be less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance with the F- emissions limitations from the glass furnace, the forehearth, and the forming area.
- (5) The fluorspar addition rate to the batch mixer, as a weight percent of the batch, shall not exceed the rate established during the most recent performance test that demonstrated compliance with the F- emissions limitations from the glass furnace, the forehearth, and the forming area.
- (6) The permittee shall develop and implement written standard operating procedures (SOP) to be followed in order to maintain the emissions unit in compliance with the limitations contained in this permit and to minimize emissions during startup and shutdown of the unit. The SOP shall include, but shall not be limited to the following:

- a. Startup and shutdown procedures, developed to consider and minimize emissions.
- b. Procedures to determine, record, and report the cause of and remedy to a malfunction of any control device and any deviations from the compliant range of operating parameters being monitored and used to demonstrate compliance, including the date and time the malfunction/deviation began and ended.
- c. A maintenance and calibration schedule for each control device and parameter monitor that is consistent with the manufacturer's instructions and recommendations, for routine and long-term maintenance.
- d. The corrective actions or procedures to be taken in the event of a malfunction of a control device and/or a parameter monitor, and during any abnormal process modifications.
- e. The SOP shall specify the corrective actions to be followed when a monitored parameter is outside the compliant range established during the most recent emissions tests that demonstrated compliance. Provisions shall be included for records to be maintained of the time, date, parameter's deviation data, the corrective actions conducted, and if standard operating procedures were followed. The SOP shall be implemented for the following occurrences:
 - i. The permittee shall initiate corrective actions within 1 hour following any 3-hour block of time in which the NaOH addition rate is less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance. Corrective actions shall be conducted in a timely manner according to the procedures defined in the SOP.
 - ii. The permittee shall initiate corrective action within 1 hour of an alarm from the bag leak detection system and complete corrective actions in a timely manner according to the procedures documented in this SOP. Examples of corrective actions that might be included in the SOP for the baghouse/fabric filter include:
 - (a) inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emission;
 - (b) sealing off defective bags or filter media;
 - (c) replacing defective bags or filter media, or otherwise repairing the control device;
 - (d) sealing off a defective baghouse compartment;
 - (e) cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and
 - (f) shutting down the process producing the particulate emissions.

- iii. The permittee shall initiate corrective action within 1 hour following any discovery that the glass pull rate exceeds by more than 10% the maximum glass pull rate established during the most recent emissions tests that demonstrate the emissions unit to be in compliance. Corrective actions shall be conducted in a timely manner according to the procedures documented in the SOP.
 - iv. The permittee shall initiate corrective action within 1 hour following discovery that the fluorspar addition rate to the batch mixer, as a weight percent of the batch, is greater than the addition rate established during the most recent emissions tests that demonstrated compliance with the F-emissions limitations for the glass furnace, the forehearth, and the forming area. Corrective actions shall be conducted in a timely manner according to the procedures documented in the SOP.
- 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 keep records of each startup, shutdown, and malfunction event, as well as, a record of any actions taken during a startup, shutdown, or malfunction that are not consistent with the procedures in the SOP, as described in c)(6) of this permit.
 - (3) The permittee shall operate and maintain equipment to continuously monitor the NaOH addition rate to the spray tower while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The following hourly records shall be maintained from the data documented by this monitor:
 - a. the concentration of the NaOH solution pumped to the spray tower system (in % by volume);
 - b. the flow rate (in gallons) of the NaOH solution pumped to the spray tower system;
 - c. the addition rate of NaOH to the spray tower system, in gallons per hour, calculated as the concentration of the NaOH solution multiplied by the volume of the NaOH solution, i.e., a. x b.; and
 - d. each 3-hour block of time in which the addition rate of NaOH was less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance, and a record of the amount of time taken for corrective action to be initiated.

The records shall include the date and time of each exceedance/deviation, when corrective actions were initiated, the cause of each exceedance, the corrective actions taken and if they were the same as those documented in the SOP, and when the cause of each exceedance/deviation was corrected.

- (4) The permittee shall calibrate, maintain, and continuously operate a bag leak detection system when the emissions unit is in operation.

- a. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems including, but not limited to, devices using light scattering and other effects, shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.
- b. The bag leak detection system shall be certified by the manufacturer to be capable of detecting particulate emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
- c. The bag leak detection system sensor shall produce an output of relative particulate emissions.
- d. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative particulate emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.
- e. The bag leak detection system shall be installed downstream of the baghouse. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.
- f. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
- g. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm setpoints, or alarm delay time except as detailed in the operations, maintenance, and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operating condition.

The permittee shall maintain records of each bag leak detection system alarm, including the date and time of the alarm, the amount of time taken for corrective action to be initiated, the cause of the alarm, an explanation of the corrective actions taken and if they were the same as those documented in the SOP, and when the cause of the alarm was corrected.

- (5) The permittee shall monitor and record the glass pull rate on a daily basis. The following records shall be maintained from the data documented by this monitor:
 - a. records of the daily glass pull rate;
 - b. the daily hours of operation;
 - c. the average hourly glass pull rate, a./b., in tons per hour; and

- d. each day in which the average hourly glass pull rate exceeded by more than 10% the average hourly glass pull rate established during the most recent emissions tests that demonstrated compliance, along with the amount of time taken for corrective action to be initiated.

The records shall include the date and time of each exceedance/deviation, when corrective actions were initiated, the cause of each exceedance, the corrective actions taken and if they were the same as those documented in the SOP, and when the cause of each exceedance/deviation was corrected.

- (6) The permittee shall monitor and record daily the average fluorspar addition rate to the batch mixer, as a weight percent of the batch. The records shall include the date and time of each exceedance/deviation, when corrective actions were initiated, the cause of each exceedance, the corrective actions taken and if they were the same as those documented in the SOP, and when the cause of each exceedance/deviation was corrected.
- (7) For purposes of determining the total annual emissions from this emissions unit:
 - a. the permittee shall maintain monthly records of the volume of natural gas burned in the forehearth, in millions of standard cubic feet; and
 - b. the permittee shall maintain monthly records of the volume of natural gas burned in the forehearth as a rolling, 12-month summation of the monthly records above, in millions of standard cubic feet per rolling, 12-month period.
- (8) Each month the permittee shall calculate and maintain the following records:
 - a. the glass pull rate during the calendar month calculated as a summation of the daily pull rates recorded above;
 - b. the rolling, 12-month summation of the monthly glass pull rates, including a record of any month in which the pull rate exceeded the allowable, rolling, 12-month glass pull rate;
 - c. the total emissions from P001 and P013, including the glass melting furnaces baghouse exhaust, all vents serving both forehearth areas and all exhaust stacks serving both forming areas, in tons of CO, tons of NO_x, tons of PM₁₀, tons of SO₂, tons of VOC, and tons of F-, calculated by multiplying the glass pull rate (in tons per month) by the emissions factor for each process (in pounds per ton of glass pull) as determined during the most recent stack test which demonstrated compliance with the applicable emissions limitation, dividing by 2000 pounds per ton, and then summing the emissions from all the processes; and
 - d. the total rolling, 12-month summation of the combined emissions from P001 and P013, including the glass melting furnace baghouse exhaust, all vents serving both forehearth areas and for all exhaust stacks serving both forming areas, in tons of CO, tons of NO_x, tons of PM₁₀, tons of SO₂, tons of VOC, and tons of F-per rolling, 12-month period, calculated as a rolling 12-month summation of the monthly total emissions from P001 and P013 as calculated above.

- (9) Following the receipt of compliant emissions test results, conducted as required in f)(2), the permittee shall maintain a record of the following parameter values, that will be used to monitor continuous compliance (a record of these parameters shall be maintained following each required emissions compliance test):
- a. the average glass pull rate recorded during the compliance tests;
 - b. the minimum and average NaOH addition rate recorded during the compliance tests (the average shall be calculated using each reading of the meter, as recorded during each of the three compliance test runs); and
 - c. the average fluorspar addition rate recorded during the compliance tests.
- e) Reporting Requirements
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- a. identify any action(s) taken during a startup, shutdown, or malfunction and/or during operations, maintenance, or monitoring that were inconsistent with the procedures documented in the SOP as described in c)(6) of this permit;
 - b. all periods of time in which the bag leak detection alarm system was triggered;
 - c. identify each day when a fuel other than natural gas was burned in this emissions unit;
 - d. any month in which records documented an exceedance of the maximum allowable cumulative rolling, 12-month glass pull rate limitation of 69,350 tons;
 - e. all periods of time during which the NaOH addition rate to the spray tower was less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance;
 - f. each month during which the combined emissions from P001 and P013, as a rolling, 12-month summation, from the glass melting furnaces baghouse exhaust, from all vents serving both forehearth areas and from all exhaust stacks serving both forming areas, exceeded the applicable emission limitation in tons of CO, tons of NO_x, tons of PM₁₀, tons of SO₂, tons of VOC, and/or tons of fluorides per rolling, 12-month period;
 - g. all periods of time during which the glass pull rate exceeded the daily glass pull rate established during the most recent emissions tests that demonstrated compliance; and
 - h. all periods of time during which the fluorspar content as a weight percentage of the batch exceeded the content established during the most recent emissions tests that demonstrated compliance with the F⁻ emissions limitations for the glass furnace, the forehearth, and/or the forming area.

- (2) the permittee shall submit quarterly deviation reports that identify the following:
 - a. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following any 3-hour block of time in which the NaOH addition rate is less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance;
 - b. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour of an alarm from the bag leak detection system;
 - c. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following discovery that the glass pull rate exceeded the average glass pull rate established during the most recent emissions tests that demonstrated compliance; and
 - d. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following discovery that the fluorspar content as a weight percentage of the batch is greater than the content established during the most recent emissions tests that demonstrated compliance with the F⁻ emissions limitations for the glass furnace, the forehearth, and/or the forming area.
 - (3) If for any reason the glass pull rate exceeded the glass pull rate by more than 10% the glass pull rate established during the most recent emissions tests that demonstrate compliance, the following information shall be reported within 5 business days after the exceedance:
 - a. the date of the exceedance;
 - b. the time interval over which the exceedance occurred;
 - c. the value of the exceedance;
 - d. the cause(s) of the exceedance;
 - e. the corrective action which has been or will be taken to prevent similar exceedances in the future; and
 - f. a copy of data and/or information which shows the exceedance.
 - (4) The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
- f) Testing Requirements
- (1) Compliance with the glass melting furnace emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

20% opacity, as a 6-minute average

Applicable Compliance Method:

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

b. Emission Limitation:

0.01 pound of CO per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the CO emissions limitation is in question or as required in an operating /Title V permit.

c. Emission Limitation:

0.35 ton of CO per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable CO emission limitation (0.01 pound of CO per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

d. Emission Limitation:

1.71 pounds of NO_x per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required

to retest if compliance with the NO_x emissions limitation is in question or as required in an operating/Title V permit.

e. Emission Limitation:

60 tons of NO_x per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable NO_x emission limitation (1.71 pounds of NO_x per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

0.50 pound of PE per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 5 of 40 CFR Part 60, Appendix A using the methods and procedures specified in 40 CFR 60.296. The permittee may be required to retest if compliance with the PE emissions limitation is in question or as required in an operating/Title V permit.

g. Emission Limitation:

17.34 tons of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PE emission limitation (0.50 pound of PE per ton of glass pull) by the maximum annual glass pulled (69,350 tons), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

1.87 pounds of PM₁₀ per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix

M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the PM10 emissions limitation is in question or as required in an operating/Title V permit.

i. Emission Limitation:

66 tons of PM10 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM10 emission limitation (1.87 pounds of PM10 per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

j. Emission Limitation:

2.02 pounds of SO2 per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 6 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-18-04, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the SO2 emissions limitation is in question or as required in an operating/Title V permit.

k. Emission Limitation:

71 tons of SO2 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable SO2 emission limitation (2.02 pounds of SO2 per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

l. Emission Limitation:

0.04 pound of VOC per ton of glass pull

Applicable Compliance Method:

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

m. Emission Limitation:

1.4 tons of VOC per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.04 pound of VOC per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

n. Emission Limitation:

0.36 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the F- emissions limitation is in question or as required in an operating/Title V permit.

o. Emission Limitation:

13 tons per rolling, 12-month period of F-

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.36 pound of F- per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

p. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 0.71 ton of CO per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for CO (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the CO emission limitation, and then dividing by 2,000 pounds per ton.

q. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 25.62 tons of F- per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for F- (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the F- emission limitation, and then dividing by 2,000 pounds per ton.

r. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 121.71 tons of NOx per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for NOx (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the NOx emission limitation, and then dividing by 2,000 pounds per ton.

s. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 133.10 tons of PM10 per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for PM10 (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM10 emission limitation, and then dividing by 2,000 pounds per ton.

t. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 142.77 tons of SO₂ per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emissions factor for SO₂ (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the SO₂ emission limitation.

u. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 2.85 tons of VOC per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for VOC (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the VOC emission limitation, and then dividing by 2,000 pounds per ton.

(2) Compliance with the forehearth limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

No visible particulate emissions from the exhaust stack(s)

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with Method 22 of 40 CFR Part 60,

Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(3), or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

b. Emission Limitation:

1.8 pounds of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: multiply the emission factor of 84 pounds of CO emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.021 MMscf per hour.

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

c. Emission Limitation:

7.9 tons CO per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable CO emission limitation (1.8 pounds per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

d. Emission Limitation:

2.1 pounds of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: multiply the emission factor of 100 pounds of NO_x emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.021 MMscf per hour.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

9.2 tons of NOx per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable NOx emission limitation (2.1 pounds of NOx per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

0.20 pound of PE per hour

Applicable Compliance Method:

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

g. Emission Limitation:

0.88 ton of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PE emission limitation (0.20 lb/hr) by the number of hours in a year (8760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

0.011 pound of PM10 per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the PM10 emissions limitation is in question or as required in an operating/Title V permit.

i. Emission Limitation:

0.39 ton PM10 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM10 emission limitation (0.011 pound of PM10 per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

j. Emission Limitation:

0.02 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.021 MMscf per hour.

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

k. Emission Limitation:

0.09 ton of SO₂ per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable SO₂ emission limitation (0.02 pound of SO₂ per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

l. Emission Limitation:

0.12 pound of VOC per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the

emission factor of 5.5 pounds of VOC emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.021 MMscf per hour.

