



Mike DeWine, Governor  
 Jon Husted, Lt. Governor  
 Laurie A. Stevenson, Director

3/26/2019

Certified Mail

Mr. Daniel Knecht  
 NSG Glass North America, Inc.  
 811 Madison Avenue  
 Toledo, OH 43604-5684

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

RE: **DRAFT AIR POLLUTION PERMIT-TO-INSTALL**  
 Facility ID: 0387002042  
 Permit Number: P0125848  
 Permit Type: Initial Installation  
 County: Wood

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, The Sentinil-Tribune. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall  
 Permit Review/Development Section  
 Ohio EPA, DAPC  
 50 West Town Street, Suite 700  
 P.O. Box 1049  
 Columbus, Ohio 43216-1049

and Ohio EPA DAPC, Northwest District Office  
 347 North Dunbridge Rd.  
 Bowling Green, OH 43402

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)352-8461.

Sincerely,

Michael E. Hopkins, P.E.  
 Assistant Chief, Permitting Section, DAPC

cc: U.S. EPA Region 5 - *Via E-Mail Notification*  
 Ohio EPA-NWDO; Michigan; Indiana; Canada



## Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

2. Source Description:

NSG Glass North America, Inc. (NSG) is proposing to install a new float glass manufacturing facility in Luckey, Ohio, which is located in Wood County. NSG submitted a Permit to Install (PTI) application to the Ohio EPA detailing the emissions that are associated with this project, which include particulate matter 10 microns less than or equal to in diameter and particulate matter 2.5 microns less than or equal to in diameter (PM<sub>10</sub>/PM<sub>2.5</sub>), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), volatile organic compounds (VOC) and Hazardous Air Pollutants (HAPs). The primary HAP emissions that are associated with this project are Hydrogen Chloride (HCl) and Hydrogen Fluoride (HF).

NSG has requested that federally enforceable requirements be established for all the control equipment that is being installed as part of this project for the purpose of reducing potential emissions below the major source thresholds associated with the Prevention of Significant Deterioration (PSD) requirements and the Maximum Achievable Control Technology (MACT) requirements.

The following is a summary of the emissions units associated with this PTI and a description of the control techniques and equipment which are associated with each emissions unit:

OEPA Emissions Unit ID	Emissions Unit Description
P001	Glass Melting Furnace*
P002	Glass Forming Process - Bath & Lehr
P003	CVD Process**
P004 & P005	Emergency Diesel Back-up Generators #1 and #2
P006 & P007	Emergency Diesel Back-up Pumps #1 and #2
P009	On Line Glass Cutting
P010	Cullet Return System***
F001	Cullet Storage Piles***
F002	Roadways and Parking Areas***
P901-P905	Material Handling Operations including batch and cullet material unloading, handling, mixing, and storage***

\*The control equipment on the glass melting furnace consists of a catalyst embedded ceramic filter system with ammonia injection and a hydrated lime feed system followed by a selective catalytic reduction (SCR) unit. The furnace exhaust gases flowing through a duct where hydrated lime is injected to react with the SO<sub>2</sub>, HCl, HF, and other acid gases. The solid reaction products flow with the exhaust

gases for removal by the ceramic filters. The ceramic filters used to collect the particulate material are also embedded with a catalytic material for the control of NO<sub>x</sub> emissions. Prior to the filters, aqueous ammonia is injected into the flue gas. The NO<sub>x</sub> - ammonia mixture reacts on the surface area of the catalytic material in the ceramic filters to form N<sub>2</sub> and water vapor. The NO<sub>x</sub> emissions are further reduced with a traditional SCR system.

\*\*The Chemical Vapor Deposition (CVD) process is comprised of a process which deposits a pyrolytic coating on the glass as the glass is being formed in the tin bath. The process consists of a chemical delivery system which vaporizes the chemicals and delivers the chemicals in vapor form to a set of coaters that are set on the glass in the tin bath. Vaporized chemicals react on the coater face and deposit directly onto the glass. The pollution control system for the CVD process consists of a thermal oxidizer, a dry scrubber and a baghouse in series. The oxidizer controls VOC emissions, and the combustion gases from the oxidizer pass through a waste heat boiler to reduce the exhaust temperature and generate steam to vaporize the chemicals in the system. Acid gases, HCl, and HF emissions that are formed in the coating reactions pass through the thermal oxidizer and are neutralized in a dry scrubber system. The particulate laden gas stream from the neutralization process flows to a baghouse where particulates are captured.

\*\*\*Fugitive particulate emissions are generated from the storage piles and roadways and these emissions will be minimized with the development and implementation a work practice plan. The Cullet return system and the material handling operations will be controlled by baghouse collections systems for the purpose of controlling particulate emissions.

3. Facility Emissions and Attainment Status:

Without the installation of the above referenced control equipment, and the establishment of federally enforceable requirements into this permit, NSG would be considered a major PSD source for NO<sub>x</sub> and SO<sub>2</sub> emissions, and would be considered a major source of HAP emissions (for HCl and HF). The facility will still be considered major for Title V purposes and be required to obtain a Title V permit. Wood County is classified as attainment or unclassified for all criteria pollutants.

4. Source Emissions:

The following table shows the project's uncontrolled potential to emit for each emissions unit and the total uncontrolled potential emissions of the facility, in tons per year:

Emissions Unit ID	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>	VOC	CO	HCl	HF
P001	141.8	136.0	2891	263.9	10.95	10.95	18.4	6.6
P002				17.4				
P003	2.4	2.4	2.71	0.02	77.0	11.71	296.0	89.0
P004 & P005	0.45	0.45	17.65	0.01	1.77	7.72		
P006 & P007	0.05	0.05	1.0	0.001	0.1	0.95		
P009					5.52			
P010	54.8	54.8						
F001	0.8	0.2						
F002	4.3	1.0						
P901-P905	3.9	3.7						
Exempt Sources	0.52	0.52	6.93	0.38	0.38	5.83		
Total Emissions	209.0	199.1	29119.3	281.7	95.7	37.2	314.4	95.6

The following table shows the project's potential to emit for each emissions unit and the total potential emissions of the facility, in tons per year, taking into account the proposed federally enforceable emissions limitations:

<b>Emissions Unit ID</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>NOx</b>	<b>SO<sub>2</sub></b>	<b>VOC</b>	<b>CO</b>	<b>HCl</b>	<b>HF</b>
P001*	23.0	17.52	209.64	54.07	10.95	10.95	1.95	0.68
P002				17.4				
P003	0.66	0.66	2.71	0.02	0.31	11.71	0.89	0.09
P004 & P005	0.45	0.45	17.65	0.01	1.77	7.72		
P006 & P007	0.05	0.05	1.0	0.001	0.1	0.95		
P009					5.52			
P010	3.38	3.38						
F001	0.71	0.13						
F002	1.19	0.23						
P901-P905	0.74	0.74						
Exempt Sources	0.52	0.52	6.93	0.38	0.38	5.83		
<b>Total Emissions</b>	<b>30.7</b>	<b>23.68</b>	<b>237.93</b>	<b>71.88</b>	<b>19.03</b>	<b>37.16</b>	<b>2.84</b>	<b>0.77</b>

\*The emission totals for the furnace include three operation scenarios: downtime associated with maintenance on the catalyst embedded ceramic filter system, downtime associated with maintenance on the SCR, and normal operations.

5. Conclusion:

As permitted, the emissions for the project will not exceed PSD major source thresholds for any regulated pollutants, therefore a PSD review is not required. In addition, the facility will not be considered a major source of HAP emissions.

6. Please provide additional notes or comments as necessary:

None

7. Total Permit Allowable Emissions Summary (for informational purposes only – totals do not include exempt sources or fugitive dust sources which do not establish ton per year (TPY) limits:

<u>Pollutant</u>	<u>TPY</u>
PM <sub>10</sub>	30.18
PM <sub>2.5</sub>	23.16
SO <sub>2</sub>	71.5
NOx	231.0



**Permit Strategy Write-Up**  
**NSG Glass North America, Inc.**  
**Permit Number: P0125848**  
**Facility ID: 0387002042**

VOC	18.65
CO	31.33
HCl	2.84
HF	0.77

## PUBLIC NOTICE

The following matters are the subject of this public notice by the Ohio Environmental Protection Agency. The complete public notice, including any additional instructions for submitting comments, requesting information, a public hearing, or filing an appeal may be obtained at: <http://epa.ohio.gov/actions.aspx> or Hearing Clerk, Ohio EPA, 50 W. Town St., Columbus, Ohio 43215. Ph: 614-644-2129 email: [HClerk@epa.ohio.gov](mailto:HClerk@epa.ohio.gov)

Draft Air Pollution Permit-to-Install Initial Installation

NSG Glass North America, Inc.

21705 Pemberville Rd, Luckey, OH 43443

ID#:P0125848

Date of Action: 3/26/2019

Permit Desc:Initial Installation PTI for a new Float Glass Manufacturing Facility.

The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the ID # or: Mark Barber, PC, Northwest District Office, 347 North Dunbridge Rd., Bowling Green, OH 43402. Ph: (419)352-8461







**DRAFT**

**Division of Air Pollution Control  
Permit-to-Install  
for  
NSG Glass North America, Inc.**

Facility ID:	0387002042
Permit Number:	P0125848
Permit Type:	Initial Installation
Issued:	3/26/2019
Effective:	To be entered upon final issuance





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
NSG Glass North America, Inc.