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

m. Emission Limitation:

0.53 ton of VOC per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.12 pound of VOC per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

n. Emission Limitation:

1.32 tons of F- per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.038 pound of F- per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

o. Emission Limitation:

0.038 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the F- emissions limitation is in question or as required in an operating/Title V permit.

p. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 13.36 tons of CO per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for CO (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the CO emission limitation, and then dividing by 2,000 pounds per ton.

q. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 2.70 tons of F- per rolling, 12-month period

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for F- (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the F- emission limitation, and then dividing by 2,000 pounds per ton.

r. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 15.91 tons of NOx per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for NOx (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the NOx emission limitation, and then dividing by 2,000 pounds per ton.

s. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.78 ton of PM10 per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for PM10 (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM10 emission limitation, and then dividing by 2,000 pounds per ton.

t. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.10 ton of SO₂ per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for SO₂ (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the SO₂ emission limitation, and then dividing by 2,000 pounds per ton.

u. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.87 ton of VOC per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for VOC (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the VOC emission limitation, and then dividing by 2,000 pounds per ton.

(3) Compliance with the fiberglass forming area limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

No visible particulate emissions from the exhaust stack(s)

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with Method 22 of 40 CFR Part 60,

Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(3), or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

b. Emission Limitation:

0.50 pound of PE per hour

Applicable Compliance Method:

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

c. Emission Limitation:

2.2 tons of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PE emission limitation (0.50 lb/hr) by the number of hours in a year (8760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

d. Emission Limitation:

0.20 pound of PM10 per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the PM10 emissions limitation is in question or as required in an operating/Title V permit.

e. Emission Limitation:

7.0 tons of PM10 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM10 emission limitation (0.20 pound of PM10 per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission

limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

0.09 pound of VOC per ton of glass pull

Applicable Compliance Method:

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

g. Emission Limitation:

3.2 tons of VOC per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.09 pound of VOC per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

0.021 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the F-emissions limitation is in question or as required in an operating/Title V permit.

i. Emission Limitation:

0.73 ton of F- per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.021 pound of F- per ton of glass pull) by the maximum hourly averaged glass pull rate (8.0 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if

compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

j. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 1.49 tons of F- per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for F- (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the F- emission limitation, and then dividing by 2,000 pounds per ton.

k. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 5.18 tons of methanol per rolling, 12-month period.

Applicable Compliance Method:

This limit was established to reflect a maximum potential to emit for methanol. Actual methanol emissions at full production are expected to be less than 0.5 ton per year based on mass balance. If required, the company is to submit an updated mass balance demonstrating the actual methanol losses.

l. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 14.24 tons of PM10 per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for PM10 (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM10 emission limitation, and then dividing by 2,000 pounds per ton.

m. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 6.41 tons of VOC per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for VOC (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the VOC emission limitation, and then dividing by 2,000 pounds per ton.

(4) The permittee shall conduct, or have conducted, emission testing for the glass melting furnace in accordance with the following requirements:

- a. The emissions testing shall be conducted within 6 months of permit renewal;
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for CO, NO_x, PE, PM₁₀, SO₂, F⁻, and opacity.
- c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:
 - i. For CO, Method 10 of 40 CFR Part 60, Appendix A;
 - ii. For NO_x, Method 7 of 40 CFR Part 60, Appendix A;
 - iii. For PE, Method 5 of 40 CFR Part 60, Appendix A, as specified in 40 CFR 60.293(e);
 - iv. For PM₁₀, Methods 201 and 202 of 40 CFR Part 51, Appendix M;
 - v. For SO₂, Method 6 of 40 CFR Part 60, Appendix A, using the procedures specified in OAC rule 3745-18-04;
 - vi. For F⁻, Method 13B of 40 CFR Part 60, Appendix A; and
 - vii. For opacity, Method 9 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Toledo Division of Environmental Services or the Ohio EPA Central Office.
- e. If both melting furnaces P001 and P013 are to be tested simultaneously, they shall be operating at or near their maximum capacity and compliance shall be demonstrated with the combined total of the applicable emission limitations for

each emissions unit. Each of the two units shall be tested, either together or separately as required in this section.

- f. All monitoring systems and equipment shall be installed, operational, and calibrated prior to performance tests.
- g. Unless a different frequency is specified in this section or proposed and agreed upon by the Ohio EPA, the permittee shall monitor and record process and/or add-on control device parameters, that will be used to demonstrate continuous compliance following testing, at least every 15 minutes during the performance tests. This shall include the NaOH addition rate to the spray tower and a check-off noting that the baghouse alarm has not been activated. The arithmetic average for each parameter (excluding the baghouse) shall be calculated using all of the recorded measurements collected during the compliance demonstration.
- h. The permittee shall monitor and record the daily glass pull rate for each glass melting furnace during any performance test required. The permittee shall determine the hourly average of the recorded measurements.
- i. The permittee shall monitor and record the daily fluorspar addition rate to the batch mixer, as a weight percent of the batch for each glass melting furnace during any performance test required.

No later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Toledo Division of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emission unit operating parameters, the time(s) and date(s) of the tests, the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to testing may result in the Toledo Division of Environmental Services or the Ohio EPA Central Office's refusal to accept the results of the emission tests.

Personnel of the Toledo Division of Environmental Services or the Ohio EPA Central Office shall be permitted to witness the tests, 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 tests shall be signed by the person or persons responsible for the tests and submitted to the Toledo Division of Environmental Services within 30 days following the completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Toledo Division of Environmental Services or the Ohio EPA Central office.

- g) Miscellaneous Requirements
 - (1) None.



2. P013, Furnace 9212

Operations, Property and/or Equipment Description:

Direct Melt Furnace 9212 - Melter+Forehearth+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
	8.4 ton/hr glass melting furnace with natural gas oxyfuel firing and electric boost, controlled by wet caustic scrubber and fabric filter	
a.	OAC rule 3745-31-05(A)(3)	0.01 pound of carbon monoxide (CO) per ton of glass pull
		0.37 ton of CO per rolling, 12-month period
		1.71 pounds of nitrogen oxides (NOx) per ton of glass pull
		63 tons of NOx per rolling, 12-month period
		18.25 tons of filterable particulate emissions (PE) per year
		1.87 pounds of particulate matter less than 10 microns (PM10) per ton of glass pull
		69 tons of PM10 per rolling, 12-month period
		2.02 pounds of sulfur dioxide (SO2) per ton of glass pull
		75 tons of SO2 per rolling, 12-month period
		0.04 pound of volatile organic compounds (VOC) per ton of glass pull
		1.5 tons of VOC per rolling, 12-month period
		0.36 pound of fluorides (F-) per ton of glass pull
		14 tons of F- per rolling, 12-month period
		See b)(2)a. and b)(2)b.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)(1)	See b)(2)c.
c.	OAC rule 3745-17-11(B)(1)	See b)(2)c.
d.	OAC rule 3745-18-06(E)(2)	See b)(2)c.
e.	OAC rule 3745-21-07(B)	See b)(2)d.
f.	OAC rule 3745-21-08(B)	See b)(2)e.
g.	OAC rule 3745-31-05(D)	See b)(2)f. and b)(2)g.
h.	OAC rule 3745-31-10 thru 20	See b)(2)h.
i.	40 CFR Part 60, Subpart CC	0.50 pound of PE per ton of glass pull.
Fiberglass forehearth area with natural gas over firing and no controls		
j.	OAC rule 3745-31-05(A)(3)	1.9 pounds of CO per hour
		8.3 tons of CO per rolling, 12-month period
		2.2 pounds of NOx per hour
		9.6 tons of NOx per rolling, 12-month period
		0.20 pound of PE per hour
		0.88 ton of PE per year
		0.011 pound of PM10 per ton of glass pull
		0.41 ton of PM10 per rolling, 12-month period
		0.02 pound of SO2 per hour
		0.09 ton of SO2 per rolling, 12-month period
		0.13 pound of VOC per hour
		0.57 ton of VOC per rolling, 12-month period
		0.038 pound of F- per ton of glass pull
		1.39 tons of F- per rolling, 12-month period
	See b)(2)i. and b)(2)j.	
k.	OAC rule 3745-17-07(A)(1)	See b)(2)c.
l.	OAC rule 3745-17-08(B)	See b)(2)c.
m.	OAC rule 3745-18-06(A)	See b)(2)r.
n.	OAC rule 3745-21-07(B)	See b)(2)d.
o.	OAC rule 3745-21-08(B)	See b)(2)e.
p.	OAC rule 3745-31-05(D)	See b)(2)k. and b)(2)l.
q.	OAC rule 3745-31-10 thru 20	See b)(2)m.
Fiberglass forming area with rolled-on binder application and no controls		
r.	OAC rule 3745-31-05(A)(3)	0.50 pound of PE per hour
		2.2 tons of PE per year
		0.20 pound of PM10 per ton of glass pull
		7.3 tons of PM10 per rolling, 12-month period
		0.09 pound of VOC per ton of glass pull
	3.3 tons of VOC per rolling, 12-month period	



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		0.021 pound of F- per ton of glass pull
		0.77 ton of F- per rolling, 12-month period
		See b)(2)j. and b)(2)q.
s.	OAC rule 3745-17-07(A)(1)	See b)(2)c.
t.	OAC rule 3745-17-08(B)	See b)(2)c.
u.	OAC rule 3745-21-07(B)	See b)(2)d.
v.	OAC rule 3745-31-05(D)	See b)(2)n. and b)(2)o.
w.	OAC rule 3745-31-10 thru 20	See b)(2)p.

(2) Additional Terms and Conditions

- a. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-11(B)(1), OAC rule 3745-18-06(E)(2), OAC rule 3745-21-07(B), OAC rule 3745-21-08(B), OAC rule 3745-31-05(D), 3745-31-10 thru 20, and 40 CFR Part 60, Subpart CC.
- b. Visible particulate emissions from the furnace stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average.
- c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- d. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).

On February 18, 2008, OAC rule 3745-21-07 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- e. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- f. The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 0.71 ton of CO per rolling, 12-month period.
- g. The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 121.71 tons of NO_x, 142.77 tons of SO₂ and 2.85 tons of VOC per rolling, 12-month period.
- h. The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 133.10 tons of PM₁₀ and 25.62 tons of F- per rolling, 12-month period.
- i. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-08(B), OAC rule 3745-21-07(B), OAC rule 3745-21-08(B), OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.
- j. The permittee shall install best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. Such equipment shall meet the following requirements:
 - i. the collection efficiency shall be sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and
 - ii. there shall be no visible particulate emissions from the exhaust stack(s).
- k. The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 13.36 tons of CO per rolling, 12-month period.
- l. The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 15.91 tons of NO_x, 0.78 ton of PM₁₀, 0.10 ton of SO₂ and 0.87 ton of VOC per rolling, 12-month period.
- m. The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.78 ton of PM₁₀ and 2.70 tons of F- per rolling, 12-month period.
- n. The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 5.18 tons of methanol per rolling, 12-month period.
- o. The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 6.41 tons of VOC per rolling, 12-month period.
- p. The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 14.24 tons of PM₁₀ and 1.49 tons of F- per rolling, 12-month period.

- q. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-08(B), OAC rule 3745-21-07(B), OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.
- r. OAC rule 3745-18-06(A) does not establish sulfur dioxide emission limitations for the fuel burning equipment associated with this emissions unit because the emissions unit only employs natural gas as fuel. However, OAC rule 3745-180-06(A) requires that the natural gas being combusted meet certain fuel quality restrictions (a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pound per million standard cubic feet). Because the natural gas being burned in this emissions unit is the standard, pipeline quality natural gas supplied to industrial, commercial, and residential users throughout the state, it is assumed that it meets the fuel quality restrictions; and no monitoring, record keeping or reporting requirements are necessary to ensure outgoing compliance with OAC rule 3745-18-06(A).

On September 1, 2003, OAC rule 3745-18-06 was revised to delete the following phase: "having a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.6 pounds per million standard cubic feet". Therefore, this phase is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-18-06, the requirements still exists as part of the federally-approved SIP for Ohio.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas as fuel in this emissions unit.
- (2) The glass pull rate shall not exceed by more than 10% the maximum glass pull rate established during the most recent emissions tests that demonstrated compliance with the emissions limitations from the glass furnace, the forehearth, and the forming area.
- (3) The rate of glass pull from this emissions unit shall not exceed 73,000 tons per rolling, 12-month period, based upon a rolling, 12-month summation of the daily pull rates.
- (4) The NaOH addition rate to the quench tower shall not be less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance with the F- emissions limitations from the glass furnace, the forehearth, and the forming area.
- (5) The fluorspar addition rate to the batch mixer, as a weight percent of the batch, shall not exceed the rate established during the most recent performance test that demonstrated compliance with the F- emissions limitations from the glass furnace, the forehearth, and the forming area.
- (6) The permittee shall develop and implement written standard operating procedures (SOP) to be followed in order to maintain the emissions unit in compliance with the limitations contained in this permit and to minimize emissions during startup and shutdown of the unit. The SOP shall include, but shall not be limited to the following:

- a. Startup and shutdown procedures, developed to consider and minimize emissions.
- b. Procedures to determine, record, and report the cause of and remedy to a malfunction of any control device and any deviations from the compliant range of operating parameters being monitored and used to demonstrate compliance, including the date and time the malfunction/deviation began and ended.
- c. A maintenance and calibration schedule for each control device and parameter monitor that is consistent with the manufacturer's instructions and recommendations, for routine and long-term maintenance.
- d. The corrective actions or procedures to be taken in the event of a malfunction of a control device and/or a parameter monitor, and during any abnormal process modifications.
- e. The corrective actions to be followed when a monitored parameter is outside the compliant range established during the most recent emissions tests that demonstrated compliance. Provisions shall be included for records to be maintained of the time, date, parameter's deviation data, the corrective actions conducted, and if standard operating procedures were followed. The SOP shall be implemented for the following occurrences:
 - i. The permittee shall initiate corrective actions within 1 hour following any 3-hour block of time in which the NaOH addition rate is less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance. Corrective actions shall be conducted in a timely manner according to the procedures defined in the SOP.
 - ii. The permittee shall initiate corrective action within 1 hour of an alarm from the bag leak detection system and complete corrective actions in a timely manner according to the procedures documented in this SOP. Examples of corrective actions that might be included in the SOP for the baghouse/fabric filter include:
 - (a) inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emission;
 - (b) sealing off defective bags or filter media;
 - (c) replacing defective bags or filter media, or otherwise repairing the control device;
 - (d) sealing off a defective baghouse compartment;
 - (e) cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and
 - (f) shutting down the process producing the particulate emissions.