**Table of Contents**

Authorization .....	1
A. Standard Terms and Conditions .....	4
1. Federally Enforceable Standard Terms and Conditions .....	5
2. Severability Clause .....	5
3. General Requirements .....	5
4. Monitoring and Related Record Keeping and Reporting Requirements.....	6
5. Scheduled Maintenance/Malfunction Reporting .....	7
6. Compliance Requirements .....	7
7. Best Available Technology .....	8
8. Air Pollution Nuisance .....	9
9. Reporting Requirements .....	9
10. Applicability .....	9
11. Construction of New Sources(s) and Authorization to Install .....	9
12. Permit-To-Operate Application .....	10
13. Construction Compliance Certification .....	11
14. Public Disclosure .....	11
15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations .....	11
16. Fees.....	11
17. Permit Transfers .....	11
18. Risk Management Plans .....	11
19. Title IV Provisions .....	11
B. Facility-Wide Terms and Conditions.....	12
C. Emissions Unit Terms and Conditions .....	14
1. F001 .....	15
2. F002 .....	19
3. P001 .....	23
4. P002 .....	44
5. P003 .....	47
6. P009 .....	62
7. P010 .....	64



8. Emissions Unit Group - Batch Plant: P901, P902, P903, P904 and P905 .....	69
9. Emissions Unit Group - Emergency Generators: P004 and P005.....	75
10. Emissions Unit Group - Emergency Pumps: P006 and P007 .....	83



**Draft Permit-to-Install**  
NSG Glass North America, Inc.  
**Permit Number:** P0125848  
**Facility ID:** 0387002042

**Effective Date:** To be entered upon final issuance

## Authorization

Facility ID: 0387002042  
Facility Description:  
Application Number(s): A0062467, A0063226  
Permit Number: P0125848  
Permit Description: Initial Installation PTI for a new Float Glass Manufacturing Facility  
Permit Type: Initial Installation  
Permit Fee: \$9,600.00 *DO NOT send payment at this time, subject to change before final issuance*  
Issue Date: 3/26/2019  
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

NSG Glass North America, Inc.  
21705 Pemberville Rd  
Luckey, OH 43443

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

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northwest District Office  
347 North Dunbridge Rd.  
Bowling Green, OH 43402  
(419)352-8461

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

Laurie A. Stevenson  
Director



## Authorization (continued)

Permit Number: P0125848

Permit Description: Initial Installation PTI for a new Float Glass Manufacturing Facility

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

<b>Emissions Unit ID:</b>	<b>F001</b>
Company Equipment ID:	F004
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>F002</b>
Company Equipment ID:	F005
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P001</b>
Company Equipment ID:	P001
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P002</b>
Company Equipment ID:	P002
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P003</b>
Company Equipment ID:	P003
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P009</b>
Company Equipment ID:	F002
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P010</b>
Company Equipment ID:	F003
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

**Group Name: Batch Plant**

<b>Emissions Unit ID:</b>	<b>P901</b>
Company Equipment ID:	F001a
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P902</b>
Company Equipment ID:	F001b
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P903</b>
Company Equipment ID:	F001c
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Draft Permit-to-Install**  
 NSG Glass North America, Inc.  
**Permit Number:** P0125848  
**Facility ID:** 0387002042

**Effective Date:** To be entered upon final issuance

<b>Emissions Unit ID:</b>	<b>P904</b>
Company Equipment ID:	F001d
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P905</b>
Company Equipment ID:	F001e,f
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

**Group Name: Emergency Generators**

<b>Emissions Unit ID:</b>	<b>P004</b>
Company Equipment ID:	P004a
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P005</b>
Company Equipment ID:	P004b
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

**Group Name: Emergency Pumps**

<b>Emissions Unit ID:</b>	<b>P006</b>
Company Equipment ID:	P004c
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P007</b>
Company Equipment ID:	P004d
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Draft Permit-to-Install**  
NSG Glass North America, Inc.  
**Permit Number:** P0125848  
**Facility ID:** 0387002042  
**Effective Date:** To be entered upon final issuance

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



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

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

**2. Severability Clause**

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

**3. General Requirements**

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

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

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

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.

- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Northwest District Office. The written reports shall be submitted 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 to the Ohio EPA DAPC, Northwest District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
  - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

## **5. Scheduled Maintenance/Malfunction Reporting**

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

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

## **6. Compliance Requirements**

- a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted local air agency, and/or any other individual or organization specifically identified as an

additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete

- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - (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.
- c) The permittee shall submit progress reports to the Ohio EPA DAPC, Northwest District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

## **7. Best Available Technology**

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

**8. Air Pollution Nuisance**

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

**9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northwest District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted 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) not exempt from the requirement to obtain a Permit-to-Install.

**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 permittee 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 "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director 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.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- 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 operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.

**13. Construction Compliance Certification**

The applicant shall identify the following dates in the "Air Services" 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 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.



**Draft Permit-to-Install**  
NSG Glass North America, Inc.  
**Permit Number:** P0125848  
**Facility ID:** 0387002042  
**Effective Date:** To be entered upon final issuance

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





**Draft Permit-to-Install**  
NSG Glass North America, Inc.  
**Permit Number:** P0125848  
**Facility ID:** 0387002042

**Effective Date:** To be entered upon final issuance

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.
2. The Ohio EPA has determined that this facility operates affected sources that are subject to the requirements of 40 CFR Part 63, Subpart ZZZZ, the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines. Ohio EPA is not accepting the delegation authority to implement and enforce the area source NESHAP standard. The area source NESHAP standard is implemented and enforced by U.S. EPA, Region 5. The promulgated version of this NESHAP standard and the 40 CFR Part 63, General Provisions may be accessed via the Internet from the Electronic Code of Federal Regulations (e-CFR) website <http://www.ecfr.gov/> or by contacting the Ohio EPA, , Northwest District Office.

The following affected sources are subject to the area source requirements of this NESHAP standard:

Emissions units P004, P005, P006, and P007.



**Draft Permit-to-Install**  
NSG Glass North America, Inc.  
**Permit Number:** P0125848  
**Facility ID:** 0387002042  
**Effective Date:** To be entered upon final issuance

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



**1. F001**

**Operations, Property and/or Equipment Description:**

Off-line Cullet Storage Piles

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 operation(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 are identified below. 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(E)	Develop and implement a site-specific work practice plan designed as described in paragraph d)(1) below to minimize or eliminate fugitive dust emissions.  See b)(2)a.
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)b.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM <sub>10</sub> emissions from this air contaminant source since the potential to emit each is less than 10 tons/year.  See b)(2)c.
d.	OAC rule 3745-17-07(B)	See b)(2)d.
e.	OAC rule 3745-17-08(B)	See b)(2)e.

(2) Additional Terms and Conditions

a. This Permit to Install (PTI) for this emissions unit takes into account the voluntary implementation of a work practice plan [See d)(1)], as proposed by the permittee, for the purpose of minimizing the fugitive emissions from this source.

b. The BAT requirements established under OAC rule 3745-31-05(A)(3), as effective June 30, 2008, have been determined to be equivalent to the requirements established pursuant to OAC rule 3745-31-05(E). This BAT



emission limit applies until U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

It should be noted that the emission limitations established pursuant to OAC rule 3745-31-05(E) will remain applicable after the above SIP revisions are approved by U.S. EPA.

- d. The permittee is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emission unit is exempt from the requirements of OAC rule 3745-17-07(B).
- e. This emission unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Work Practice Plan

The permittee shall develop and implement a site-specific work practice plan designed to minimize or eliminate fugitive dust from the permittees off-line cullet storage piles. This work practice plan shall include, at a minimum, the following elements:

- a. An identification of each storage pile or each storage pile area for which the plan applies.
- b. A determination of the frequency that each storage pile or each storage pile area will be inspected to determine if additional control measures are needed. The frequency of inspection can either be common for all storage piles or may be identified separately for various storage pile areas.
- c. The identification of the record keeping form/record that will be used to track the inspection and treatment of the storage piles. This form/record should include, at a minimum, the following elements:
  - i. Storage pile or storage pile area inspected;
  - ii. Date inspected;
  - iii. Name of employee responsible for the inspection
  - iv. Result of the inspection (needs treated or does not need treated);

- v. A description of why no treatment was needed;
  - vi. Date treated;
  - vii. Name of employee responsible for treatment of the storage pile or storage pile area; and
  - viii. Method used to treat the storage pile or storage pile area.
- d. A description of how and where the records shall be maintained.

The permittee shall begin using the Work Practice Plan within 30 days from the date Ohio EPA approved the initial plan. As needs warrant, the permittee can modify the Work Practice Plan. The permittee shall submit a copy of proposed revisions to the Work Practice Plan to the Ohio EPA, Northwest District Office for review and approval. The permittee can begin using the revised Work Practice Plan once the Ohio EPA has approved its use.

(2) Work Practice Plan Inspections

Except as otherwise provided in this section, the permittee shall perform inspections of each of the storage piles or storage pile areas at frequencies described in the Work Practice Plan. The purpose of the inspections is to determine the need for implementing control measures. The inspections shall be performed during representative, normal storage pile operating conditions. No inspection shall be necessary for a storage pile or storage pile area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

(3) The permittee shall maintain records of the following information:

- a. The records required to be collected under the Work Practice Plan, and
- b. The date and reason any element of the Work Practice Plan was not implemented.

e) Reporting Requirements

- (1) Within 30 days of the startup of this emissions unit, the permittee shall submit their proposed Work Practice Plan to the Ohio EPA, Northwest District Office.
- (2) The permittee shall submit quarterly deviation reports that identify any of the following occurrences:
  - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and



- b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

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

- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. None.

g) Miscellaneous Requirements

- (1) None.

**2. F002**

**Operations, Property and/or Equipment Description:**

Paved and Unpaved Roadways and Parking Areas

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 operation(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 are identified below. 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(E)	Develop and implement a site-specific work practice plan designed as described in paragraph d)(1) below to minimize or eliminate fugitive dust emissions.  See b)(2)a.
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)b.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM <sub>10</sub> emissions from this air contaminant source since the potential to emit each is less than 10 tons/year.  See b)(2)c.
d.	OAC rule 3745-17-07(B)	See b)(2)d.
e.	OAC rule 3745-17-08(B)	See b)(2)e.