- iii. The permittee shall initiate corrective action within 1 hour following any discovery that the glass pull rate exceeds by more than 10% the maximum glass pull rate established during the most recent emissions tests that demonstrate the emissions unit to be in compliance. Corrective actions shall be conducted in a timely manner according to the procedures documented in the SOP.
- iv. The permittee shall initiate corrective action within 1 hour following discovery that the fluorspar addition rate to the batch mixer, as a weight percent of the batch, is greater than the addition rate established during the most recent emissions tests that demonstrated compliance with the F-emissions limitations for the glass furnace, the forehearth, and the forming area. Corrective actions shall be conducted in a timely manner according to the procedures documented in the SOP.

[OAC rule 3745-77-07(A)(1)]

- (7) Pursuant to OAC Rule 3745-77-07(A)(1), the following operational restrictions are as stringent as or more stringent than the operational restrictions contained in Permit to Install 04-01345, issued on June 13, 2006: c)(2) and c)(4). The operational restrictions contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying operational restrictions in the Permit to Install.
- 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 keep records of each startup, shutdown, and malfunction event, as well as, a record of any actions taken during a startup, shutdown, or malfunction that are not consistent with the procedures in the SOP, as described in c)(6) of this permit.
 - (3) The permittee shall operate and maintain equipment to continuously monitor the NaOH addition rate to the spray tower while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The following hourly records shall be maintained from the data documented by this monitor:
 - a. the concentration of the NaOH solution pumped to the spray tower system (in % by volume);
 - b. the flow rate (in gallons) of the NaOH solution pumped to the spray tower system;
 - c. the addition rate of NaOH to the spray tower system, in gallons per hour, calculated as the concentration of the NaOH solution multiplied by the volume of the NaOH solution, i.e., a.xb.; and

- d. each 3-hour block of time in which the addition rate of NaOH was less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance, and a record of the amount of time taken for corrective action to be initiated.

The records shall include the date and time of each exceedance/deviation, when corrective actions were initiated, the cause of each exceedance, the corrective actions taken and if they were the same as those documented in the SOP, and when the cause of each exceedance/deviation was corrected.

- (4) The permittee shall calibrate, maintain, and continuously operate a bag leak detection system when the emissions unit is in operation.
 - a. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems including, but not limited to, devices using light scattering and other effects, shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.
 - b. The bag leak detection system shall be certified by the manufacturer to be capable of detecting particulate emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.
 - c. The bag leak detection system sensor shall produce an output of relative particulate emissions.
 - d. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative particulate emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.
 - e. The bag leak detection system shall be installed downstream of the baghouse. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.
 - f. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
 - g. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm setpoints, or alarm delay time except as detailed in the operations, maintenance, and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operating condition.

The permittee shall maintain records of each bag leak detection system alarm, including the date and time of the alarm, the amount of time taken for corrective action to be initiated, the cause of the alarm, an explanation of the corrective actions taken and if

they were the same as those documented in the SOP, and when the cause of the alarm was corrected.

- (5) The permittee shall monitor and record the glass pull rate on an daily basis. The following records shall be maintained from the data documented by this monitor:
- a. records of the daily glass pull rate;
 - b. the daily hours of operation;
 - c. the average hourly glass pull rate, a./b., in tons per hour; and
 - d. each day in which the average hourly glass pull rate exceeded by more than 10% the average hourly glass pull rate established during the most recent emissions tests that demonstrated compliance, along with the amount of time taken for corrective action to be initiated.

The records shall include the date and time of each exceedance/deviation, when corrective actions were initiated, the cause of each exceedance, the corrective actions taken and if they were the same as those documented in the SOP, and when the cause of each exceedance/deviation was corrected.

- (6) The permittee shall monitor and record daily the average fluorspar addition rate to the batch mixer, as a weight percent of the batch. The records shall include the date and time of each exceedance/deviation, when corrective actions were initiated, the cause of each exceedance, the corrective actions taken and if they were the same as those documented in the SOP, and when the cause of each exceedance/deviation was corrected.
- (7) For purposes of determining the total annual emissions from this emissions unit:
- a. the permittee shall maintain monthly records of the volume of natural gas burned in the forehearth, in millions of standard cubic feet; and
 - b. the permittee shall maintain monthly records of the volume of natural gas burned in the forehearth as a rolling, 12-month summation of the monthly records above, in millions of standard cubic feet per rolling, 12-month period.
- (8) Each month the permittee shall calculate and maintain the following records:
- a. the glass pull rate during the calendar month calculated as a summation of the daily pull rates recorded above;
 - b. the rolling, 12-month summation of the monthly glass pull rates, including a record of any month in which the pull rate exceeded the allowable, rolling, 12-month glass pull rate;
 - c. the total emissions from P001 and P013, including the glass melting furnaces baghouse exhaust, all vents serving both forehearth areas and all exhaust stacks serving both forming areas, in tons of CO, tons of NO_x, tons of PM₁₀, tons of SO₂, tons of VOC, and tons of F-, calculated by multiplying the glass pull rate (in tons per month) by the emissions factor for each process (in pounds per ton of

- glass pull) as determined during the most recent stack test which demonstrated compliance with the applicable emissions limitation, dividing by 2000 pounds per ton, and then summing the emissions from all the processes; and
- d. the total rolling, 12-month summation of the combined emissions from P001 and P013, including the glass melting furnace baghouse exhaust, all vents serving both forehearth areas and for all exhaust stacks serving both forming areas, in tons of CO, tons of NO_x, tons of PM₁₀, tons of SO₂, tons of VOC, and tons of F-per rolling, 12-month period, calculated as a rolling 12-month summation of the monthly total emissions from P001 and P013 as calculated above.
- (9) Following the receipt of compliant emissions test results, conducted as required in f)(2), the permittee shall maintain a record of the following parameter values, that will be used to monitor continuous compliance (a record of these parameters shall be maintained following each required emissions compliance test):
- a. the average glass pull rate recorded during the compliance tests;
 - b. the minimum and average NaOH addition rate recorded during the compliance tests (the average shall be calculated using each reading of the meter, as recorded during each of the three compliance test runs); and
 - c. the average fluorspar addition rate recorded during the compliance tests.
- (10) The permittee shall perform daily checks, when the associated operation is in use and when the weather conditions allow, for any visible particulate emissions from the fabric filter and for any visible emissions of fugitive dust. 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 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 emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item d. above or continue the daily check until the incident has ended. The observer may indicate that the visible emission 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.

- (11) If the daily checks show no visible emissions for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check by the permittee or an Ohio EPA inspector indicates visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of no visible emissions.
 - (12) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 04-01345, issued on June 13, 2006: d)(8), d)(10) and (d)(11). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.
- e) Reporting Requirements
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. identify any action(s) taken during a startup, shutdown, or malfunction and/or during operations, maintenance, or monitoring that were inconsistent with the procedures documented in the SOP as described in c)(6) of this permit;
 - b. all periods of time in which the bag leak detection alarm system was triggered.
 - c. Identify each day when a fuel other than natural gas was burned in this emissions unit;
 - d. Any month in which records documented an exceedance of the maximum allowable cumulative rolling, 12-month glass pull rate limitation of 69,350 tons;
 - e. All periods of time during which the NaOH addition rate to the spray tower was less than the minimum addition rate established during the most recent emission tests that demonstrated compliance;
 - f. Each month during which the combined emissions from P001 and P013, as a rolling, 12-month summation, from the glass melting furnaces baghouse exhaust, from all vents serving both the forehearth areas and from all exhaust stacks serving both forming areas, exceeded the applicable emission limitation in tons of CO, tons of NO_x, tons of PM₁₀, tons of SO₂, tons of VOC, and/or tons of fluorides per rolling, 12-month period;
 - g. All periods of time during which the glass pull rate exceeded the daily glass pull rate established during the most recent emissions tests that demonstrated compliance; and
 - h. All periods of time during which the fluorspar content as a weight percentage of the batch exceeded the content established during the most recent emissions

tests that demonstrated compliance with the F^- emissions limitations for the glass furnace, the forehearth, and/or the forming area.

- (2) The permittee shall submit quarterly deviation reports that identify the following:
 - a. Any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following any 3-hour block of time in which the NaOH addition rate is less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance;
 - b. Any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour of an alarm from the bag leak detection system;
 - c. Any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following the discovery that the glass pull rate exceeded the average glass pull rate established during the most recent emissions tests that demonstrated compliance; and
 - d. Any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following the discovery that the fluorspar content as a weight percentage of the batch is greater than the content established during the most recent emissions tests that demonstrated compliance with the F^- emissions limitations for the glass furnace, the forehearth, and/or the forming area.
- (3) If for any reason the glass pull rate exceeded the glass pull rate by more than 10% the glass pull rate established during the most recent emissions tests that demonstrate compliance, the following information shall be reported within 5 business days after the exceedance:
 - a. the date of the exceedance;
 - b. the time interval over which the exceedance occurred;
 - c. the value of the exceedance;
 - d. the cause(s) of the exceedance;
 - e. the corrective action which has been or will be taken to prevent similar exceedances in the future; and
 - f. a copy of data and/or information which shows the exceedance.
- (4) The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
- (5) Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 04-01345, issued on June 13, 2006: e)(3). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements

of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

f) Testing Requirements

(1) Compliance with the glass melting furnace emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitation:

20% opacity, as a 6-minute average

Applicable Compliance Method:

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

b. Emission Limitation:

0.01 pound of CO per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the CO emissions limitation is in question or as required in an operating/ Title V permit.

c. Emission Limitation:

0.37 ton of CO per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable CO emission limitation (0.01 pound of CO per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

d. Emission Limitation:

1.71 pounds of NO_x per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the NO_x emissions limitation is in question or as required in an operating/Title V permit.

e. Emission Limitation:

63 tons of NO_x per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable NO_x emission limitation (1.71 pounds of NO_x per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

0.50 pound of PE per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 5 of 40 CFR Part 60, Appendix A using the methods and procedures specified in 40 CFR 60.293(e). The permittee may be required to retest if compliance with the PE emissions limitation is in question or as required in operating/Title V permit.

g. Emission Limitation:

18.25 tons of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PE emission limitation (0.50 pound of PE per ton of glass pull) by the maximum annual glass pulled (73,000 tons), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

1.87 pounds of PM₁₀ per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the PM₁₀ emissions limitation is in question or as required in an operating/Title V permit.

i. Emission Limitation:

69 tons of PM₁₀ per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM₁₀ emission limitation (1.87 pounds of PM₁₀ per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

j. Emission Limitation:

2.02 pounds of SO₂ per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 6 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-18-04, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the SO₂ emissions limitation is in question or as required in an operating/Title V permit.

k. Emission Limitation:

75 tons of SO₂ per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable SO₂ emission limitation (2.02 pounds of SO₂ per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton.

Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

I. Emission Limitation:

0.04 pound of VOC per ton of glass pull

Applicable Compliance Method:

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

m. Emission Limitation:

1.5 tons of VOC per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.04 pound of VOC per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

n. Emission Limitation:

0.36 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the F- emissions limitation is in question or as required in an operating/Title V permit.

o. Emission Limitation:

14 tons of F- per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.36 pound of F- per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

p. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 0.71 ton of CO per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for CO (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the CO emission limitation, and then dividing by 2,000 pounds per ton.

q. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 25.62 tons of F- per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for F- (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the F- emission limitation, and then dividing by 2,000 pounds per ton.

r. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 121.71 tons of NOx per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined

(142,350 tons per rolling, 12-month period) by the emission factor for NO_x (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the NO_x emission limitation, and then dividing by 2,000 pounds per ton.

s. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 133.10 tons of PM₁₀ per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for PM₁₀ (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM₁₀ emission limitation, and then dividing by 2,000 pounds per ton.

t. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 142.77 tons of SO₂ per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for SO₂ (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the SO₂ emission limitation, and then dividing by 2,000 pounds per ton.

u. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 2.85 tons of VOC per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for VOC (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the VOC emission limitation, and then dividing by 2,000 pounds per ton.

- (2) Compliance with the foregoing limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):
- a. Emission Limitation:
- No visible particulate emissions from the exhaust stack(s).
- Applicable Compliance Method:
- If required, compliance shall be determined through visible emissions observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(4), or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.
- b. Emission Limitation:
- 1.9 pounds of CO per hour
- Applicable Compliance Method:
- Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: multiply the emission factor of 84 pounds of CO emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.022 MMscf per hour.
- If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.
- c. Emission Limitation:
- 8.3 tons of CO per rolling, 12-month period
- Applicable Compliance Method:
- This emission limitation was developed by multiplying the allowable CO emission limitation (1.9 pounds per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.
- d. Emission Limitation:
- 2.2 pounds of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: multiply the emission factor of 100 pounds of NO_x emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.022 MMscf per hour.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 4 and 7 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

9.6 tons of NO_x per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable NO_x emission limitation (2.2 pounds of NO_x per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

0.20 pound of PE per hour

Applicable Compliance Method:

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

g. Emission Limitation:

0.88 ton of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PE emission limitation (0.20 lb/hr) by the number of hours in a year (8760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

0.011 pound of PM₁₀ per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the PM₁₀ emissions limitation is in question or as required in an operating/Title V permit.

i. Emission Limitation:

0.41 ton of PM₁₀ per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM₁₀ emission limitation (0.011 pound of PM₁₀ per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

j. Emission Limitation:

0.02 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.022 MMscf per hour.

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

k. Emission Limitation:

0.09 ton of SO₂ per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable SO₂ emission limitation (0.02 pound of SO₂ per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if

compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

I. Emission Limitation:

0.13 pound of VOC per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the emission factor of 5.5 pounds of VOC emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.022 MMscf per hour.

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

m. Emission Limitation:

0.57 ton of VOC per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.13 pound of VOC per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

n. Emission Limitation:

0.038 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the F- emissions limitation is in question or as required in an operating/Title V permit.

o. Emission Limitation:

1.39 tons of F- per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.038 pound of F- per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

p. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 13.36 tons of CO per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for CO (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the CO emission limitation, and then dividing by 2,000 pounds per ton.

q. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 2.70 tons of F- per rolling, 12-month period

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for F- (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the F- emission limitation, and then dividing by 2,000 pounds per ton.

r. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 15.91 tons of NO_x per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined

(142,350 tons per rolling, 12-month period) by the emission factor for NO_x (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the NO_x emission limitation, and then dividing by 2,000 pounds per ton.

s. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.78 ton of PM₁₀ per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for PM₁₀ (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM₁₀ emission limitation, and then dividing by 2,000 pounds per ton.

t. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.10 ton of SO₂ per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for SO₂ (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the SO₂ emission limitation, and then dividing by 2,000 pounds per ton.

u. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.87 ton of VOC per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for VOC (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the VOC emission limitation, and then dividing by 2,000 pounds per ton.