(2) Additional Terms and Conditions

a. This Permit to Install (PTI) for this emissions unit takes into account the voluntary implementation of a work practice plan [See d)(1)], as proposed by the permittee, for the purpose of minimizing the fugitive emissions from this source.

b. The BAT requirements established under OAC rule 3745-31-05(A)(3), as effective June 30, 2008, have been determined to be equivalent to the requirements established pursuant to OAC rule 3745-31-05(E). This BAT



emission limit applies until U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

It should be noted that the emission limitations established pursuant to OAC rule 3745-31-05(E) will remain applicable after the above SIP revisions are approved by U.S. EPA.

- d. The permittee is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emission unit is exempt from the requirements of OAC rule 3745-17-07(B).
- e. This emission unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Work Practice Plan

The permittee shall develop and implement a site-specific work practice plan designed to minimize or eliminate fugitive dust from the permittees paved and unpaved roadways and parking areas. This work practice plan shall include, at a minimum, the following elements:

- a. An identification of each roadway or parking area, or segment of roadway or parking area, for which the plan applies. The permittee can select whether to develop a plan based on segments or entire roads.
- b. A determination of the frequency that each roadway, parking area or segment will be inspected to determine if additional control measures are needed. The frequency of inspection can either be common for all segments of the roadway or parking areas or may be identified separately for various segments of the roadway or parking areas.
- c. The identification of the record keeping form/record that will be used to track the inspection and treatment of the roadways. This form/record should include, at a minimum, the following elements:
  - i. Roadway, parking area, or segment inspected;
  - ii. Date inspected;
  - iii. Name of employee responsible for inspection;





- iv. Result of the inspection (needs treated or does not need treated);
  - v. A description of why no treatment was needed;
  - vi. Date treated;
  - vii. Name of employee responsible for roadway, parking area, or segment treatment; and
  - viii. Method used to treat the roadway, parking area, or segment.
- d. A description of how and where the records shall be maintained.

The permittee shall begin using the Work Practice Plan within 30 days from the date Ohio EPA approved the initial plan. As needs warrant, the permittee can modify the Work Practice Plan. The permittee shall submit a copy of proposed revisions to the Work Practice Plan to the Ohio EPA, Northwest District Office for review and approval. The permittee can begin using the revised Work Practice Plan once the Ohio EPA has approved its use.

(2) Work Practice Plan Inspections

Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas at frequencies described in the Work Practice Plan. The purpose of the inspections is to determine the need for implementing control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

(3) Work Practice Plan Record Keeping

The permittee shall maintain records of the following information:

- a. The records required to be collected under the Work Practice Plan, and
- b. The date and reason any element of the Work Practice Plan was not implemented.

The permittee shall maintain these records in accordance to the Standard Terms and Conditions of Part A of this permit.

e) Reporting Requirements

- (1) Within 30 days of the startup of this emissions unit, the permittee shall submit their proposed Work Practice Plan to the Ohio EPA, Northwest District Office.



- (2) The permittee shall submit quarterly deviation reports that identify any of the following occurrences:
  - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
  - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

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

- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. None.

g) Miscellaneous Requirements

- (1) None.

**3. P001**

**Operations, Property and/or Equipment Description:**

Glass Melting Furnace controlled by a catalyst embedded ceramic filter system and selective catalytic reduction (SCR)

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) b)(1)f., d)(8) through d)(11) and e)(5).

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. 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(D)	See b)(2)a. and c)(1)
b.	ORC rule 3704.03(T)	Emissions of volatile organic compounds (VOC) shall not exceed 0.91 ton/month, averaged over a rolling, 12-month period  Emissions of carbon monoxide (CO) shall not exceed 0.91 ton/month, averaged over a rolling, 12-month period  See b)(2)b. and b)(2)c.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
d.	OAC rule 3745-17-11(B)	See b)(2)d.
e.	OAC rule 3745-18-06	See b)(2)e.
f.	OAC rule 3745-114-01 ORC 3704.03(F)(3)(c) and (F)(4)	See d)(8) through d)(11) and e)(5)
g.	40 CFR Part 60, Subpart CC (40 CFR 60.290 - 40 CFR 60.296) [In accordance with 40 CFR 60.291, this emission unit is a flat glass melting furnace fired exclusively with gaseous fuels subject to the emissions limitations/control measures specified in this section.]	0.225 grams of particulate matter per kilogram of glass produced (0.45 lb particulate matter per ton of glass produced)  See c)(3), d)(12), e)(7), f)(1) and f)(4)c.



**Effective Date:** To be entered upon final issuance

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
h.	40 CFR Part 60, Subpart A (40 CFR Part 60.1 – 60.19)	See b)(2)f.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Prevention of Significant Deterioration (PSD) requirements, and for Hazardous Air Pollutants (HAPs), to avoid Maximum Achievable Control Technology (MACT) requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):

Operating Mode	Emissions Limitations (lbs/hr)						Mode Operating Time <sup>d</sup> (hrs/yr)
	NO <sub>x</sub>	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	HCl	HF	
A <sup>a</sup>	46.20	12.00	5.25	4.00	0.42	0.15	8,608
B <sup>b</sup>	198.00	12.00	5.25	4.00	0.42	0.15	96
C <sup>c</sup>	46.20	60.25	5.25	4.00	4.20	1.50	56
Emissions Limitations (tons per rolling 12-month period) <sup>e</sup>	209.64	54.07	23.00	17.52	1.95	0.68	

Notes:

<sup>a</sup> Operating Mode A = Normal operations (excludes maintenance performed in Modes B & C).

<sup>b</sup> Operating Mode B = SCR bypass for catalyst change (continued feed of lime and ammonia to the catalyst embedded ceramic filter).

<sup>c</sup> Operating Mode C = Catalyst embedded ceramic filter lime feed discontinued for rotary valve & screw feeder change (continued feed of ammonia).

<sup>d</sup> Mode Operating Time presents the hrs/yr for each mode that results in the greatest annual emissions for determining the potential-to-emit. Therefore, the maximum hours for operating under normal operations is not restricted to 8608 hours per year if the maximum number of hours operating under the alternate scenarios is not used, as this would not result in higher annual emissions.

<sup>e</sup> Emissions Limitations (in tons per rolling 12-month period) represent the potential-to-emit and were calculated by summing the total annual emissions from each operating mode. Annual emissions for each operating mode were

calculated by multiplying the hours per year (for each mode operating time) by the hourly emissions limitations and dividing by 2000 lbs/ton.

- b. For CO and VOC emissions, the Best Available Technology (BAT) requirements established pursuant to ORC rule 3704.03(T) have been determined to be compliance with the tons per month emission limitations. For NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> emissions, the BAT requirements established pursuant to ORC rule 3704.03(T) have been determined to be compliance with the tons per rolling 12-month period emission limitations established pursuant to OAC rule 3745-31-05(D).
- c. BAT requirements under OAC rule 3745-31-05(A)(3) are not applicable to the PE, HCl and HF emitted from this emissions unit. BAT is only applicable to emissions of an air contaminant or precursor of an air contaminant for which a national ambient air quality standard (NAAQS) has been adopted under the Clean Air Act. PE, HCl and HF are air contaminants that do not involve an established NAAQS.
- d. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).
- e. The emission limitation established pursuant to this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).
- f. Except as specified in this permit, the permittee shall demonstrate compliance with the applicable provisions of 40 CFR Part 60, Subpart CC in accordance with 40 CFR Part 60, Subpart A.
- g. Each continuous NO<sub>x</sub> monitoring system shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6. At least 45 days before commencing certification testing of the continuous NO<sub>x</sub> monitoring system(s), the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of NO<sub>x</sub> emissions from the continuous monitor(s), in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

The continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.



- h. Each continuous SO<sub>2</sub> monitoring system shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6. At least 45 days before commencing certification testing of the continuous SO<sub>2</sub> monitoring system(s), the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of SO<sub>2</sub> emissions from the continuous monitor(s), in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous SO<sub>2</sub> monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

The continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:

- a. This emission unit shall be controlled by a catalyst embedded ceramic filter system equipped with ammonia injection and a hydrated lime feed system, with additional control provided by an SCR. The control system shall be designed to meet the following source design characteristics during normal operation:

- i. 1.85 lbs NO<sub>x</sub>/ton glass draw;
- ii. 0.48 lb SO<sub>2</sub>/ton glass draw;
- iii. 0.21 lb PM<sub>10</sub>/ton glass draw;
- iv. 0.16 lb PM<sub>2.5</sub>/ton glass draw;
- v. 0.014 lb HCl/ton batch fill; and
- vi. 0.005 lb HF/ton batch fill.

All the emissions from this emission unit shall be captured and vented to the above referenced control equipment at all times this emissions unit is in operation, except as specified in c)(1)b. and c)(1)c., including any maintenance periods on the furnace where emissions are being generated.

- b. The amount of scheduled downtime associated with a catalyst change of the SCR controlling this emissions unit shall not exceed 96 hours per year, based upon a rolling, 12-month summation of the downtime hours.



**Effective Date:** To be entered upon final issuance

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the material throughput rates specified in the following table:

Maximum Allowable Cumulative Material Throughput Rates:

Month(s)	Maximum Allowable Operating Hours during SCR downtime
1 – 3	48
1 – 6	72
1 – 12	96

After the first 12 months of operation following the issuance of this permit, compliance with annual downtime hours limitation shall be based upon a rolling, 12-month summation of the downtime hours.

- c. The amount of scheduled downtime associated with the discontinuation of the lime feed of the catalyst embedded ceramic filter system controlling this emissions unit shall not exceed 56 hours per year, based upon a rolling, 12-month summation of the downtime hours.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the material throughput rates specified in the following table:

Maximum Allowable Cumulative Material Throughput Rates:

Month(s)	Maximum Allowable Operating Hours during SCR downtime
1 – 3	32
1 – 6	44
1 – 12	56

After the first 12 months of operation following the issuance of this permit, compliance with annual downtime hours limitation shall be based upon a rolling, 12-month summation of the downtime hours.