- (3) Compliance with the fiberglass forming area limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):
- a. Emission Limitation:
- No visible particulate emissions from the exhaust stack(s).
- Applicable Compliance Method:
- If required, compliance shall be determined through visible emissions observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(4), or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.
- b. Emission Limitation:
- 0.50 pound of PE per hour
- Applicable Compliance Method:
- If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(10), or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.
- c. Emission Limitation:
- 2.2 tons of PE per year
- Applicable Compliance Method:
- This emission limitation was developed by multiplying the allowable PE emission limitation (0.50 pound per hour) by the number of hours in a year (8760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.
- d. Emission Limitation:
- 0.20 pound of PM₁₀ per ton of glass pull
- Applicable Compliance Method:
- If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the PM₁₀ emissions limitation is in question or as required in an operating/Title V permit.

e. Emission Limitation:

7.3 tons of PM₁₀ per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM₁₀ emission limitation (0.20 pound of PM₁₀ per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

0.09 pound of VOC per ton of glass pull

Applicable Compliance Method:

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

g. Emission Limitation:

3.3 tons of VOC per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.09 pound of VOC per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

0.021 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. The permittee may be required to retest if compliance with the F- emissions limitation is in question or as required in an operating/Title V permit.

i. Emission Limitation:

0.77 ton of F- per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.021 pound of F- per ton of glass pull) by the maximum hourly averaged glass pull rate (8.4 tons per hour), and by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

j. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 1.49 tons of F- per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for F- (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the F- emission limitation, and then dividing by 2,000 pounds per ton.

k. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 5.18 tons of methanol per rolling, 12-month period.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 18 of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

l. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 14.24 tons of PM₁₀ per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for PM₁₀ (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM₁₀ emission limitation, and then dividing by 2,000 pounds per ton.

m. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 6.41 tons of VOC per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling, 12-month period) by the emission factor for VOC (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the VOC emission limitation, and then dividing by 2,000 pounds per ton.

- (4) The permittee shall conduct, or have conducted, emission testing for the glass mething furnace in accordance with the following requirements:
- a. The emissions testing shall be conducted within 6 months of permit renewal;
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for CO, NO_x, PE, PM₁₀, SO₂, F⁻, and opacity.
 - c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:
 - i. For CO, Method 10 of 40 CFR Part 60, Appendix A;
 - ii. For NO_x, Method 7 of 40 CFR Part 60, Appendix A;
 - iii. For PE, Method 5 of 40 CFR Part 60, Appendix A, as specified in 40 CFR 60.296(e);
 - iv. For PM₁₀, Methods 201 and 202 of 40 CFR Part 51, Appendix M;
 - v. For SO₂, Method 6 of 40 CFR Part 60, Appendix A, using the procedures specified in OAC rule 3745-18-04;
 - vi. For F⁻, Method 13B of 40 CFR Part 60, Appendix A; and
 - vii. For opacity, Method 9 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA approved methods may be used with prior approval from the Ohio EPA.

- d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Toledo Division of Environmental Services or the Ohio EPA Central Office.
- e. If both melting furnaces P001 and P013 are to be tested simultaneously, they shall be operating at or near their maximum capacity and compliance shall be demonstrated with the combined total of the applicable emission limitations for each emission unit. Each of the two units shall be tested, either together or separately as required in this section.
- f. All monitoring systems and equipment shall be installed, operational, and calibrated prior to the performance tests.
- g. Unless a different frequency is specified in this section or proposed and agreed upon by the Ohio EPA, the permittee shall monitor and record process and/or add-on control device parameters, that will be used to demonstrate continuous compliance following testing, at least every 15 minutes during the performance tests. This shall include the NaOH addition rate to the spray tower and a check-off noting that the baghouse alarm has not been activated. The arithmetic average of each parameter (excluding the baghouse) shall be calculated using all of the recorded measurements collected during the compliance demonstration.
- h. The permittee shall monitor and record the daily glass pull rate for each glass melting furnace during any performance test required. The permittee shall determine the hourly average of the recorded measurements.
- i. The permittee shall monitor and record the daily fluorspar addition rate to the batch mixer, as a weight percent of the batch for each glass melting furnace during each performance test required.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Toledo Division of Environmental Services. 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 tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to testing may result in the Toledo Division of Environmental Services or the Ohio EPA Central Office's refusal to accept the results of the emission tests.

Personnel from the Toledo Division of Environmental Services or the Ohio EPA Central Office shall be permitted to witness the tests, examine the testing equipment, and acquire data and information necessary to ensure that the operation 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 tests shall be signed by the person or persons responsible for the tests and submitted to the Toledo Division of Environmental Services within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with

prior approval from the Toledo Division of Environmental Services or the Ohio EPA Central Office.

- g) Miscellaneous Requirements
 - (1) None.



3. P017, Recycling Oven Shredder and Dryer

Operations, Property and/or Equipment Description:

Recycling shredder and 2.7 mmBtu per hour direct fired, natural gas dryer, both vented to a fabric filter

- 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)	0.23 pound of carbon monoxide (CO) per hour
		0.27 pound of nitrogen oxides (NO _x) per hour
		1.5 pounds of filterable particulate emissions (PE) per hour
		3.8 tons of PE per year
		0.002 pound of sulfur dioxide (SO ₂) per hour
		0.01 pound of volatile organic compounds (VOC) per hour
		See b)(2)a., b)(2)b., and b)(2)f.
b.	OAC rule 3745-17-07(A)(1)	See b)(2)c.
c.	OAC rule 3745-17-11(B)(1)	See b)(2)c.
d.	OAC rule 3745-18-06(E)	See b)(2)c.
e.	OAC rule 3745-21-07(B)	See b)(2)d.
f.	OAC rules 3745-21-08(B)	See b)(2)e.
g.	OAC rule 3745-31-05(D)	0.66 ton of CO per year.
		0.79 ton of NO _x per year.
		0.006 tons of SO ₂ per year.
		0.04 ton of VOC per year.
h.	OAC rule 3745-31-10 through 20	1.11 pounds of particulate matter less than 10 microns (PM ₁₀) per hour
		4.85 tons of PM ₁₀ per year

(2) Additional Terms and Conditions

- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-21-07(B), OAC rule 3745-21-08(B), OAC rule 3745-31-05(D), and OAC rules 3745-31-10 thru 20.
- b. The hourly emission limitations for the products of combustion were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
- c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- d. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).

On February 18, 2008, OAC rule 3745-21-07 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-07, the requirements to satisfy the "best available control techniques and operating practices" still exist as part of the federally-approved SIP for Ohio.

- e. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-09, the requirements to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- f. Visible particulate emissions from the stack serving this emissions unit (stack 338) shall not exceed 10% opacity as a 6-minute average.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas as a fuel in this emissions unit.
- (2) The pressure drop across the baghouse shall be maintained within the range of 2 to 6 inches of water while the emissions unit is in operation.
- (3) The emissions unit shall operate for no more than 5,800 hours per rolling, 12-month period.

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 properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s).
- (3) The permittee shall record the pressure drop across the baghouse on a daily basis.
- (4) The permittee shall maintain records, on a monthly basis, of the total number of hours of operation for this emissions unit, as a rolling, 12-month summation.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
- (2) The permittee shall submit quarterly pressure deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
- (3) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling, 12-month summation of operating hours specified above.
- (4) The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

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

a. Emission Limitation:

10% opacity as a 6-minute average

Applicable Compliance Method:

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

b. Emission Limitation:

0.23 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 2.7 mmBtu per hour.

c. Emission Limitation:

0.66 tons of CO per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable CO emission limitation (0.23 pound per hour) by the actual annual hours of operation (see d)(4)), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the production hours restriction (see c)(3)), compliance is also shown with the annual emissions limitation.

d. Emission Limitation:

0.27 pound of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: Divide the emission factor of 100 pounds of NO_x emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.7 mmBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A, or other EPA-approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

0.79 ton of NO_x per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable NO_x emission limitation (0.27 pound per hour) by the actual annual hours of operation (see d)(4)), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the production hours restriction (see c)(3)), compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

1.5 pounds per hour of PE

Applicable Compliance Method:

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

g. Emission Limitation:

3.8 tons per year of PE

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PE emission limitation (1.5 pounds per hour) by the actual annual hours of operation (see d)(4)), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the production hours restriction (see c)(3)), compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

1.11 pounds of PM₁₀ per hour

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon emission testing performed in accordance with Methods 1 through 4 of 40 CFR part 60, Appendix A and 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

i. Emission Limitation:

4.85 tons of PM₁₀ per year

Applicable Compliance Method:

This emissions limitation was developed by multiplying the allowable PM₁₀ emission limitation (1.11 pounds per hour) by the actual annual hours of operation(see d)(4)), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the production hours restriction (see c)(3)), compliance shall also be shown with the annual emissions limitation.

j. Emission Limitation:

0.002 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.7 mmBtu per hour.

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

k. Emission Limitation:

0.006 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable SO₂ emission limitation (0.002 pound per hour) by the actual annual hours of operation (see d)(4)), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the production hour restriction (see c)(3)), compliance shall also be shown with the annual emission limitation.

l. Emission Limitation:

0.01 pound of VOC per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 5.5 pounds of VOC emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.7 mmBtu per hour.

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

m. Emission Limitation:

0.04 ton of VOC per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.01 pound per hour) by the actual annual hours of operation (see d)(4)), and then dividing by 2000 pound per ton. Therefore, if compliance is shown with the production hours restriction (see c)(3)), compliance shall also be shown with the annual emission limitation.

g) Miscellaneous Requirements

- (1) None.



4. P019, Batch Oven No. 1

Operations, Property and/or Equipment Description:

Forming pre-bake curing oven

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)	0.024 pounds per hour of filterable particulate emissions (PE)
		0.11 tons per year of PE
		0.0006 pounds per hour of sulfur dioxide (SO ₂)
		0.003 ton per year of SO ₂
		0.099 pound per hour of nitrous oxides (NO _x)
		0.44 tons per year of NO _x
		0.083 pound per hour of carbon monoxide (CO)
		0.37 ton per year of CO
		0.006 pound per hour of volatile organic compounds (VOC)
		0.03 tons per year of VOC
		See sections b)(2)a., b)(2).i, and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	See section b)(2)b.
d.	OAC rule 3745-18-06(E)	See section b)(2)b.
e.	OAC rule 3745-21-07(B)	See section b)(2)h.
f.	OAC rules 3745-21-08(B)	See section b)(2)g.
g.	OAC rule 3745-31-05(D)	See section b)(2)e.
h.	OAC rule 3745-31-10 through 20	0.007 pound per hour of particulate matter less than 10 microns (PM ₁₀)
		0.031 ton per year of PM ₁₀
		See section b)(2)d.

(2) Additional Terms and Conditions

- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-02(A)(2), OAC rule 3745-31-05(C) and OAC rule 3745-31-10 through 20.
- b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- c. The hourly and annual emission limitations were established for permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
- d. Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀ per rolling 12-month period.
- e. Combined annual emissions from P019 through P024 and P053 shall not exceed: 0.01 ton SO₂, 1.19 tons NO_x, and 0.23 ton VOC per rolling 12-month period.
- f. Combined annual emissions from P019 through P024 and P053 shall not exceed: 1.00 ton CO per rolling 12-month period.
- g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- h. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) and OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).
- i. Visible particulate emissions from the stack servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) The combined volume of natural gas combusted in emissions units P019 through P024 and P053 shall not exceed 23.845 MMscf per rolling 12-month period.

- (3) The combined amount of glass dried in P019 through P024 and P053 shall not exceed 963,965 pounds per rolling 12-month period.
- 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 monthly records of the combined volume of natural gas combusted in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
 - (3) The permittee shall maintain monthly records of the combined glass dried, in pounds, in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
- e) **Reporting Requirements**
 - (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
 - (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling 12-month summation limits specified above.
- f) **Testing Requirements**
 - (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:
 - a. **Emission Limitation:**

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

0.083 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic

feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

c. Emission Limitation:

0.37 ton of CO per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.083 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

d. Emission Limitation:

0.099 pound of NOx per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NOx emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

0.44 ton of NOx per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.099 pound of NOx per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

f. Emission Limitation:

0.007 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

g. Emission Limitation:

0.031 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.007 pound of PM₁₀ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

h. Emission Limitation:

0.0006 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

i. Emission Limitation:

0.003 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed

as follows: multiply the short term emission rate of 0.0006 pound of SO₂ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

j. Emission Limitation:

0.006 pound of VOC per hour

Applicable Compliance Method:

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

k. Emission Limitation:

0.03 ton of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.006 pound of VOC per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

l. Emission Limitation:

0.024 pound of filterable particulate emissions (PE) per hour

Applicable Compliance Method:

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

m. Emission Limitation:

0.11 ton of PE per year

Applicable Compliance Method:

Compliance is demonstrated by multiplying the short term emission rate of 0.024 pounds of PE per hour by 8,760 annual hours of operation, and dividing by 2,000 pounds per ton.

n. Emission Limitation:

Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀, 0.01 ton SO₂, 1.19 ton NO_x, 0.23 ton VOC, and 1.00 ton CO per rolling 12-month period.

Applicable Compliance Method:

Compliance is demonstrated by multiplying the appropriate emission factor (as listed above), in pounds per million standard cubic feet, by the actual MMscf of gas combusted (see section c) above) and dividing by 2000. Also for the VOC limit, multiply the combined pounds of glass dried times the emissions factor of 0.000336 lbs VOC per pound of glass dried, divide by 2000 lbs per ton, and add this to the tons of VOC from the combustion of natural gas.

g) Miscellaneous Requirements

- (1) None.



5. P020, Batch Oven No. 2

Operations, Property and/or Equipment Description:

Forming pre-bake curing oven

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)	0.024 pounds per hour of filterable particulate emissions (PE)
		0.11 tons per year of PE
		0.0006 pounds per hour of sulfur dioxide (SO ₂)
		0.003 ton per year of SO ₂
		0.099 pound per hour of nitrous oxides (NO _x)
		0.44 tons per year of NO _x
		0.083 pound per hour of carbon monoxide (CO)
		0.37 ton per year of CO
		0.006 pound per hour of volatile organic compounds (VOC)
		0.03 tons per year of VOC
		See sections b)(2)a., b)(2).i, and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	See section b)(2)b.
d.	OAC rule 3745-18-06(E)	See section b)(2)b.
e.	OAC rule 3745-21-07(B)	See section b)(2)h.
f.	OAC rules 3745-21-08(B)	See section b)(2)g.
g.	OAC rule 3745-31-05(D)	See section b)(2)e.
h.	OAC rule 3745-31-10 through 20	0.007 pound per hour of particulate matter less than 10 microns (PM ₁₀)
		0.031 ton per year of PM ₁₀
		See section b)(2)d.