- (2) The permittee shall only burn natural gas in this emissions unit.
- (3) See 40 CFR Part 60, Subpart CC (40 CFR Part 60.290 - 60.296).

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information for when this emissions unit is operating under mode “B” (SCR catalyst change) and mode “C” (downtime of the lime feed system) respectively, while the emission unit P001 continues to operate:
  - a. the hours for each month, operating under mode “B” and “C” respectively;
  - b. during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative hours operating under mode “B” and “C” for each calendar month; and
  - c. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the hours operating under mode “B” and “C” respectively.
- (2) The permittee shall install, operate, and maintain equipment to continuously monitor and record NO<sub>x</sub> emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of all data obtained by the continuous NO<sub>x</sub> monitoring system including, but not limited to:

- a. emissions of NO<sub>x</sub> in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of NO<sub>x</sub> in pounds per hour and in units of the applicable standard(s) in the appropriate averaging period;
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous NO<sub>x</sub> monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NO<sub>x</sub> monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NO<sub>x</sub> monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).



All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

Prior to the installation of the continuous NO<sub>x</sub> monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous NO<sub>x</sub> monitoring system meets the requirements of Performance Specifications 2 and 6. Once received, the letter(s)/document(s) of certification shall be maintained on-site and shall be made available to the Ohio EPA, Northwest District Office upon request.

- (3) The permittee shall install, operate, and maintain equipment to continuously monitor and record SO<sub>2</sub> emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of all data obtained by the continuous SO<sub>2</sub> monitoring system including, but not limited to:

- a. emissions of SO<sub>2</sub> in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of SO<sub>2</sub> in pounds per hour and in units of the applicable standard(s) in the appropriate averaging period;
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous SO<sub>2</sub> monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous SO<sub>2</sub> monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous SO<sub>2</sub> monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).

All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

Prior to the installation of the continuous SO<sub>2</sub> monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous SO<sub>2</sub> monitoring system meets the requirements of Performance Specifications 2 and 6. Once received, the letter(s)/document(s) of certification shall be maintained on-site and shall be made available to the Ohio EPA, Northwest District Office upon request.

- (4) The continuous SO<sub>2</sub> monitoring system associated with this emissions unit is used as part of the process control system for the catalyst embedded ceramic filter system. The data from the monitor is used to adjust the hydrated lime feed rate for proper control of SO<sub>2</sub> emissions. The hydrated lime also acts as a reagent for control of both HCl and HF emissions. Based on the hydrated lime having a greater reactivity with HCl and HF as compared to SO<sub>2</sub>, the monitoring of the SO<sub>2</sub> emissions will result in a feed rate providing proper control of both HCl and HF emissions as well. Therefore, the hydrated lime feed rate to the control system shall be determined and adjusted on a continuous basis by the continuous SO<sub>2</sub> monitoring system for the purpose of controlling HCl and HF emissions, in addition to SO<sub>2</sub> emissions. The results of the emission testing conducted in accordance with condition f)(1) shall provide further verification of the relationship between the SO<sub>2</sub>, HCl, and HF emissions rates.
- (5) Whenever the monitored values for SO<sub>2</sub> emissions at the discharge of the dry scrubber unit deviate from the applicable limitations contained within this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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

- (6) 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 exhaust stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed from any points of capture and/or the stack, 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 minimize or 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)(6)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.

- (7) 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.
- (8) The PTI application for emissions units P001 and P003 was evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to these emissions units for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
  - a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
    - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices";  
or

ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).

c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\text{TLV}/10 \times 8/X \times 5/Y = 4 \text{ TLV}/XY = \text{MAGLC}$$

d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: Ammonia

TLV (mg/m<sup>3</sup>): 17.41

Maximum Hourly Emission Rate (lbs/hr): 0.75

Predicted 1-Hour Maximum Ground Level Concentration (ug/m<sup>3</sup>): 0.42

MAGLC (ug/m<sup>3</sup>): 414.6

Toxic Contaminant: Sulfuric Acid

TLV (mg/m<sup>3</sup>): 0.20

Maximum Hourly Emission Rate (lbs/hr): 0.60

Predicted 1-Hour Maximum Ground Level Concentration (ug/m<sup>3</sup>): 0.34

MAGLC (ug/m<sup>3</sup>): 4.76

Toxic Contaminant: Hydrogen Chloride

TLV (mg/m<sup>3</sup>): 2.98

Maximum Hourly Emission Rate (lbs/hr): 0.62

Predicted 1-Hour Maximum Ground Level Concentration (ug/m<sup>3</sup>): 2.08

MAGLC (ug/m<sup>3</sup>): 71.2

Toxic Contaminant: Fluorides

TLV (mg/m<sup>3</sup>): 2500

Maximum Hourly Emission Rate (lbs/hr): 0.265

Predicted 1-Hour Maximum Ground Level Concentration (ug/m<sup>3</sup>): 4.00

MAGLC (ug/m<sup>3</sup>): 59.52

The permittee has demonstrated that emissions of ammonia, sulfuric acid, hydrogen chloride, and fluorides from emissions units P001 and P003 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (9) Prior to making any physical changes to or changes in the method of operation of the emissions units, that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
  - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
  - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (10) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
  - d. the documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (11) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- (12) See 40 CFR Part 60, Subpart CC (40 CFR Part 60.290 - 60.296).

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- a. all exceedances of the hours of operation restrictions for the first 12 calendar months of operation and the rolling, 12-month hours of operation restrictions specified in c)(1)b. and c)(1)c.; and
  - b. For the daily visible emission checks:
    - i. all days during which any visible particulate emissions were observed from the stack serving this emission unit; and
    - ii. any corrective actions taken eliminate the visible emissions.

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

- (2) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NO<sub>x</sub> monitoring system:
- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA, Northwest District Office, documenting all instances of NO<sub>x</sub> emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
  - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
    - i. the facility name and address;
    - ii. the manufacturer and model number of the continuous NO<sub>x</sub> and other associated monitors;
    - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
    - iv. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
    - v. the total NO<sub>x</sub> emissions for the calendar quarter (tons);
    - vi. the total operating time (hours) of the emissions unit;
    - vii. the total operating time of the continuous NO<sub>x</sub> monitoring system while the emissions unit was in operation;
    - viii. results and date of quarterly cylinder gas audits;
    - ix. unless previously submitted, results and date of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
    - x. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO<sub>x</sub> monitor out-of-control and the compliant results following any corrective actions;
    - xi. the date, time, and duration of any/each malfunction\*\* of the continuous NO<sub>x</sub> monitoring system, emissions unit, and/or control equipment;

- xii. the date, time, and duration of any downtime\*\* of the continuous NO<sub>x</sub> monitoring system and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

\* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

\*\* each downtime and malfunction event shall be reported regardless of whether there is an exceedance of any applicable limit

- (3) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO<sub>2</sub> monitoring system:
  - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA, Northwest District Office, documenting all instances of SO<sub>2</sub> emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapter 3745-18, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
  - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
    - i. the facility name and address;
    - ii. the manufacturer and model number of the continuous SO<sub>2</sub> and other associated monitors;
    - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
    - iv. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
    - v. the total SO<sub>2</sub> emissions for the calendar quarter (tons);
    - vi. the total operating time (hours) of the emissions unit;



- vii. the total operating time of the continuous SO<sub>2</sub> monitoring system while the emissions unit was in operation;
- viii. results and date of quarterly cylinder gas audits;
- ix. unless previously submitted, results and date of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- x. unless previously submitted, the results of any relative accuracy test audit showing the continuous SO<sub>2</sub> monitor out-of-control and the compliant results following any corrective actions;
- xi. the date, time, and duration of any/each malfunction\*\* of the continuous SO<sub>2</sub> monitoring system, emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime\*\* of the continuous SO<sub>2</sub> monitoring system and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

\* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

\*\* each downtime and malfunction event shall be reported regardless of whether there is an exceedance of any applicable limit

- (4) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (5) The permittee shall submit annual reports that include any changes to any parameter or value used in the dispersion model used to demonstrate compliance with the "Toxic Air Contaminate Statute", ORC 3704.03(F), through the predicted 1-hour maximum concentration. The report should include:
  - a. the original model input;
  - b. the updated model input;
  - c. the reason for the change(s) to the input parameter(s); and
  - d. a summary of the results of the updated modeling, including the input changes; and



- e. a statement that the model results indicate that the 1-hour maximum ground-level concentration is less than 80% of the MAGLC.

If no changes to the emissions, emissions unit(s), or the exhaust stack have been made during the reporting period, then the report shall include a statement to that effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

- (6) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (7) See 40 CFR Part 60, Subpart CC (40 CFR Part 60.290 - 60.296).

f) Testing Requirements

- (1) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 60 days of achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup. Startup shall be defined as when the first glass is drawn from the furnace.
  - b. The emission testing shall be conducted to demonstrate compliance with the following:
    - i. emission limitation of 0.225 grams of particulate matter per kilogram of glass produced (0.45 lb PE per ton of glass produced) from 40 CFR 60.292(a)(1);
    - ii. lb/hr and lb/ton emission limitations for NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and HCl; and
    - iii. Emission testing shall also be conducted to verify the lb/ton emission factors for CO and VOC.
  - c. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations:

NO <sub>x</sub>	Methods 1-4 and 7 of 40 CFR Part 60, Appendix A
PE	Methods 1-5 of 40 CFR Part 60, Appendix A and the provisions of 40 CFR Part 60, Subpart CC, section 60.296
PM <sub>10</sub> and PM <sub>2.5</sub>	Methods 1-4 of 40 CFR Part 60, Appendix A and Methods 201A and 202 of 40 CFR Part 51, Appendix M.
SO <sub>2</sub>	Methods 1-4 and 6 of 40 CFR Part 60, Appendix A
CO	Methods 1-4 and 10 of 40 CFR Part 60, Appendix A
VOC	Methods 1-4 and 18, 25 or 25A of 40 CFR Part 60, Appendix A
HCl	Methods 1-4 and 26 or 26A of 40 CFR Part 60, Appendix A
HF	Methods 1-4 and 26 or 26A of 40 CFR Part 60, Appendix A

- d. During the emission testing, the emissions unit shall be operated under operational conditions approved in advance by the Ohio EPA, Northwest District Office. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the Ohio EPA, Northwest District Office that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
  - e. During emission testing, the permittee shall also record the following information:
    - i. the glass draw rate, in tons/hr; and
    - ii. the quantity of batch fill, in tons/hr.
  - f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northwest District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northwest District Office's refusal to accept the results of the emission test(s).
  - g. Personnel from the Ohio EPA, Northwest District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
  - h. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northwest District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northwest District Office.
- (2) Within 60 days of achieving the maximum production rate at which the emissions unit(s) will be operated, but not later than 180 days after initial startup, the permittee shall conduct certification tests of the continuous NO<sub>x</sub> monitoring system in units of the

applicable standard(s), to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I).