(2) Additional Terms and Conditions

- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-02(A)(2), OAC rule 3745-31-05(C) and OAC rule 3745-31-10 through 20.
- b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- c. The hourly and annual emission limitations were established for permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
- d. Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀ per rolling 12-month period.
- e. Combined annual emissions from P019 through P024 and P053 shall not exceed: 0.01 ton SO₂, 1.19 tons NO_x, and 0.23 ton VOC per rolling 12-month period.
- f. Combined annual emissions from P019 through P024 and P053 shall not exceed: 1.00 ton CO per rolling 12-month period.
- g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- h. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) and OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).
- i. Visible particulate emissions from the stack servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) The combined volume of natural gas combusted in emissions units P019 through P024 and P053 shall not exceed 23.845 MMscf per rolling 12-month period.

- (3) The combined amount of glass dried in P019 through P024 and P053 shall not exceed 963,965 pounds per rolling 12-month period.
- 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 monthly records of the combined volume of natural gas combusted in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
 - (3) The permittee shall maintain monthly records of the combined glass dried, in pounds, in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
- e) **Reporting Requirements**
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
 - (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling 12-month summation limits specified above.
- f) **Testing Requirements**
- (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:
 - a. **Emission Limitation:**

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

0.083 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic

feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

c. Emission Limitation:

0.37 ton of CO per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.083 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

d. Emission Limitation:

0.099 pound of NOx per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NOx emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

0.44 ton of NOx per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.099 pound of NOx per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

f. Emission Limitation:

0.007 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

g. Emission Limitation:

0.031 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.007 pound of PM₁₀ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

h. Emission Limitation:

0.0006 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

i. Emission Limitation:

0.003 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed

as follows: multiply the short term emission rate of 0.0006 pound of SO₂ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

j. Emission Limitation:

0.006 pound of VOC per hour

Applicable Compliance Method:

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

k. Emission Limitation:

0.03 ton of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.006 pound of VOC per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

l. Emission Limitation:

0.024 pound of filterable particulate emissions (PE) per hour

Applicable Compliance Method:

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

m. Emission Limitation:

0.11 ton of PE per year

Applicable Compliance Method:

Compliance is demonstrated by multiplying the short term emission rate of 0.024 pounds of PE per hour by 8,760 annual hours of operation, and dividing by 2,000 pounds per ton.

n. Emission Limitation:

Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀, 0.01 ton SO₂, 1.19 ton NO_x, 0.23 ton VOC, and 1.00 ton CO per rolling 12-month period.

Applicable Compliance Method:

Compliance is demonstrated by multiplying the appropriate emission factor (as listed above), in pounds per million standard cubic feet, by the actual MMscf of gas combusted (see section A.II. above) and dividing by 2000. Also for the VOC limit, multiply the combined pounds of glass dried times the emissions factor of 0.000336 lbs VOC per pound of glass dried, divide by 2000 lbs per ton, and add this to the tons of VOC from the combustion of natural gas.

g) Miscellaneous Requirements

(1) None.

6. P021, Batch Oven No. 3

Operations, Property and/or Equipment Description:

Forming pre-bake curing oven

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)	0.024 pounds per hour of filterable particulate emissions (PE)
		0.11 tons per year of PE
		0.0006 pounds per hour of sulfur dioxide (SO ₂)
		0.003 ton per year of SO ₂
		0.099 pound per hour of nitrous oxides (NO _x)
		0.44 tons per year of NO _x
		0.083 pound per hour of carbon monoxide (CO)
		0.37 ton per year of CO
		0.006 pound per hour of volatile organic compounds (VOC)
		0.03 tons per year of VOC
		See sections b)(2)a., b)(2).i, and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	See section b)(2)b.
d.	OAC rule 3745-18-06(E)	See section b)(2)b.
e.	OAC rule 3745-21-07(B)	See section b)(2)h.
f.	OAC rules 3745-21-08(B)	See section b)(2)g.
g.	OAC rule 3745-31-05(D)	See section b)(2)e.
h.	OAC rule 3745-31-10 through 20	0.007 pound per hour of particulate matter less than 10 microns (PM ₁₀)
		0.031 ton per year of PM ₁₀
		See section b)(2)d.

(2) Additional Terms and Conditions

- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-02(A)(2), OAC rule 3745-31-05(C) and OAC rule 3745-31-10 through 20.
- b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- c. The hourly and annual emission limitations were established for permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
- d. Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀ per rolling 12-month period.
- e. Combined annual emissions from P019 through P024 and P053 shall not exceed: 0.01 ton SO₂, 1.19 tons NO_x, and 0.23 ton VOC per rolling 12-month period.
- f. Combined annual emissions from P019 through P024 and P053 shall not exceed: 1.00 ton CO per rolling 12-month period.
- g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- h. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) and OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).
- i. Visible particulate emissions from the stack servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) The combined volume of natural gas combusted in emissions units P019 through P024 and P053 shall not exceed 23.845 MMscf per rolling 12-month period.

The combined amount of glass dried in P019 through P024 and P053 shall not exceed 963,965 pounds per rolling 12-month period.

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 monthly records of the combined volume of natural gas combusted in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
- (3) The permittee shall maintain monthly records of the combined glass dried, in pounds, in emissions units P019 through P024 and P053 as a rolling, 12-month summation.

e) **Reporting Requirements**

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling 12-month summation limits specified above.

f) **Testing Requirements**

- (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. **Emission Limitation:**

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

b. **Emission Limitation:**

0.083 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic

feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

c. Emission Limitation:

0.37 ton of CO per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.083 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

d. Emission Limitation:

0.099 pound of NOx per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NOx emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

0.44 ton of NOx per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.099 pound of NOx per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

f. Emission Limitation:

0.007 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

g. Emission Limitation:

0.031 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.007 pound of PM₁₀ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

h. Emission Limitation:

0.0006 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

i. Emission Limitation:

0.003 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed

as follows: multiply the short term emission rate of 0.0006 pound of SO₂ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

j. Emission Limitation:

0.006 pound of VOC per hour

Applicable Compliance Method:

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

k. Emission Limitation:

0.03 ton of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.006 pound of VOC per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

l. Emission Limitation:

0.024 pound of filterable particulate emissions (PE) per hour

Applicable Compliance Method:

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

m. Emission Limitation:

0.11 ton of PE per year

Applicable Compliance Method:

Compliance is demonstrated by multiplying the short term emission rate of 0.024 pounds of PE per hour by 8,760 annual hours of operation, and dividing by 2,000 pounds per ton.

n. Emission Limitation:

Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀, 0.01 ton SO₂, 1.19 ton NO_x, 0.23 ton VOC, and 1.00 ton CO per rolling 12-month period.

Applicable Compliance Method:

Compliance is demonstrated by multiplying the appropriate emission factor (as listed above), in pounds per million standard cubic feet, by the actual MMscf of gas combusted (see section A.II. above) and dividing by 2000. Also for the VOC limit, multiply the combined pounds of glass dried times the emissions factor of 0.000336 lbs VOC per pound of glass dried, divide by 2000 lbs per ton, and add this to the tons of VOC from the combustion of natural gas.

g) Miscellaneous Requirements

(1) None.



7. P022, Batch Oven No. 4

Operations, Property and/or Equipment Description:

Forming pre-bake curing oven

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)	0.024 pounds per hour of filterable particulate emissions (PE)
		0.11 tons per year of PE
		0.0006 pounds per hour of sulfur dioxide (SO ₂)
		0.003 ton per year of SO ₂
		0.099 pound per hour of nitrous oxides (NO _x)
		0.44 tons per year of NO _x
		0.083 pound per hour of carbon monoxide (CO)
		0.37 ton per year of CO
		0.006 pound per hour of volatile organic compounds (VOC)
		0.03 tons per year of VOC
		See sections b)(2)a., b)(2).i, and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	See section b)(2)b.
d.	OAC rule 3745-18-06(E)	See section b)(2)b.
e.	OAC rule 3745-21-07(B)	See section b)(2)h.
f.	OAC rules 3745-21-08(B)	See section b)(2)g.
g.	OAC rule 3745-31-05(D)	See section b)(2)e.
h.	OAC rule 3745-31-10 through 20	0.007 pound per hour of particulate matter less than 10 microns (PM ₁₀)
		0.031 ton per year of PM ₁₀
		See section b)(2)d.

(2) Additional Terms and Conditions

- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-02(A)(2), OAC rule 3745-31-05(C) and OAC rule 3745-31-10 through 20.
- b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- c. The hourly and annual emission limitations were established for permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
- d. Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀ per rolling 12-month period.
- e. Combined annual emissions from P019 through P024 and P053 shall not exceed: 0.01 ton SO₂, 1.19 tons NO_x, and 0.23 ton VOC per rolling 12-month period.
- f. Combined annual emissions from P019 through P024 and P053 shall not exceed: 1.00 ton CO per rolling 12-month period.
- g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- h. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) and OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).
- i. Visible particulate emissions from the stack servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) The combined volume of natural gas combusted in emissions units P019 through P024 and P053 shall not exceed 23.845 MMscf per rolling 12-month period.

- (3) The combined amount of glass dried in P019 through P024 and P053 shall not exceed 963,965 pounds per rolling 12-month period.
- 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 monthly records of the combined volume of natural gas combusted in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
 - (3) The permittee shall maintain monthly records of the combined glass dried, in pounds, in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
- e) **Reporting Requirements**
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
 - (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling 12-month summation limits specified above.
- f) **Testing Requirements**
- (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:
 - a. **Emission Limitation:**

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

0.083 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic

feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

c. Emission Limitation:

0.37 ton of CO per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.083 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

d. Emission Limitation:

0.099 pound of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NO_x emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

0.44 ton of NO_x per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.099 pound of NO_x per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

f. Emission Limitation:

0.007 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

g. Emission Limitation:

0.031 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.007 pound of PM₁₀ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

h. Emission Limitation:

0.0006 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

i. Emission Limitation:

0.003 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed

as follows: multiply the short term emission rate of 0.0006 pound of SO₂ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

j. Emission Limitation:

0.006 pound of VOC per hour

Applicable Compliance Method:

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

k. Emission Limitation:

0.03 ton of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.006 pound of VOC per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

l. Emission Limitation:

0.024 pound of filterable particulate emissions (PE) per hour

Applicable Compliance Method:

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

m. Emission Limitation:

0.11 ton of PE per year

Applicable Compliance Method:

Compliance is demonstrated by multiplying the short term emission rate of 0.024 pounds of PE per hour by 8,760 annual hours of operation, and dividing by 2,000 pounds per ton.

n. Emission Limitation:

Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀, 0.01 ton SO₂, 1.19 ton NO_x, 0.23 ton VOC, and 1.00 ton CO per rolling 12-month period.

Applicable Compliance Method:

Compliance is demonstrated by multiplying the appropriate emission factor (as listed above), in pounds per million standard cubic feet, by the actual MMscf of gas combusted (see section A.II. above) and dividing by 2000. Also for the VOC limit, multiply the combined pounds of glass dried times the emissions factor of 0.000336 lbs VOC per pound of glass dried, divide by 2000 lbs per ton, and add this to the tons of VOC from the combustion of natural gas.

g) Miscellaneous Requirements

(1) None.

8. P023, Batch Oven No. 5

Operations, Property and/or Equipment Description:

Forming pre-bake curing oven

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)	0.024 pounds per hour of filterable particulate emissions (PE)
		0.11 tons per year of PE
		0.0006 pounds per hour of sulfur dioxide (SO ₂)
		0.003 ton per year of SO ₂
		0.099 pound per hour of nitrous oxides (NO _x)
		0.44 tons per year of NO _x
		0.083 pound per hour of carbon monoxide (CO)
		0.37 ton per year of CO
		0.006 pound per hour of volatile organic compounds (VOC)
		0.03 tons per year of VOC
		See sections b)(2)a., b)(2).i, and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	See section b)(2)b.
d.	OAC rule 3745-18-06(E)	See section b)(2)b.
e.	OAC rule 3745-21-07(B)	See section b)(2)h.
f.	OAC rules 3745-21-08(B)	See section b)(2)g.
g.	OAC rule 3745-31-05(D)	See section b)(2)e.
h.	OAC rule 3745-31-10 through 20	0.007 pound per hour of particulate matter less than 10 microns (PM ₁₀)
		0.031 ton per year of PM ₁₀
		See section b)(2)d.

- (2) Additional Terms and Conditions
- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-02(A)(2), OAC rule 3745-31-05(C) and OAC rule 3745-31-10 through 20.
 - b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
 - c. The hourly and annual emission limitations were established for permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
 - d. Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀ per rolling 12-month period.
 - e. Combined annual emissions from P019 through P024 and P053 shall not exceed: 0.01 ton SO₂, 1.19 tons NO_x, and 0.23 ton VOC per rolling 12-month period.
 - f. Combined annual emissions from P019 through P024 and P053 shall not exceed: 1.00 ton CO per rolling 12-month period.
 - g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.
 - h. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) and OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).
 - i. Visible particulate emissions from the stack servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.
- c) Operational Restrictions
- (1) The permittee shall burn only natural gas in this emissions unit.
 - (2) The combined volume of natural gas combusted in emissions units P019 through P024 and P053 shall not exceed 23.845 MMscf per rolling 12-month period.

- (3) The combined amount of glass dried in P019 through P024 and P053 shall not exceed 963,965 pounds per rolling 12-month period.
- 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 monthly records of the combined volume of natural gas combusted in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
 - (3) The permittee shall maintain monthly records of the combined glass dried, in pounds, in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
- e) **Reporting Requirements**
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
 - (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling 12-month summation limits specified above.
- f) **Testing Requirements**
- (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:
 - a. **Emission Limitation:**

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

0.083 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic

feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

c. Emission Limitation:

0.37 ton of CO per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.083 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

d. Emission Limitation:

0.099 pound of NOx per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NOx emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

0.44 ton of NOx per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.099 pound of NOx per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

f. Emission Limitation:

0.007 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

g. Emission Limitation:

0.031 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.007 pound of PM₁₀ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

h. Emission Limitation:

0.0006 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

i. Emission Limitation:

0.003 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed

as follows: multiply the short term emission rate of 0.0006 pound of SO₂ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

j. Emission Limitation:

0.006 pound of VOC per hour

Applicable Compliance Method:

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

k. Emission Limitation:

0.03 ton of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.006 pound of VOC per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

l. Emission Limitation:

0.024 pound of filterable particulate emissions (PE) per hour

Applicable Compliance Method:

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

m. Emission Limitation:

0.11 ton of PE per year

Applicable Compliance Method:

Compliance is demonstrated by multiplying the short term emission rate of 0.024 pounds of PE per hour by 8,760 annual hours of operation, and dividing by 2,000 pounds per ton.

n. Emission Limitation:

Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀, 0.01 ton SO₂, 1.19 ton NO_x, 0.23 ton VOC, and 1.00 ton CO per rolling 12-month period.

Applicable Compliance Method:

Compliance is demonstrated by multiplying the appropriate emission factor (as listed above), in pounds per million standard cubic feet, by the actual MMscf of gas combusted (see section A.II. above) and dividing by 2000. Also for the VOC limit, multiply the combined pounds of glass dried times the emissions factor of 0.000336 lbs VOC per pound of glass dried, divide by 2000 lbs per ton, and add this to the tons of VOC from the combustion of natural gas.

g) Miscellaneous Requirements

(1) None.

9. P024, Batch Oven No. 6

Operations, Property and/or Equipment Description:

Forming pre-bake curing oven

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)	0.024 pounds per hour of filterable particulate emissions (PE)
		0.11 tons per year of PE
		0.0006 pounds per hour of sulfur dioxide (SO ₂)
		0.003 ton per year of SO ₂
		0.099 pound per hour of nitrous oxides (NO _x)
		0.44 tons per year of NO _x
		0.083 pound per hour of carbon monoxide (CO)
		0.37 ton per year of CO
		0.006 pound per hour of volatile organic compounds (VOC)
		0.03 tons per year of VOC
		See sections b)(2)a., b)(2).i, and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	See section b)(2)b.
d.	OAC rule 3745-18-06(E)	See section b)(2)b.
e.	OAC rule 3745-21-07(B)	See section b)(2)h.
f.	OAC rules 3745-21-08(B)	See section b)(2)g.
g.	OAC rule 3745-31-05(D)	See section b)(2)e.
h.	OAC rule 3745-31-10 through 20	0.007 pound per hour of particulate matter less than 10 microns (PM ₁₀)
		0.031 ton per year of PM ₁₀
		See section b)(2)d.

- (2) Additional Terms and Conditions
- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-02(A)(2), OAC rule 3745-31-05(C) and OAC rule 3745-31-10 through 20.
 - b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
 - c. The hourly and annual emission limitations were established for permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
 - d. Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀ per rolling 12-month period.
 - e. Combined annual emissions from P019 through P024 and P053 shall not exceed: 0.01 ton SO₂, 1.19 tons NO_x, and 0.23 ton VOC per rolling 12-month period.
 - f. Combined annual emissions from P019 through P024 and P053 shall not exceed: 1.00 ton CO per rolling 12-month period.
 - g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.
 - h. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) and OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).
 - i. Visible particulate emissions from the stack servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.
- c) Operational Restrictions
- (1) The permittee shall burn only natural gas in this emissions unit.
 - (2) The combined volume of natural gas combusted in emissions units P019 through P024 and P053 shall not exceed 23.845 MMscf per rolling 12-month period.

- (3) The combined amount of glass dried in P019 through P024 and P053 shall not exceed 963,965 pounds per rolling 12-month period.
- 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 monthly records of the combined volume of natural gas combusted in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
 - (3) The permittee shall maintain monthly records of the combined glass dried, in pounds, in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
- e) **Reporting Requirements**
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
 - (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling 12-month summation limits specified above.
- f) **Testing Requirements**
- (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:
 - a. **Emission Limitation:**

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

0.083 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic

feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

c. Emission Limitation:

0.37 ton of CO per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.083 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

d. Emission Limitation:

0.099 pound of NOx per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NOx emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

0.44 ton of NOx per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.099 pound of NOx per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

f. Emission Limitation:

0.007 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

g. Emission Limitation:

0.031 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.007 pound of PM₁₀ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

h. Emission Limitation:

0.0006 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

i. Emission Limitation:

0.003 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed

as follows: multiply the short term emission rate of 0.0006 pound of SO₂ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

j. Emission Limitation:

0.006 pound of VOC per hour

Applicable Compliance Method:

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

k. Emission Limitation:

0.03 ton of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.006 pound of VOC per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

l. Emission Limitation:

0.024 pound of filterable particulate emissions (PE) per hour

Applicable Compliance Method:

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

m. Emission Limitation:

0.11 ton of PE per year

Applicable Compliance Method:

Compliance is demonstrated by multiplying the short term emission rate of 0.024 pounds of PE per hour by 8,760 annual hours of operation, and dividing by 2,000 pounds per ton.

n. Emission Limitation:

Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀, 0.01 ton SO₂, 1.19 ton NO_x, 0.23 ton VOC, and 1.00 ton CO per rolling 12-month period.

Applicable Compliance Method:

Compliance is demonstrated by multiplying the appropriate emission factor (as listed above), in pounds per million standard cubic feet, by the actual MMscf of gas combusted (see section A.II. above) and dividing by 2000. Also for the VOC limit, multiply the combined pounds of glass dried times the emissions factor of 0.000336 lbs VOC per pound of glass dried, divide by 2000 lbs per ton, and add this to the tons of VOC from the combustion of natural gas.

g) Miscellaneous Requirements

(1) None.



10. P026, Chop Dryer #1

Operations, Property and/or Equipment Description:

TP Chop - 1.9 mmBtu/hr Chopped Fiber Dryer #1/2

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
chopper process (stack 90), controlled by a fabric filter		
a.	OAC rule 3745-31-05(A)(3) (PTI 04-01345 issued 6/13/2006)	0.88 pound of filterable particulate emissions (PE) per hour 3.9 tons of PE per year 0.038 pound of particulate matter less than 10 microns (PM10) per hour 0.17 ton of PM10 per year 0.24 pound of volatile organic compounds (VOC) per hour 1.1 tons of VOC per year See b)(2)a. and b)(2)b. See b)(2)c. for VOC.
b.	OAC rule 3745-17-07(A)(1)	See b)(2)d.
c.	OAC rule 3745-17-11(B)(1)	See b)(2)d.
1.9 mmBtu per hour, indirect fired, natural gas dryer oven (stacks 68 & 70), with no control		
d.	OAC rule 3745-31-05(A)(3) (PTI 04-01345 issued 6/13/2006)	0.124 pound of carbon monoxide (CO) per hour 0.55 ton of CO per year 0.149 pound of nitrogen oxides (NOx) per hour 0.66 ton of NOx per year 0.003 pound of PE per hour 0.014 ton of PE per year 0.011 pound of PM10 per hour 0.049 ton of PM10 per year 0.0009 pound of sulfur dioxide (SO2) per hour 0.004 ton of SO2 per year

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		0.009 pound of VOC per hour
		0.04 ton of VOC per year
		See b)(2)b, b)(2)c, and b)(2)k.
e.	OAC rule 3745-17-07(A)(1)	See b)(2)d.
f.	OAC rule 3745-17-10(B)(1)	See b)(2)d.
g.	OAC rule 3745-18-06(E)	See b)(2)h.
h.	OAC rule 3745-21-07(B)	See b)(2)i.
i.	OAC rule 3745-21-08(B)	See b)(2)j.
j.	OAC rule 3745-31-05(D)	See b)(2)e. and b)(2)f.
k.	OAC rules 3745-31-10 thru 20	See b)(2)g.

(2) Additional Terms and Conditions

- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.
- b. Visible particulate emissions from any stack serving this emissions unit (stacks 68, 70 and 90) shall not exceed 10% opacity as a 6-minute average.
- c. The hourly and annual emission limitations were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
- 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).
- e. The combined emissions of P026 and P028 (stacks 68-71 & 90) per rolling, 12-month period shall not exceed 0.1207 ton of CO.
- f. The combined emissions of P026 and P028 (stacks 68-71 & 90) per rolling, 12-month period shall not exceed 0.1437 ton of NOx, 0.0009 ton of SO2 or 0.4275 ton of VOC.
- g. The combined emissions of P026 and P028 (stacks 68-71 & 90) per rolling, 12-month period shall not exceed 0.0484 ton of PM10.
- h. Exempt, burner capacity is less than 10 mmBtu.
- i. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).

On February 18, 2008, OAC rule 3745-21-07 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs

and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- j. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- k. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-21-07(B), OAC rule 3745-21-08(B), OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.

c) Operational Restrictions

- (1) The permittee shall operate the fabric filter whenever this emissions unit is in operation.
- (2) The permittee shall burn only natural gas in this emissions unit.
- (3) The combined volume of natural gas combusted in emissions units P026 and P028 shall not exceed 2.874 MMscf per rolling, 12-month period.
- (4) The combined amount of glass dried in P026 and P028 shall not exceed 1250 tons per rolling, 12-month period.
- (5) Pursuant to OAC Rule 3745-77-07(A)(1), the following operational restrictions are as stringent as or more stringent than the operational restrictions contained in Permit to Install 04-01345, issued on June 13, 2006: c)(1). The operational restrictions contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying operational restrictions in the Permit to Install.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain daily records that document any time periods when the fabric filter was not in service when the emissions unit was in operation.
- (2) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the fabric filter (stack 90). 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 emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item d. above or continue the daily check until the incident has ended. The observer may indicate that the visible emission 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.

- (3) If the daily checks show no visible emissions for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check by the permittee or an Ohio EPA inspector indicates visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of no visible emissions.
 - (4) The permittee shall maintain monthly records of the combined volume of natural gas combusted in emissions units P026 and P028 as a rolling, 12-month summation.
 - (5) 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.
 - (6) The permittee shall maintain monthly records of the combined glass dried, in tons, in emissions units P026 and P028 as a rolling, 12-month summation.
 - (7) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 04-01345, issued on June 13, 2006: d)(1). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.
- e) Reporting Requirements
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.

- (2) The permittee shall submit quarterly deviation reports that identify any exceedance of the rolling, 12-month summation for the amount of fuel burned and/or glass dried for P026 and P028 combined.
 - (3) The permittee shall submit quarterly written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse and/or uncontrolled stacks serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions.
 - (4) The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
- f) Testing Requirements
- (1) Compliance with the allowable emission limitation(s) in b)(1) from chopper process baghouse (stack 90) shall be determined according to the following methods:
 - a. Emission Limitation;

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

0.88 pound of PM per hour

Applicable Compliance Method:

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

3.9 tons of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.88 pound of PE per hour) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if

compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

d. Emission Limitation:

0.038 pound of PM10 per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures of Methods 1 through 4 of 40 CFR Part 60, Appendix A and 201 and 202 of 40 CFR Part 51, Appendix M. Alternate, USEPA approved testing, may be used with prior written approval from the Ohio EPA.

e. Emission Limitation:

0.17 ton of PM10 per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.038 pound of PM10 per hour) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

0.24 pound of VOC per hour

Applicable Compliance Method:

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

g. Emission Limitation:

1.1 tons of VOC per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.24 pound of VOC per hour) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

[Note: P026 and P028 share a common control device and compliance stack testing must combine the allowable emissions limitations from both emissions units operating at the maximum production rate of each unit.]

- (2) Compliance with the allowable emission limitation(s) in b)(1) for the dryer oven burners (stacks 68 & 70) shall be determined according to the following methods:

- a. Emission Limitation:

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

- b. Emission Limitation:

0.124 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1.5 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A, or other USEPA approved test, with prior approval from the Ohio EPA, or other U.S. EPA-approved test method.

- c. Emission Limitation:

0.55 ton of CO per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.124 pound of CO per hour) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

d. Emission Limitation:

0.149 pound of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NO_x emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1.5 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.]

e. Emission Limitation:

0.66 ton of NO_x per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.149 pound of NO_x per hour) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

0.011 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1.5 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 of 40 CFR Part 60, Appendix A and Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

g. Emission Limitation:

0.049 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.011 pound per hour of particulate matter as PM₁₀) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

0.003 pound of PE per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 1.9 pounds of PE per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1.5 MMBtu per hour.

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

i. Emission Limitation:

0.014 ton of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.003 pound of PE per hour) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

j. Emission Limitation:

0.0009 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors

specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1.5 MMBtu per hour.

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

k. Emission Limitation:

0.004 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.0009 pound of SO₂ per hour) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

l. Emission Limitation:

0.009 pound of VOC per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 5.5 pounds of VOC per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1.5 MMBtu per hour.

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

m. Emission Limitation:

0.04 ton of VOC per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable

emission limitation (0.009 pound of VOC per hour) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

- (3) Compliance with the allowable emission limitation(s) in b)(1) for P026 and P028 combined (stacks 68-71 & 90) shall be determined according to the following methods:

- a. Emission Limitation:

Combined emissions from P026 and P028 shall not exceed 0.1207 ton CO per rolling, 12-month period

Applicable Compliance Method:

Multiply the emission factor specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98 (84 pounds of CO emissions per million standard cubic feet (MMscf)) by the actual MMscf of gas combusted (as recorded in d)(4) above) and divide by 2000 pounds per ton.

- b. Emission Limitation:

Combined emissions from P026 and P028 shall not exceed 0.1437 ton NO_x per rolling, 12-month period

Applicable Compliance Method:

Multiply the emission factor specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98 (100 pounds of NO_x emissions per million standard cubic feet (MMscf)) by the actual MMscf of gas combusted (as recorded in d)(4) above) and divide by 2000 pounds per ton.

- c. Emission Limitation:

Combined from P026 and P028 shall not exceed 0.0484 ton of PM₁₀ per rolling, 12-month period

Applicable Compliance Method:

Multiply the emission factor specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98 (7.6 pounds of PM₁₀ emissions per million standard cubic feet (MMscf)) by the actual MMscf of gas combusted (as recorded in d)(4) above) and divide by 2000 pounds per ton. To this add the actual tons of throughput of dried glass per rolling, 12-month period (as recorded in d)(6) above) multiplied by 0.06 lb PM₁₀ per ton of glass and divided by 2000 pounds per ton.

d. Emission Limitation:

Combined emissions from P026 and P028 shall not exceed 0.0009 ton SO₂ per rolling, 12-month period

Applicable Compliance Method:

Multiply the emission factor specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98 (0.6 pound of SO₂ emissions per million standard cubic feet (MMscf)) by the actual MMscf of gas combusted (as recorded in d)(4) above) and divide by 2000 pounds per ton.

e. Emission Limitation:

Combined from P026 and P028 shall not exceed 0.4275 ton VOC per rolling, 12-month period

Applicable Compliance Method:

Multiply the emission factor specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98 (5.5 pounds of VOC emissions per million standard cubic feet (MMscf)) by the actual MMscf of gas combusted (as recorded in d)(4) above) and divide by 2000 pounds per ton. To this add the emissions from the binder by multiplying the actual tons throughput of dried glass per rolling, 12-month period (as recorded in d)(6) above) by 0.672 lb VOC per ton of glass, and divided by 2000 pounds per ton.

g) Miscellaneous Requirements

- (1) This emission unit shares a common control device with P028, an insignificant emission unit..