Personnel from the Ohio EPA Central Office and the Ohio EPA, Northwest District Office shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Ohio EPA, Northwest District Office and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification of the continuous NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I).

Ongoing compliance with the NO<sub>x</sub> emissions limitations contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.

- (3) Within 60 days of achieving the maximum production rate at which the emissions unit(s) will be operated, but not later than 180 days after initial startup, the permittee shall conduct certification tests of the continuous SO<sub>2</sub> monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I).

Personnel from the Ohio EPA Central Office and the Ohio EPA, Northwest District Office shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Ohio EPA, Northwest District Office and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification of the continuous SO<sub>2</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I).

Ongoing compliance with the SO<sub>2</sub> emission limitations contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.

- (4) Compliance with the Emissions Limitations and/or Control Requirements specified in section b)(1) of these terms and conditions shall be determined in accordance with the following methods:



Operating Mode	Emissions Limitations (lbs/hr)					
	NO <sub>x</sub>	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	HCl	HF
A	46.20	12.00	5.25	4.00	0.42	0.15
B	198.00	12.00	5.25	4.00	0.42	0.15
C	46.20	60.25	5.25	4.00	4.20	1.50

a. Emission Limitations:

Applicable Compliance Method:

Compliance with the lbs/hr emission limitations while operating under mode “A” shall be based upon the results of emission testing conducted in accordance with condition f)(1).

Compliance with the lbs/hr emission limitation for NO<sub>x</sub> while operating under mode “B” shall be based upon the emissions data obtained from the continuous NO<sub>x</sub> emissions monitor. As no other pollutants are affected by this operating mode change, compliance with the lbs/hr emission limitations for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, HCl, and HF while operating under operating mode “B” shall be based upon the results of emission testing conducted in accordance with condition f)(1).

Compliance with the lbs/hr emission limitation for SO<sub>2</sub> while operating under mode “C” shall be based upon the emissions data obtained from the continuous SO<sub>2</sub> emissions monitor. The hourly emission limitations for HCl and HF were developed based on the emissions data provided by the permittee as part of PTI application A0063226, dated 3/20/2019. If required, the permittee shall demonstrate compliance with the hourly emission limitations in accordance with Methods 1-4 and 26 or 26A of 40 CFR, Part 60, Appendix A. As the remaining pollutants are not affected by this operating mode change, compliance with the lbs/hr emission limitations for PM<sub>10</sub>, PM<sub>2.5</sub>, and NO<sub>x</sub>, while operating under operating mode “C” shall be based upon the results of emission testing conducted in accordance with condition f)(1).

b. Emission Limitations:

Emissions of NO<sub>x</sub> shall not exceed 1.85 lbs/ton glass draw

Emissions of SO<sub>2</sub> shall not exceed 0.48 lb/ton glass draw

Emissions of PM<sub>10</sub> shall not exceed 0.21 lb/ton glass draw

Emissions of PM<sub>2.5</sub> shall not exceed 0.16 lb/ton glass draw

Emissions of HCl shall not exceed 0.014 lb/ton batch fill

Emissions of HCF shall not exceed 0.005 lb/ton batch fill



Applicable Compliance Method:

Compliance with the lb/ton emission limitations shall be based upon the results of emission testing conducted in accordance with condition f)(1).

c. Emission Limitation:

0.225 grams of particulate matter per kilogram of glass produced (0.45 lb PE per ton of glass produced)

Applicable Compliance Method:

Compliance with the emission limitation above shall be based upon the results of emission testing conducted in accordance with condition f)(1).

d. Emission Limitations:

Emissions of NO<sub>x</sub> shall not exceed 209.64 tons per rolling, 12-month period

Emissions of SO<sub>2</sub> shall not exceed 54.07 tons per rolling, 12-month period

Emissions of PM<sub>10</sub> shall not exceed 23.0 tons per rolling, 12-month period

Emissions of PM<sub>2.5</sub> shall not exceed 17.52 tons per rolling, 12-month period

Emissions of HC shall not exceed 1.95 tons per rolling, 12-month period

Emissions of HF shall not exceed 0.68 ton per rolling, 12-month period

Applicable Compliance Method:

The rolling, 12-month emission limitations represent the potential to emit and are based on the federally enforceable requirements specified in condition b)(2)a. The potential to emit was calculated by summing the total annual emissions from each operating mode that represents the worst-case emissions. Annual emissions for each operating mode were calculated by multiplying the hours per year (for each mode operating time) by the hourly emissions limitations and dividing by 2000 lbs/ton. Therefore, if compliance is demonstrated with the maximum hourly emission rates and the maximum rolling 12-month hourly restrictions, compliance with the rolling, 12-month emission limitation shall also be demonstrated.

e. Emission Limitations:

Emissions of VOC shall not exceed 0.91 ton/month, averaged over a rolling 12-month period

Emissions of CO shall not exceed 0.91 ton/month, averaged over a rolling, 12-month period



Applicable Compliance Method:

The monthly emission limitations represent the potential to emit\* of this emissions unit, therefore no monitoring, recordkeeping or reporting are necessary to demonstrate compliance.

\*The emissions limitations are based on calculations provided by the permittee as part of PTI application A0063226, dated 3/20/2019, using a lbs/ton emission factor in conjunction with the maximum production rates, operating at 8760 hrs/yr, and dividing by 12 months of operation. The lbs/ton emissions factors will be verified as part of the testing requirements specified in condition f)(1).

f. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

Appliance Compliance Method:

If required, the permittee shall demonstrate compliance with the visible emission limitation in accordance with the testing requirements specified in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

(1) None.

**4. P002**

**Operations, Property and/or Equipment Description:**

Glass Forming Process - Bath & Lehr

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 operation(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 are identified below. 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.	ORC 3704.03(T)	1.45 tons sulfur dioxide (SO <sub>2</sub> ) emissions per month averaged over a 12-month rolling period.
b.	OAC rule 3745-18-06(E)(2)	173 pounds sulfur dioxide (SO <sub>2</sub> ) per hour.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) None.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b)(1) of these terms and conditions shall be determined in accordance with the following methods:





a. Emissions Limitation:

1.45 tons SO<sub>2</sub> emissions per month averaged over a 12-month rolling period.

Applicable Compliance Method:

The monthly allowable emission limitation was established based on the potential to emit\*. Therefore, no recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance.

SO<sub>2</sub> emissions are generated by the injection of SO<sub>2</sub> gas near the transitional roll in the bath to improve glass quality and act as a lubricant to prevent damage by the hard transitional roll.

\*The potential to emit for emissions of SO<sub>2</sub> was determined multiplying an emission factor of 0.1584 pound SO<sub>2</sub> per ton of glass drawn, a maximum glass draw rate of 25 tons per hour, an average monthly operating schedule of 730 hours, a conversion factor of 1 ton per 2000 pounds.

The emission factor is derived from a maximum SO<sub>2</sub> usage rate of 0.176 pounds per ton of glass drawn and 10% of the SO<sub>2</sub> gas reacting and being retained on the glass.

If required, a demonstration of the pound SO<sub>2</sub> emissions per ton of glass drawn shall be performed in accordance with U.S. EPA Reference Methods 1 through 4, and 6 in 40 CFR Part 60, Appendix A.

b. Emissions Limitation:

173 pounds SO<sub>2</sub> per hour

Applicable Compliance Method:

The potential to emit\* of SO<sub>2</sub> from this emissions unit is less than the allowable limitation established by OAC rule 3745-18-06(E)(2). Therefore, no recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance.

\*The potential to emit for emissions of SO<sub>2</sub> is 3.96 pounds per hour and was determined multiplying an emission factor of 0.1584 pound SO<sub>2</sub> per ton of glass drawn and a maximum glass draw rate of 25 tons per hour.

The emission factor is derived from a maximum SO<sub>2</sub> usage rate of 0.176 pounds per ton of glass drawn and 10% of the SO<sub>2</sub> reacting and being retained on the glass.

If required, the permittee shall demonstrate compliance with the hourly emission limitation by testing in accordance with OAC rule 3745-18-04(A).



**Draft Permit-to-Install**  
NSG Glass North America, Inc.  
**Permit Number:** P0125848  
**Facility ID:** 0387002042

**Effective Date:** To be entered upon final issuance

g) Miscellaneous Requirements

- (1) None.

**5. P003**

**Operations, Property and/or Equipment Description:**

Chemical Vapor Deposition (CVD) Coating Process controlled by a thermal oxidizer, dry scrubber and 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) b)(1)g., d)(9) through d)(12) and e)(3).

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. 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(D)	<p>Emissions of particulate matter less than or equal to 10 microns in size/particulate matter less than or equal to 2.5 microns in size (PM<sub>10</sub>/PM<sub>2.5</sub>) shall not exceed 0.15 lb/hr and 0.66 ton of PM<sub>10</sub>/PM<sub>2.5</sub> per rolling, 12-month period</p> <p>Emissions of volatile organic compounds (VOC) shall not exceed 0.07 lb/hr and 0.31 ton per rolling, 12-month period</p> <p>Emissions of hydrochloric acid (HCl) shall not exceed 0.20 lb/hr and 0.89 ton per rolling, 12-month period</p> <p>Emissions of hydrogen fluoride (HF) shall not exceed 0.02 lb/hr and 0.09 ton per rolling, 12-month period</p> <p>See b)(2)a. and c)(1)</p>
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	<p>Emissions of nitrogen oxides (NO<sub>x</sub>) shall not exceed 0.226 ton/month averaged over a rolling, 12-month period</p> <p>Emissions of sulfur dioxide (SO<sub>2</sub>) shall not exceed 0.002 ton/month averaged over a rolling, 12-month period</p>



**Effective Date:** To be entered upon final issuance

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Emissions of carbon monoxide (CO) shall not exceed 0.189 ton/month, averaged over a rolling, 12-month period  See b)(2)b., b)(2)c., and b)(2)d.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO <sub>x</sub> , SO <sub>2</sub> , PM <sub>10</sub> /PM <sub>2.5</sub> , VOC and CO emissions from these air contaminant sources since the potential to emit for each pollutant is less than 10 tons/year.  See b)(2)e.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
e.	OAC rule 3745-17-11(B)	See b)(2)f.
f.	OAC rule 3745-18-06	See b)(2)f.
g.	OAC rule 3745-114-01 ORC 3704.03(F)(3)(c) and (F)(4)	See d)(9) through d)(12) and e)(3)

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Prevention of Significant Deterioration (PSD) requirements, and for Hazardous Air Pollutants (HAPs), to avoid Maximum Achievable Control Technology (MACT) requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):

Pollutant	Emission Limitations
PM <sub>10</sub> /PM <sub>2.5</sub>	0.15 lb/hr and 0.66 ton per rolling, 12-month period
VOC	0.07 lb/hr and 0.31 ton per rolling, 12-month period
HCl	0.20 lb/hr and 0.89 ton per rolling, 12-month period
HF	0.02 lb/hr and 0.09 ton per rolling, 12-month period

- b. For NO<sub>x</sub>, SO<sub>2</sub>, and CO emissions, the BAT requirements established pursuant to OAC rule 3745-31-05(A)(3) have been determined to be compliance with the ton per month emission limitations. For VOC and PM<sub>10</sub>/PM<sub>2.5</sub> emissions, the BAT requirements established pursuant to OAC rule 3745-31-05(A)(3) have been determined to be compliance with the tons per rolling 12-month period emission limitations established pursuant to OAC rule 3745-31-05(D).



- c. These BAT emissions limits apply until U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- d. BAT requirements under OAC rule 3745-31-05(A)(3) are not applicable to the HCl and HF emitted from this emissions unit. BAT is only applicable to emissions of an air contaminant or precursor of an air contaminant for which a national ambient air quality standard (NAAQS) has been adopted under the Clean Air Act. HCl and HF are air contaminants that do not involve an established NAAQS.
- e. These requirements apply once U.S. EPA approves paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

It should be noted that the emission limitations established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:

- a. The CVD Coating Process shall be controlled by the following control equipment designed to meet the specified source design characteristics:
  - i. The permittee shall install and operates a thermal oxidizer designed to achieve emissions of 0.571 lb VOC/ton of CVD coating employed;
  - ii. The permittee shall install and operate a dry scrubber system designed to achieve emissions of 1.631 lbs HCl/ton of CVD coating employed and 0.163 lb HF/ton of CVD coating employed; and
  - iii. The permittee shall install and operate a baghouse designed to achieve a maximum outlet grain loading of 0.0032 grain per dry standard cubic feet (dscf) of PM<sub>10</sub>/PM<sub>2.5</sub>.

All the emissions from this emission unit shall be captured and vented to the above referenced control equipment at all times this emissions unit is in operation, and during any maintenance periods where emissions are being generated.

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

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable combustion temperature within the thermal oxidizer, during any period of time when this emissions unit controlled by the thermal oxidizer is in operation, shall not be less than the average temperature measured (in degrees Fahrenheit) during the most recent compliant stack test, based on a 3-hour block average. Until compliance testing has been conducted, the thermal oxidizer shall be operated and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manual.

The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within  $\pm 1$  percent of the temperature being measured or  $\pm 5$  degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The acceptable temperature setting shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate temperature setting is established to demonstrate compliance. Following compliance testing, the permittee shall collect and record the following information each day the emissions unit is in operation:

- a. all 3-hour blocks of time, when the emissions unit controlled by the thermal oxidizer was in operation, during which the average combustion temperature within the thermal oxidizer was below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance; and
  - b. a log (date and total time) of the downtime or bypass of the capture (collection) system and thermal oxidizer, and/or downtime of the monitoring equipment, when the associated emissions unit was in operation.
- (2) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
- a. the date and time the deviation began;
  - b. the magnitude of the deviation at that time;
  - c. the date the investigation was conducted;
  - d. the name(s) of the personnel who conducted the investigation; and
  - e. the findings and recommendations.

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

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the temperature readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

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

The temperature range/limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA Northwest District Office. The permittee may request revisions to the permitted temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

- (3) The permittee shall properly install, operate and maintain equipment to continuously monitor and record the controlled HCl emission values of this emissions unit. The monitored emission values shall be in the units of lbs of HCl/hr based on a 3-hr block average

The permittee shall maintain records of all data obtained by the continuous HCl monitoring system including, but not limited to:

- a. emissions of HCl in pounds per hour, averaged over a 3-hr block period;
- b. results of any audits, calibration checks, or other tests conducted by the permittee for the purpose of maintaining the accuracy of the equipment as required by condition g)(1);
- c. hours of operation of the emissions unit, continuous HCl monitoring system, and control equipment;

- d. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous HCl monitoring system;
- e. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous HCl monitoring system; as well as,
- f. the reason (if known) and the corrective actions taken (if any) for each such event in (d) and (e).

All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

- (4) The HCl analyzer associated with this emissions unit is used as part of the process control system for the dry scrubber. The data from the analyzer is used to adjust the reagent injection rate to the dry scrubber for proper control of HCl and HF emissions. This analyzer was not installed with the intent of satisfying the requirements specified in 40 CFR Part 60, Appendix B, Performance Specification 2, and therefore is not certified as a true continuous HCl monitoring system. Even though the analyzer is not certified as true continuous HCl monitoring system, it will be verified to that it provides accurate emission concentration data as compared to emission concentration data simultaneously obtained through 40 CFR Part 60, Appendix A, Method 26 or 26A. As such, the data from the analyzer will be used as part of a data acquisition system to collect and record information to ensure ongoing compliance with the HCl emission limitations.
- (5) Whenever the monitored values for HCl emissions at the discharge of the dry scrubber unit deviate from the applicable limitations contained within this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

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



- (6) The reagent used in the dry scrubber controls emissions of both HCl and HF. Based on the reagent having a greater reactivity with HF as compared to HCl, the monitoring of the HCl emissions will result in a reagent injection rate providing proper control of both HCl and HF emissions. Therefore, the reagent injection rate to the control system shall be determined and adjusted on a continuous basis by the continuous HCl monitoring system for the purpose for controlling both HCl and HF emissions. The programmable logic controller (PLC) program utilized by the control system shall not be altered from the control logic instituted during the most recent compliance test. If alterations to the PLC program are necessary, permittee shall submit requested changes to the Ohio EPA, Northwest District Office for approval.
- (7) 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 exhaust stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed from any points of capture and/or the stack, 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 minimize or 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)(7)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.

- (8) 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.
- (9) The PTI application for emissions units P001 and P003 was evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to these emissions units for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The

predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
  - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
  - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: Ammonia

TLV (mg/m<sup>3</sup>): 17.41

Maximum Hourly Emission Rate (lbs/hr): 0.75

Predicted 1-Hour Maximum Ground Level Concentration (ug/m<sup>3</sup>): 0.42

MAGLC (ug/m<sup>3</sup>): 414.6

Toxic Contaminant: Sulfuric Acid

TLV (mg/m<sup>3</sup>): 0.20



Maximum Hourly Emission Rate (lbs/hr): 0.60

Predicted 1-Hour Maximum Ground Level Concentration (ug/m<sup>3</sup>): 0.34

MAGLC (ug/m<sup>3</sup>): 4.76

Toxic Contaminant: Hydrogen Chloride

TLV (mg/m<sup>3</sup>): 2.98

Maximum Hourly Emission Rate (lbs/hr): 0.62

Predicted 1-Hour Maximum Ground Level Concentration (ug/m<sup>3</sup>): 2.08

MAGLC (ug/m<sup>3</sup>): 71.2

Toxic Contaminant: Fluorides

TLV (mg/m<sup>3</sup>): 2500

Maximum Hourly Emission Rate (lbs/hr): 0.265

Predicted 1-Hour Maximum Ground Level Concentration (ug/m<sup>3</sup>): 4.00

MAGLC (ug/m<sup>3</sup>): 59.52

The permittee has demonstrated that emissions of ammonia, sulfuric acid, hydrogen chloride, and fluorides from emissions units P001 and P003 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (10) Prior to making any physical changes to or changes in the method of operation of the emissions units, that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
  - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
  - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the “Toxic Air Contaminant Statute” will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a “modification” under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a “modification”, the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (11) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
  - d. the documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (12) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- e) Reporting Requirements
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

- a. For the thermal oxidizer:
  - i. all 3-hour blocks of time when the emissions unit was in operation during which the average combustion temperature within the thermal oxidizer was below the average temperature maintained during the most recent performance test that demonstrated the emissions units was in compliance;
  - ii. any records of downtime (date and length of time) for the capture (collection) system, the thermal oxidizer, and/or the monitoring equipment when the emissions unit was in operation; and,
  - iii. a log of the operating time for the capture system, thermal oxidizer, monitoring equipment, and the emissions unit.
- b. For the continuous HCl monitoring system:
  - i. any exceedances of the hourly HCl emission rate;
  - ii. any events of control equipment or monitoring equipment downtime as they are specified in condition d)(3); and,
  - iii. any events and the details of any inspections conducted as they are specified in condition d)(5).
- c. For the daily visible emission checks:
  - i. all days during which any visible particulate emissions were observed from the stack serving this emission unit; and
  - ii. any corrective actions taken eliminate the visible emissions.