11. P028, TP Chop Dryer #2

Operations, Property and/or Equipment Description:

Chopper 3 & 4

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) TP Chop Dryer and Products of Combustion	0.019 pound per hour of particulate matter less than 10 microns (PM ₁₀)
		0.09 ton per year of PM ₁₀
		0.005 pound per hour of filterable particulate emissions (PE)
		0.03 ton per year of PE
		0.0015 pound per hour of sulfur dioxide (SO ₂)
		0.01 ton per year of SO ₂
		0.245 ton per year of nitrous oxides (NO _x)
		1.1 tons per year of NO _x
		0.206 pound per hour of carbon monoxide (CO)
		0.91 ton per year of CO
		0.0135 pound per hour of volatile organic compounds (VOC)
0.06 ton per year of VOC		
		See sections b)(2)a., b)(2)i., and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)b.
c.	OAC rule 3745-17-10(B)(1)	See section b)(2)b.
d.	OAC rule 3745-18-06(E)	See section b)(2)b.
e.	OAC rule 3745-21-07(B)	See section b)(2)h.
f.	OAC rules 3745-21-08(B)	See section b)(2)g.
g.	OAC rule 3745-31-05(D)	See section b)(2)e. and b)(2)f.
h.	OAC rule 3745-31-10 through 20	See section b)(2)d.
i.	OAC rule 3745-31-05(A)(3)	0.011 pound per hour of PM ₁₀
		0.05 ton per year of PM ₁₀

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	Baghouse Emissions	0.88 pound per hour of PE
		3.9 tons per year of PE
		0.061 pound per hour of VOC
		0.27 ton per year of VOC
		See sections b)(2)a. and b)(2)i.
		See section b)(2)c. for VOC
j.	OAC rule 3745-17-07(A)(1)	See section b)(2)b.
k.	OAC rule 3745-17-11(B)(1)	See section b)(2)b.

(2) Additional Terms and Conditions

- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-02(A)(2), OAC rule 3745-31-05(C) and OAC rules 3745-31-10 through 20.
- b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- c. The hourly and annual emission limitations were established for Permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
- d. Combined annual emissions from P026 and P028 shall not exceed 0.0484 ton of PM₁₀ per rolling 12-month period.
- e. Combined annual emissions from P026 and P028 shall not exceed: 0.0009 ton of SO₂, 0.1437 ton of NO_x, and 0.4275 ton of VOC per rolling 12-month period.
- f. Combined annual emissions from P026 and P028 shall not exceed: 0.1207 ton of CO per rolling 12-month period.
- g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

 On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.
- h. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) and OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).

- i. Visible particulate emissions from the stack servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.
- c) Operational Restrictions
- (1) The permittee shall burn only natural gas in this emissions unit.
 - (2) The combined volume of natural gas combusted in emissions units P026 and P028 shall not exceed 2.874 MMscf per rolling 12-month period.
 - (3) The combined amount of glass dried in P026 and P028 shall not exceed 1250 tons per rolling 12-month period.
- 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 monthly records of the combined volume of natural gas combusted in emissions units P026 and P028 as a rolling, 12-month summation.
 - (3) The permittee shall maintain monthly records of the combined glass dried, in pounds, in emissions units P026 and P028 as a rolling, 12-month summation.
 - (4) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving the fabric filter (stack 90). 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 emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

If the daily checks show no visible emissions for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check by the permittee or an Ohio EPA inspector indicates visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of no visible emissions.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling 12-month summation limits specified above.
- (3) The permittee shall submit written quarterly reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the fabric filter (stack 90) and (b) describe any corrective actions taken to eliminate the visible particulate emissions.

f) Testing Requirements

- (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods for the TP Chop Dryer and Products of Combustion:

a. Emission Limitation:

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

b. Emission Limitation:

0.206 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 2.5 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

c. Emission Limitation:

0.245 pound of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NO_x emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 2.5 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

d. Emission Limitation:

0.019 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.5 MMBtu per hour.

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

e. Emission Limitation:

0.005 pound of filterable particulate emissions (PE) per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 1.9 pounds of filterable particulate matter per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.5 MMBtu per hour.

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

f. Emission Limitation:

0.0015 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.5 MMBtu per hour.

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

g. Emission Limitation:

0.0135 pound of VOC per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 5.5 pounds of VOC per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1.5 MMBtu per hour.

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

(2) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods for the baghouse emissions:

a. Emission Limitation:

10% opacity, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-

03(B)(1); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

b. Emission Limitation:

0.061 pound of VOC per hour

Applicable Compliance Method:

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

c. Emission Limitation:

0.011 pound PM₁₀ per hour

Applicable Compliance Method:

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

d. Emission Limitation:

0.88 pound of filterable particulate emissions (PE) per hour

Applicable Compliance Method:

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

(3) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods for the combined emissions of P026 and P028:

a. Emission Limitation:

Combined annual emissions from P026 and P028 shall not exceed 0.0484 ton of PM₁₀, 0.0009 ton SO₂, 0.1437 ton NO_x, 0.4275 ton VOC, and 0.1207 ton CO per rolling 12-month period.

Applicable Compliance Method:

Compliance is demonstrated by multiplying the appropriate emission factor (as listed above), in pounds per million standard cubic feet, by the actual MMscf of

gas combusted (see section A.II. above) and dividing by 2000. Also for the VOC limit, multiply the combined pounds of glass dried times the emissions factor of 0.672 lbs VOC per ton of glass dried, divide by 2000 lbs per ton, and add this to the tons of VOC from the combustion of natural gas; for PM₁₀ multiply the actual tons throughput of glass per rolling 12-month period by 0.06 lb PM₁₀ per ton, divide by 2000 lbs per ton, and add this to the natural gas combustion emissions.

g) Miscellaneous Requirements

- (1) None.



12. P029, Prebake Tunnel Oven A

Operations, Property and/or Equipment Description:

Prebake tunnel oven A

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)	0.01 pound per hour of filterable particulate emissions (PE)
		0.03 ton per year of PE
		0.002 pound per hour of sulfur dioxide (SO ₂)
		0.009 ton per year of SO ₂
		0.29 pound per hour of nitrous oxides (NO _x)
		1.27 tons per year of NO _x
		0.25 pound per year of carbon monoxide (CO)
		1.1 tons per year of CO
		0.85 pound per hour of volatile organic compounds (VOC)
		3.7 ton per year of VOC
		See sections b)(2)a. and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)i.
c.	OAC rule 3745-17-10(B)(1)	See section b)(2)b.
d.	OAC rule 3745-18-06(E)	See section b)(2)b.
e.	OAC rule 3745-21-07(B)	See section b)(2)h.
f.	OAC rules 3745-21-08(B)	See section b)(2)g.
g.	OAC rule 3745-31-05(D)	See section b)(2)e. and b)(2)f.
h.	OAC rule 3745-31-10 through 20	0.023 pound per hour of particulate matter less than 10 microns (PM ₁₀)
		0.1 ton per year of PM ₁₀
		See section b)(2)d.

(2) Additional Terms and Conditions

- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-02(A)(2), OAC rule 3745-31-05(C) and OAC rules 3745-31-10 through 20.
- b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- c. The hourly and annual emission limitations were established for Permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
- d. Combined annual emissions from P029 and P030 shall not exceed 0.1 tons of PM₁₀ per rolling 12-month period.
- e. Combined annual emissions from P029 and P030 shall not exceed: 0.01 ton of SO₂, 1.27 ton of NO_x, and 4.68 tons of VOC per rolling 12-month period.
- f. Combined annual emissions from P029 and P030 shall not exceed: 1.1 ton of CO per rolling 12-month period.
- g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- h. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) and OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).
- i. Visible particulate emissions from the stack servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) The combined volume of natural gas combusted in emissions units P029 and P030 shall not exceed 26 MMscf per rolling 12-month period.
- (3) The combined amount of glass dried in P029 and P030 shall not exceed 13,656 tons per rolling 12-month period.

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 monthly records of the combined volume of natural gas combusted in emissions units P029 and P030 as a rolling, 12-month summation.
- (3) The permittee shall maintain monthly records of the combined glass dried, in tons, in emissions units P029 and P030 as a rolling, 12-month summation.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling 12-month summation limits specified above.

f) Testing Requirements

- (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

b. Emission Limitation:

0.25 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 3 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1

through 4 and 10 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

c. Emission Limitation:

1.1 tons of CO per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.25 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

d. Emission Limitation:

0.29 pound of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NO_x emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 3 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

1.27 tons of NO_x per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.29 pound of NO_x per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

f. Emission Limitation:

0.023 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the

emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour.

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

g. Emission Limitation:

0.1 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.023 pound of PM₁₀ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

h. Emission Limitation:

0.002 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour.

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

i. Emission Limitation:

0.009 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.002 pound of SO₂ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

j. Emission Limitation:

0.85 pound of VOC per hour

Applicable Compliance Method:

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

k. Emission Limitation:

3.7 tons of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.85 pound of VOC per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

l. Emission Limitation:

Combined annual emissions from P029 and P030 shall not exceed 0.1 tons of PM₁₀, 0.01 ton SO₂, 1.27 tons NO_x, 4.68 tons VOC, and 1.00 ton CO per rolling 12-month period.

Applicable Compliance Method:

Compliance is demonstrated by multiplying the appropriate emission factor (as listed above), in pounds per million standard cubic feet, by the actual MMscf of gas combusted (see section c) above) and dividing by 2000. Also for the VOC limit, multiply the combined pounds of glass dried times the emissions factor of 0.672 pounds of VOC per ton of glass dried, divide by 2000 lbs per ton, and add this to the tons of VOC from the combustion of natural gas.

m. Emission Limitation:

0.01 pound of PE per hour

Applicable Compliance Method:

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



n. Emission Limitation:

0.05 ton of PE per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.01 pound of PE per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

g) Miscellaneous Requirements

(1) None.



13. P030, Prebake Tunnel Oven B

Operations, Property and/or Equipment Description:

Prebake tunnel oven B

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)	0.01 pound per hour of filterable particulate emissions (PE)
		0.03 ton per year of PE
		0.002 pound per hour of sulfur dioxide (SO ₂)
		0.009 ton per year of SO ₂ ;
		0.29 pound per hour of nitrogen oxides (NO _x)
		1.27 tons per year of NO _x
		0.25 pound per hour of carbon monoxide (CO)
		1.1 tons per year of CO
		0.85 pound per hour of volatile organic compounds (VOC)
		3.7 tons per year of VOC
		See sections b)(2)a. and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)i.
c.	OAC rule 3745-17-10(B)(1)	See section b)(2)b.4
d.	OAC rule 3745-18-06(E)	See section b)(2)b.
e.	OAC rule 3745-21-07(B)	See section b)(2)h.
f.	OAC rules 3745-21-08(B)	See section b)(2)g.
g.	OAC rule 3745-31-05(D)	See section b)(2)e. and b)(2)f.
h.	OAC rule 3745-31-10 through 20	0.023 pound per hour of particulate matter less than 10 microns (PM ₁₀)
		0.1 ton per year of PM ₁₀
		See section b)(2)d.

- (2) Additional Terms and Conditions
- a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-02(A)(2), OAC rule 3745-31-05(C) and OAC rules 3745-31-10 through 20.
 - b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
 - c. The hourly and annual emission limitations were established for Permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
 - d. Combined annual emissions from P029 and P030 shall not exceed 0.1 ton of PM₁₀ per rolling 12-month period.
 - e. Combined annual emissions from P029 and P030 shall not exceed: 0.01 ton of SO₂, 1.27 tons of NO_x, and 4.68 tons of VOC per rolling 12-month period.
 - f. Combined annual emissions from P029 and P030 shall not exceed: 1.1 tons of CO per rolling 12-month period.
 - g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.
 - h. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) and OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).
 - i. Visible particulate emissions from the stack servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.
- c) Operational Restrictions
- (1) The permittee shall burn only natural gas in this emissions unit.
 - (2) The combined volume of natural gas combusted in emissions units P029 and P030 shall not exceed 26 MMscf per rolling 12-month period.
 - (3) The combined amount of glass dried in P029 and P030 shall not exceed 13,656 tons per rolling 12-month period.

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 monthly records of the combined volume of natural gas combusted in emissions units P029 and P030 as a rolling, 12-month summation.
- (3) The permittee shall maintain monthly records of the combined glass dried, in tons, in emissions units P029 and P030 as a rolling, 12-month summation.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling 12-month summation limits specified above.

f) Testing Requirements

- (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

b. Emission Limitation:

0.25 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 3 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1

through 4 and 10 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

c. Emission Limitation:

1.1 tons of CO per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.25 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

d. Emission Limitation:

0.29 pound of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NO_x emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 3 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

e. Emission Limitation:

1.27 tons of NO_x per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.29 pound of NO_x per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

f. Emission Limitation:

0.023 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the

emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour.

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

g. Emission Limitation:

0.1 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.023 pound of PM₁₀ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

h. Emission Limitation:

0.002 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3 MMBtu per hour.

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

i. Emission Limitation:

0.009 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.002 pound of SO₂ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

j. Emission Limitation:

0.85 pound of VOC per hour

Applicable Compliance Method:

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

k. Emission Limitation:

3.7 tons of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.85 pound of VOC per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

l. Emission Limitation:

Combined annual emissions from P029 and P030 shall not exceed 0.1 ton of PM₁₀, 0.01 ton of SO₂, 1.27 tons of NO_x, 4.68 tons of VOC, and 1.00 ton of CO per rolling 12-month period.

Applicable Compliance Method:

Compliance is demonstrated by multiplying the appropriate emission factor (as listed above), in pounds per million standard cubic feet, by the actual MMscf of gas combusted (see section c) above) and dividing by 2000. Also for the VOC limit, multiply the combined pounds of glass dried times the emissions factor of 0.672 pound of VOC per ton of glass dried, divide by 2000 lbs per ton, and add this to the tons of VOC from the combustion of natural gas.

m. Emission Limitation:

0.01 pound of PE per hour

Applicable Compliance Method:

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



n. Emission Limitation:

0.05 ton of PE per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.01 pound of PE per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

g) Miscellaneous Requirements

(1) None.

14. P032, Finishing Department (BMC)

Operations, Property and/or Equipment Description:

Finishing department (BMC) with baghouse

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)	0.52 pound per hour filterable particulate emissions (PE)
		2.3 tons per year of PE
		0.01 pounds per hour of particulate matter less than 10 microns (PM ₁₀)
		See sections b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	See section b)(2)b.
h.	OAC rule 3745-31-10 through 20	0.05 ton per year of PM ₁₀
		See section b)(2)c.