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

- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (3) The permittee shall submit annual reports that include any changes to any parameter or value used in the dispersion model used to demonstrate compliance with the "Toxic Air Contaminate Statute", ORC 3704.03(F), through the predicted 1-hour maximum concentration. The report should include:
  - a. the original model input;
  - b. the updated model input;
  - c. the reason for the change(s) to the input parameter(s); and



- d. a summary of the results of the updated modeling, including the input changes; and
- e. a statement that the model results indicate that the 1-hour maximum ground-level concentration is less than 80% of the MAGLC.

If no changes to the emissions, emissions unit(s), or the exhaust stack have been made during the reporting period, then the report shall include a statement to that effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

- (4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 60 days of achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup.
  - b. The emission testing shall be conducted to demonstrate compliance with the following:
    - i. the lb/hr and lb/ton emission limitations for VOC, HCl, and HF; and
    - ii. the lb/hr and outlet grain loading for PM<sub>10</sub> /PM<sub>2.5</sub>.
  - c. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations:

PM <sub>10</sub> and PM <sub>2.5</sub>	Methods 1-4 of 40 CFR Part 60, Appendix A and Methods 201A and 202 of 40 CFR Part 51, Appendix M.
VOC	Methods 1-4 and 18, 25 or 25A of 40 CFR, Part 60, Appendix A
HCl	Methods 1-4 and 26 or 26A of 40 CFR Part 60, Appendix A
HF	Methods 1-4 and 26 or 26A of 40 CFR Part 60, Appendix A

- d. During the emission testing, the emissions unit shall be operated under operational conditions approved in advance by the Ohio EPA, Northwest District Office. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions



they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the Ohio EPA, Northwest District Office that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- e. During emission testing, the permittee shall also record the following information:
    - i. the minimum operating temperature of the thermal oxidizer; and
    - ii. the quantity of CVD coating employed, in tons/hr.
  - f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northwest District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northwest District Office's refusal to accept the results of the emission test(s).
  - g. Personnel from the Ohio EPA shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
  - h. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northwest District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northwest District Office.
- (2) Compliance with the Emissions Limitations and/or Control Requirements specified in section b)(1) of these terms and conditions shall be determined in accordance with the following methods:
- a. Emission Limitations:
    - Emissions of PM<sub>10</sub>/PM<sub>2.5</sub> shall not exceed 0.15 lb/hr and 0.0032 grain per dscf of PM<sub>10</sub>/PM<sub>2.5</sub>
    - Emissions of VOC shall not exceed 0.07 lb/hr and 0.571 lb VOC/ton of CVD coating employed
    - Emissions of HCl shall not exceed 0.20 lb/hr and 1.631 lbs HCl/ton of CVD coating employed



Emissions of HF shall not exceed 0.02 lb/hr and 0.163 lb HF/ton of CVD coating employed

Applicable Compliance Method:

Compliance with the lbs/hr emission limitations shall be based upon the results of emission testing conducted in accordance with condition f)(1).

b. Emission Limitations:

Emissions of PM<sub>10</sub>/PM<sub>2.5</sub> shall not 0.66 ton per rolling, 12-month period

Emissions of VOC shall not exceed 0.31 ton per rolling, 12-month period

Emissions of HC shall not exceed 0.89 ton per rolling, 12-month period

Emissions of HF shall not exceed 0.09 ton per rolling, 12-month period

Applicable Compliance Method:

The rolling, 12-month emission limitations were established by multiplying the hourly limitation by 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance with the rolling, 12-month emission limitation shall also be demonstrated.

c. Emission Limitations:

Emissions NO<sub>x</sub> shall not exceed 0.226 ton/month averaged over a rolling, 12-month period

Emissions of SO<sub>2</sub> shall not exceed 0.002 ton/month averaged over a rolling, 12-month period

Emissions of CO shall not exceed 0.91 ton/month, averaged over a rolling, 12-month period

Applicable Compliance Method:

The monthly emission limitations represent the potential to emit\* of this emissions unit, therefore no monitoring, recordkeeping or reporting are necessary to demonstrate compliance.

\*The emissions limitations are based on calculations provided by the permittee as part of PTI application A0063226, dated 3/20/2019, using the maximum hourly emission rates, operating at 8760 hrs/yr, and dividing by 12 months of operation. If required, the permittee shall verify the maximum hourly emission rates in accordance with Methods 1-4 and 7 of 40 CFR, Part 60, Appendix A for NO<sub>x</sub>, Methods 1-4 and 6 of 40 CFR, Part 60, Appendix A for SO<sub>2</sub>, and Methods 1-4 and 10 of 40 CFR, Part 60, Appendix A for CO.



d. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

Appliance Compliance Method:

If required, the permittee shall demonstrate compliance with the visible emission limitation in accordance with the testing requirements specified in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

- (1) The permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of HCl emissions from the continuous monitoring system, in the units established in this permit. The quality assurance/quality control plan and a logbook dedicated to the continuous HCl monitoring system must be kept on site and available for inspection during regular office hours. The plan shall include the requirement to conduct periodic audits and/or other tests, in accordance with an appropriate frequency as established by the permittee.
- (2) The continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

**6. P009**

**Operations, Property and/or Equipment Description:**

On-line glass cutting

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) b)(2)c. and d)(1).

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. 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) June 30, 2008	0.46 ton volatile organic compound (VOC) emissions per month averaged over a 12-month rolling period.  See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)b.
c.	OAC rule 3745-114-01 ORC 3704.03(F)(3)(c) and (F)(4)	See d)(1)

(2) Additional Terms and Conditions

a. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

b. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be

less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit.

e) Reporting Requirements

(1) None.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

0.46 ton VOC emissions per month averaged over a 12-month rolling period.

Applicable Compliance Method:

The monthly allowable emission limitation was established based on the potential to emit\*. Therefore, no recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance.

\*The potential to emit is based on VOC emissions generated from the evaporation of cutting oil and was determined by multiplying a maximum cutting oil usage rate of 0.05 pound per ton of glass, a 100% volatilization rate of cutting oil used, a maximum glass draw rate of 25 tons per hour, an average monthly operating schedule of 730 hours, and a conversion factor of 1 ton per 2000 pounds.

If required, a demonstration of the pound of VOC emissions per ton of glass shall be demonstrated with calculations using cutting oil VOC content data, actual oil cutting usage data, and actual glass processing rate information.

g) Miscellaneous Requirements

(1) None.

**7. P010**

**Operations, Property and/or Equipment Description:**

Cullet Return System controlled by a 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) along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. 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(D)	Emissions shall not exceed 0.77 lb of particulate matter less than or equal to 10 microns in size/particulate matter less than or equal to 2.5 microns in size (PM <sub>10</sub> /PM <sub>2.5</sub> )/hr and 3.38 tons of PM <sub>10</sub> /PM <sub>2.5</sub> per rolling, 12-month period  See b)(2)a. and c)(1)
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)b. and b)(2)c.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM <sub>10</sub> /PM <sub>2.5</sub> emissions from these air contaminant sources since the potential to emit for each pollutant is less than 10 tons/year.  See b)(2)d.
e.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) from the stack serving this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
f.	OAC rule 3745-17-11(B)	See b)(2)e.

(2) Additional Terms and Conditions

a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit from this emissions unit. The federally



enforceable emission limitations are based on the operational restriction contained in c)(1):

i. 0.77 lb of PM<sub>10</sub>/PM<sub>2.5</sub>/hr and 3.38 ton of PM<sub>10</sub>/PM<sub>2.5</sub> per rolling, 12-month period.

b. The BAT requirement for this emissions unit for PM<sub>10</sub>/PM<sub>2.5</sub> emissions has been determined to be compliance with the rolling, 12-month period emission limitations established pursuant to OAC rule 3745-31-05(D).

c. These BAT emissions limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

d. These requirements apply once U.S. EPA approves paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

It should be noted that the emission limitations established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

e. The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).

c) Operational Restrictions

(1) The following operational restriction has been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:

a. The permittee shall install and operate a baghouse designed to achieve a maximum outlet grain loading of 0.002 grains per dry standard cubic feet (dscf) of PM<sub>10</sub>/PM<sub>2.5</sub>. All emissions from this emissions unit shall be routed to this baghouse.

d) Monitoring and/or Recordkeeping Requirements

(1) 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 exhaust stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed from any points of capture and/or the stacks, 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 minimize or 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)(1)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.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify all of the following:
  - a. all days during which any visible particulate emissions were observed from any stack serving this emission unit; and
  - b. any corrective actions taken eliminate the visible emissions.

These quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the standard terms and conditions of this permit.

- (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) The permittee shall conduct emission testing for this emissions unit in accordance with the following requirements:
  - a. The emissions testing shall be conducted within 180 days after initial startup of this emissions unit.
  - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PM<sub>10</sub>/PM<sub>2.5</sub> and the performance standard of 0.002 grains/dscf of PM<sub>10</sub>/PM<sub>2.5</sub>.
  - c. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations:

For PM<sub>10</sub>/PM<sub>2.5</sub>: Methods 1-4 of 40 CFR Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Appendix M.