(2) Additional Terms and Conditions

a. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rules 3745-31-10 through 20.

b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

c. The annual emission limitation was established for permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with this limitation.

d. Visible particulate emissions from the stacks servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.

c) Operational Restrictions

- (1) To ensure the baghouse is operated according to the manufacturer's specifications and to maintain compliance with the allowable particulate emission rate, the pressure drop across the baghouse shall be maintained within the range of 1.0 to 3.0 inches of water column while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

e) Reporting Requirements

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

f) Testing Requirements

- (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

b. Emission Limitation:

0.01 pound of PM₁₀ per hour

Applicable Compliance Method:

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

c. Emission Limitation:

0.05 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.01 pound of PM₁₀ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

d. Emission Limitation:

0.52 pound of PE per hour

Applicable Compliance Method:

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

e. Emission Limitation:

2.3 ton of PE per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.52 pound of PE per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

g) Miscellaneous Requirements

(1) None.



15. P033, Dielectric Drying Oven

Operations, Property and/or Equipment Description:

Dielectric drying oven

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)	0.51 pound per hour of volatile organic compounds (VOC) See section b)(2)b.
b.	OAC rule 3745-31-05(D)	2.21 tons per year of VOC
c.	OAC rule 3745-21-07(B)	See Section b)(2)a.

(2) Additional Terms and Conditions

a. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).

b. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-05(C).

c) Operational Restrictions

(1) The amount of glass dried in emissions unit P033 shall not exceed 6,570 tons per rolling, 12-month period.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the amount of glass dried, in tons, in this emission unit as a rolling, 12-month summation.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling, 12-month summation limits specified above.

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

0.51 pound of VOC per hour

Applicable Compliance Method:

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

b. Emission Limitation:

2.21 tons of VOC per year

Applicable Compliance Method:

Compliance may be demonstrated by multiply the rolling, 12-month summation of glass dried, in tons, times the emission factor of 0.000336 ton of VOC per ton of glass dried.

g) Miscellaneous Requirements

(1) None.

16. P045, Gypsum Line Oven

Operations, Property and/or Equipment Description:

2.0 mmBtu per hour, direct fired, natural gas fired fiberglass drying oven controlled by a wet scrubber

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)	0.17 pound of carbon monoxide (CO) per hour
		0.20 pound of nitrogen oxides (NO _x) per hour
		0.19 pound of filterable particulate emissions (PE) per hour
		0.84 ton of PE per year
		0.14 pound of particulate matter less than 10 microns (PM ₁₀) per hour
		0.001 pound of sulfur dioxide (SO ₂) per hour
		1.25 pound of volatile organic compounds (VOC) per hour
		See b)(2)a., b)(2)b., and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See b)(2)d.
c.	OAC rule 3745-17-11(B)(1)	See b)(2)d.
d.	OAC rule 3745-18-06(E)	See b)(2)d.
e.	OAC rule 3745-21-07(B)	See b)(2)e.
f.	OAC rule 3745-21-08(B)	See b)(2)f.
g.	OAC rule 3745-31-05(D)	0.39 ton of CO per year
		0.47 ton of NO _x per year
		0.004 ton of SO ₂ per year
		5.47 tons of VOC per year
h.	OAC rule 3745-31-10 thru 20	0.49 ton of PM ₁₀ per year

(2) Additional Terms and Conditions

- (a) The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07(B), OAC rule 3745-21-08(B), OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.
- (b) The hourly and annual emission limitations for PE and the hourly limitations for CO, NO_x, and SO₂ were established to reflect the potentials to emit for this emissions unit. Therefore it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
- (c) Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average.
- (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).
- (e) The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 04-01345.

On February 18, 2008, OAC rule 3745-21-07 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- (f) The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas as fuel in this emissions unit.
- (2) The permittee shall employ the wet scrubber whenever this emissions unit is in operation.

- (3) The pressure drop across the scrubber shall be continuously maintained between 3 and 6 inches of water at all times while the emissions unit is in operation.
 - (4) The scrubber water flow rate shall be continuously maintained at a value of not less than 60 gallons per minute at all times while the emissions unit is in operation.
 - (5) The volume of natural gas combusted in this emissions unit shall not exceed 9.37 mmscf per rolling, 12-month period.
 - (6) The throughput of glass fibers in this emissions unit shall not exceed 16,200 tons (32,401,100 lbs) per rolling, 12-month period.
- 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 properly operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
 - (3) The permittee shall collect and record the following information a minimum of once during each 8-hour shift:
 - (a) the pressure drop across the scrubber, in inches of water;
 - (b) the scrubber water flow rate, in gallons per minute; and
 - (c) the operating times for the capture (collection) system, control device, monitoring equipment, and this emissions unit.
 - (4) The permittee shall maintain records, on a monthly basis, of the volume of natural gas (in mmscf) combusted in this emissions unit as a rolling, 12-month summation.
 - (5) The permittee shall maintain records, on a monthly basis, of the throughput of glass fibers (in tons) for this emissions unit as a rolling, 12-month summation.
- e) Reporting Requirements
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
 - (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling, 12-month summation limits for natural gas combusted and throughput of glass in this emissions unit.
 - (3) The permittee shall submit quarterly deviation (excursion) reports that identify any periods of time during which the scrubber was not operating when the emission unit was operating, as well as, any deviations from the operating parameters as defined in c)(3)

and c)(4). The report shall include date, time of outage or deviation, the amount of deviation, and what was done to correct the problem.

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

f) Testing Requirements

- (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:

- (a) Emission Limitation:

10% opacity as a 6-minute average

Applicable Compliance Method:

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

- (b) Emission Limitation:

0.17 pound of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1, dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet (MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 2 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

- (c) Emission Limitation:

0.39 ton of CO per year

Applicable Compliance Method:

Compliance shall be determined by multiplying the emission factor specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1, dated 7/98 (84 pounds of CO emissions per

mmscf) by the actual volume of natural gas combusted in this emissions unit (in mmscf, as recorded in d)(4) above), and then dividing by 2000 pounds per ton.

(d) Emission Limitation:

0.20 pound of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1, dated 7/98, as follows: divide the emission factor of 100 pounds of NO_x emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 2 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

(e) Emission Limitation:

0.47 ton of NO_x per year

Applicable Compliance Method:

Compliance shall be determined by multiplying the emission factor specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1, dated 7/98 (100 pounds of NO_x emissions per mmscf) by the actual volume of natural gas combusted in this emissions unit (in mmscf, as recorded in d)(4) above), and then dividing by 2000 pounds per ton.

(f) Emission Limitation:

0.19 pound of PE per hour

Applicable Compliance Method

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

(g) Emission Limitation:

0.84 ton of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable particulate emission limitation (0.19 pound per hour) by the maximum annual hours of operation (8760 hours per year), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

(h) Emission Limitation:

0.14 pound of PM₁₀ per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 of 40 CFR Part 60, Appendix A and Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

(i) Emission Limitation:

0.49 ton of PM₁₀ per year

Applicable Compliance Method:

Compliance shall be determined by multiplying the emission factor determined during the most recent stack test which demonstrated compliance with this emission limitation for PM₁₀ (in tons PM₁₀ per ton of glass throughput) by the throughput of glass fibers for this emissions unit (in tons, as recorded in d)(5) above).

(j) Emission Limitation:

0.001 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2, dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2 MMBtu per hour.

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

- (k) Emission Limitation:

0.004 ton of SO₂ per year

Applicable Compliance Method:

Compliance shall be determined by multiplying the emission factor specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1, dated 7/98 (0.6 pound of SO₂ emissions per mmscf) by the actual volume of natural gas combusted in this emissions unit (in mmscf, as recorded in d)(4) above), and then dividing by 2000 pounds per ton.

- (l) Emission Limitation:

1.25 pounds of VOC per hour

Applicable Compliance Method:

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

- (m) Emission Limitation:

5.47 tons of VOC per year

Applicable Compliance Method:

Compliance shall be determined by multiplying the emission factor determined during the most recent stack test which demonstrated compliance with this emission limitation for VOC (in tons VOC per ton of glass throughput) by the throughput of glass fibers for this emissions unit (in tons, as recorded in d)(5) above).

- (2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- (a) The emission testing shall be conducted when required by the Toledo Division of Environmental Services or Ohio EPA Central Office.
 - (b) The emission testing shall be conducted to demonstrate compliance with the PM₁₀ & VOC emission limitation. The testing shall be used to establish a pressure drop range and scrubber water flow rate for normal operating conditions of the wet scrubber, assuming compliance is demonstrated.
 - (c) The following test method(s) shall be employed to demonstrate compliance with the allowable mass rate(s): For PM₁₀, Methods 201 and 202 of 40 CFR Part 51, Appendix M. For VOC, Method 25 of 40 CFR Part 60 Appendix A. Alternative

USEPA approved test methods may be used with prior approval from the Ohio EPA.

- (d) The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
- (e) The 3-hour average process weight rate, in tons of glass dried per hour, shall be determined during the stack testing to allow a determination of an emission factor in pounds of regulated pollutant per ton of glass dried.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Toledo Division of Environmental Services. 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 Toledo Division of Environmental Services or Ohio EPA Central Office's refusal to accept the results of the emission test(s).

Personnel from the Toledo Division of Environmental Services or Ohio EPA Central 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 performance of the control equipment.

A comprehensive written report of the results of the emissions test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Toledo Division of Environmental Services or the Ohio EPA Central Office.

- g) **Miscellaneous Requirements**
 - (1) None.

17. P053, Batch Oven No. 7

Operations, Property and/or Equipment Description:

Forming pre-bake curing oven

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)	0.024 pounds per hour of filterable particulate emissions (PE)
		0.11 tons per year of PE
		0.0006 pounds per hour of sulfur dioxide (SO ₂)
		0.003 ton per year of SO ₂
		0.099 pound per hour of nitrous oxides (NO _x)
		0.44 tons per year of NO _x
		0.083 pound per hour of carbon monoxide (CO)
		0.37 ton per year of CO
		0.006 pound per hour of volatile organic compounds (VOC)
		0.03 tons per year of VOC
		See sections b)(2)a., b)(2).i, and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	See section b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	See section b)(2)b.
d.	OAC rule 3745-18-06(E)	See section b)(2)b.
e.	OAC rule 3745-21-07(B)	See section b)(2)h.
f.	OAC rules 3745-21-08(B)	See section b)(2)g.
g.	OAC rule 3745-31-05(D)	See section b)(2)e.
h.	OAC rule 3745-31-10 through 20	0.007 pound per hour of particulate matter less than 10 microns (PM ₁₀)
		0.031 ton per year of PM ₁₀
		See section b)(2)d.

(2) Additional Terms and Conditions

- (a) The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-31-02(A)(2), OAC rule 3745-31-05(C) and OAC rule 3745-31-10 through 20.
- (b) The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- (c) The hourly and annual emission limitations were established for permitting purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.
- (d) Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀ per rolling 12-month period.
- (e) Combined annual emissions from P019 through P024 and P053 shall not exceed: 0.01 ton SO₂, 1.19 tons NO_x, and 0.23 ton VOC per rolling 12-month period.
- (f) Combined annual emissions from P019 through P024 and P053 shall not exceed: 1.00 ton CO per rolling 12-month period.
- (g) The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by complying with all applicable rules.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- (h) The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) and OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3).
- (i) Visible particulate emissions from the stack servicing this emissions unit shall not exceed 10% opacity, as a 6-minute average.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) The combined volume of natural gas combusted in emissions units P019 through P024 and P053 shall not exceed 23.845 MMscf per rolling 12-month period.



- (3) The combined amount of glass dried in P019 through P024 and P053 shall not exceed 963,965 pounds per rolling 12-month period.
- 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 monthly records of the combined volume of natural gas combusted in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
 - (3) The permittee shall maintain monthly records of the combined glass dried, in pounds, in emissions units P019 through P024 and P053 as a rolling, 12-month summation.
- e) **Reporting Requirements**
 - (1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.
 - (2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling 12-month summation limits specified above.
- f) **Testing Requirements**
 - (1) Compliance with the emission limitation(s) in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:
 - (a) **Emission Limitation:**
10% opacity, as a 6-minute average

Applicable Compliance Method:

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

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic

feet(MMscf) by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

(c) Emission Limitation:

0.37 ton of CO per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.083 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

(d) Emission Limitation:

0.099 pound of NOx per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NOx emissions per MMscf by a heating value of 1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1 MMBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A; or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

(e) Emission Limitation:

0.44 ton of NOx per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.099 pound of NOx per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

(f) Emission Limitation:

0.007 pound of PM₁₀ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PM₁₀ per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

(g) Emission Limitation:

0.031 ton of PM₁₀ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.007 pound of PM₁₀ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

(h) Emission Limitation:

0.0006 pound of SO₂ per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO₂ emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1 MMBtu per hour.

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

(i) Emission Limitation:

0.003 ton of SO₂ per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance may be demonstrated through calculations performed

as follows: multiply the short term emission rate of 0.0006 pound of SO₂ per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

(j) Emission Limitation:

0.006 pound of VOC per hour

Applicable Compliance Method:

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

(k) Emission Limitation:

0.03 ton of VOC per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission unit. Compliance is demonstrated by multiplying the short term emission rate of 0.006 pound of VOC per hour by 8,760 hours per year and dividing by 2,000 pounds per ton.

(l) Emission Limitation:

0.024 pound of filterable particulate emissions (PE) per hour

Applicable Compliance Method:

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

(m) Emission Limitation:

0.11 ton of PE per year

Applicable Compliance Method:

Compliance is demonstrated by multiplying the short term emission rate of 0.024 pounds of PE per hour by 8,760 annual hours of operation, and dividing by 2,000 pounds per ton.

(n) Emission Limitation:

Combined annual emissions from P019 through P024 and P053 shall not exceed 0.091 tons of PM₁₀, 0.01 ton SO₂, 1.19 ton NO_x, 0.23 ton VOC, and 1.00 ton CO per rolling 12-month period.

Applicable Compliance Method:

Compliance is demonstrated by multiplying the appropriate emission factor (as listed above), in pounds per million standard cubic feet, by the actual MMscf of gas combusted (see section A.II. above) and dividing by 2000. Also for the VOC limit, multiply the combined pounds of glass dried times the emissions factor of 0.000336 lbs VOC per pound of glass dried, divide by 2000 lbs per ton, and add this to the tons of VOC from the combustion of natural gas.

g) Miscellaneous Requirements

(1) None.