- d. During the emission testing, the emissions unit shall be operated under operational conditions approved in advance by the Ohio EPA, Northwest District Office. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the Ohio EPA, Northwest District Office that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
  - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northwest District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northwest District Office's refusal to accept the results of the emission test(s).
  - f. Personnel from the Ohio EPA, Northwest District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
  - g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northwest District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northwest District Office.
- (2) Compliance with the Emissions Limitations and/or Control Requirements specified in section b)(1) of these terms and conditions shall be determined in accordance with the following methods:
- a. Emission Limitation:  
  
0.77 lb of PM<sub>10</sub>/PM<sub>2.5</sub>/hr, 0.002 grains/dscf of PM<sub>10</sub>/PM<sub>2.5</sub>, and 3.38 tons of PM<sub>10</sub>/PM<sub>2.5</sub> per rolling, 12-month period



Applicable Compliance Method:

Compliance with the lbs/hr emission limitation shall be based upon the results of emission testing conducted in accordance with condition f)(1).

The rolling, 12-month PE/PM<sub>10</sub>/PM<sub>2.5</sub> emission limitation was established by multiplying the hourly limitation by 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance with the rolling, 12-month emission limitation shall also be demonstrated.

b. Emission Limitation:

Visible PE from the stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except as specified by rule

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined through visible emissions observations performed in accordance with OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

- (1) None.



**8. Emissions Unit Group - Batch Plant: P901, P902, P903, P904 and P905**

EU ID	Operations, Property and/or Equipment Description
P901	Batch Material Train/Truck Unloading Shed
P902	Batch Material Bucket Elevator to Storage
P903	Cullet Unloading Shed and Bucket Elevator to Storage
P904	Batch and Cullet Storage Silos/Hopper
P905	Batch Weighing, Mixing and Transfer to Furnace

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 operation(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 are identified below. 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(D)	Emissions from emissions units P901, P902, P903, P904, and P905, combined, shall not exceed:  <u>Stack Emissions:</u> 0.002 grains per dry standard cubic feet (dscf) of particulate matter less than or equal to 10 microns in size/particulate matter less than or equal to 2.5 microns in size (PM <sub>10</sub> /PM <sub>2.5</sub> )/hr and 0.74 ton of PM <sub>10</sub> /PM <sub>2.5</sub> per rolling, 12-month period  <u>Fugitive Emissions:</u> 0.52 ton of PM <sub>10</sub> per rolling, 12-month period  0.29 ton of PM <sub>2.5</sub> per rolling, 12-month period  See b)(2)a. and c)(1)
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)b. and b)(2)c.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		05(A)(3) do not apply to the PM <sub>10</sub> /PM <sub>2.5</sub> emissions from these air contaminant sources since the potential to emit for each pollutant is less than 10 tons/year.  See b)(2)d.
e.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) from any stacks serving these emission units shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
f.	OAC rule 3745-17-11(B)	See b)(2)e.
g.	OAC rule 3745-17-07(B)	See b)(2)f.
h.	OAC rule 3745-17-08(B)	See b)(2)g.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit from this emissions unit. The federally enforceable emission limitations are based on the operational restriction contained in c)(1):
  - i. Stack Emissions: 0.34 ton of PM<sub>10</sub>/PM<sub>2.5</sub> per rolling, 12-month period from emissions units P901, P902, P903, P904, and P905 combined;
  - ii. Fugitive Emissions: 0.52 ton of PM<sub>10</sub> per rolling, 12-month period from emissions units P901, P902, P903, P904, and P905 combined; and
  - iii. Fugitive Emissions: 0.29 ton of PM<sub>2.5</sub> per rolling, 12-month period from emissions units P901, P902, P903, P904, and P905 combined.
- b. The BAT requirement for these emissions units for PM<sub>10</sub>/PM<sub>2.5</sub> emissions has been determined to be compliance with the rolling, 12-month period emission limitations established pursuant to OAC rule 3745-31-05(D).
- c. These BAT emissions limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- d. These requirements apply once U.S. EPA approves paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

It should be noted that the emission limitations established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.



**Effective Date:** To be entered upon final issuance

- e. The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).
- f. The permittee is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emission unit is exempt from the requirements of OAC rule 3745-17-07(B).
- g. This emission unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(B) pursuant to OAC rule 3745-17-07(B)(11)(e).

c) Operational Restrictions

(1) The following operational restriction has been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:

- a. The permittee shall install and operate a baghouse collection system which consists of the following filtrations systems and collection points associated with the batch plant:

Dust Collector ID	Description of Emission Point	Flow Rate (ft <sup>3</sup> /min)
DC01	Batch Unloading Hopper/Shed	3500
DC02	Batch Bucket Elevator Tail	500
DC03	Batch Bucket Elevator Head	500
DC06	Cullet Bucket Elevator Tail	500
DC07	Cullet Bucket Elevator Head	500
DC08	Batch Material. #11 Silo Bin Vent	300
DC09	Batch Material #5 & #6 Silo Bin Vent	300
DC10	Batch Material #7 & #8 Silo Bin Vent	300
DC11	Batch Material #1 & #2 Silo Bin Vent	300
DC12a	Batch Material #10 Silo Bin Vent	300
DC12b	Batch Material #11 Silo Bin Vent	300
DC13	Cullet Silos Bin Vent	300
DC14	Batch Mat #12 Storage Bin Vent	50
DC15	Major Batch Weigh Hopper	175
DC16	Minor Material Weigh Hopper	50
DC17	Mixer/surge hopper/cullet scale	500
DC19	Bath/Cullet Collecting Conveyor	300



**Effective Date:** To be entered upon final issuance

DC20	Batch Cullet Bucket Elevator Tail	500
DC21	Batch Cullet Bucket Elevator Head	500
DC22	Batch Cullet Delivery Conveyor	300

Each filtration system shall be designed to achieve a maximum outlet grain loading of 0.002 grains/dscf of PM<sub>10</sub>/PM<sub>2.5</sub>. All emissions from emissions units P901, P902, P903, P904, and P905 shall be routed to this baghouse collection system.

d) Monitoring and/or Recordkeeping Requirements

- (1) 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 exhaust stacks and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed from any points of capture and/or the stacks, 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 minimize or 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)(1)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.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify all of the following:



- a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit;
- b. all days during which any visible particulate emissions were observed from any stack serving this emission unit; and
- c. any corrective actions taken eliminate the visible emissions.

These quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the standard terms and conditions of this permit.

- (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) **Testing Requirements**

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b)(1) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:

Stack emissions shall not exceed 0.002 gr/dscf of PM<sub>10</sub>/PM<sub>2.5</sub> and 0.74 ton of PE/PM<sub>10</sub>/PM<sub>2.5</sub> per rolling, 12-month period from emissions units P901, P902, P903, P904, and P905 combined

Applicable Compliance Method:

The maximum outlet grain loading of 0.002 gr/cf is based on vendor guarantees as provided by the permittee as part of PTI application A0063226, dated 3/20/2019.

If required, the permittee shall demonstrate compliance with the maximum outlet grain loading by testing in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.

The rolling, 12-month PM<sub>10</sub>/PM<sub>2.5</sub> emission limitation was established by multiplying the maximum outlet grain loading of 0.002 gr/cf by the maximum exhaust gas flow rate of 9775 dscf/minute and conversion factors of 60 minutes/hr, 7,000 gr/lb, 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the maximum outlet grain loading, compliance with the rolling, 12-month emission limitation shall also be demonstrated.

- b. Emission Limitation:

Fugitive emissions of 0.52 ton of PM<sub>10</sub> per rolling, 12-month period from emissions units P901, P902, P903, P904, and P905 combined.



**Effective Date:** To be entered upon final issuance

Fugitive emissions of 0.29 ton of PM<sub>2.5</sub> per rolling, 12-month period from emissions units P901, P902, P903, P904, and P905 combined.

Applicable Compliance Method:

The rolling, 12-month PM<sub>10</sub> and PM<sub>2.5</sub> fugitive emission limitations were developed based on calculations provided by the permittee as part of PTI application A0063226, dated 3/20/2019. Provided compliance is maintained with the visible emission checks specified in condition d)(1), compliance with the rolling, 12-month emission limitation shall also be demonstrated.

c. Emission Limitation:

Visible PE from any stacks serving these emission units shall not exceed 20% opacity, as a six-minute average, except as specified by rule

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined through visible emissions observations performed in accordance with OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

(1) None.

**9. Emissions Unit Group - Emergency Generators: P004 and P005**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P004	Emergency Diesel Back-up RICE Generator #1
P005	Emergency Diesel Back-up RICE Generator #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) b)(1)e., b)(1)h., b)(2)i., and b)(2)k.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	<b>Applicable Rules/Requirements</b>	<b>Applicable Emissions Limitations/Control Measures</b>
a.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)(5)(b)	Particulate emissions from the engine's exhaust shall not exceed 0.062 lb/MMBtu actual heat input.
c.	OAC rule 3745-18-06(G)	Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.5 lb/MMBtu actual heat input.
d.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)f. and b)(2)g.
e.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)h. and b)(2)i.
f.	OAC rule 3745-31-05(D)	Federally enforceable limitations from emissions units P004 and P005 combined for nitrogen oxides (NO <sub>x</sub> ), carbon monoxide (CO), volatile organic compounds (VOC), and emissions of particulate matter 10 microns or less in size and particulate matter less than 2.5 microns in size (PM <sub>10</sub> /PM <sub>2.5</sub> )  See b)(2)a.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
g.	OAC rule 3745-110-03	See b)(2)j.
h.	OAC rule 3745-114-01 ORC 3704.03(F)(3)(c) and (F)(4)	See b)(2)k.
i.	40 CFR Part 60, Subpart IIII [40 CFR Part 60.4211 - 60.4219]  [In accordance with 40 CFR 60.4200(a)(2)(i) and 60.4205(b), this emissions unit is a 2,000 kW (3,353 HP) emergency stationary compression ignition (CI) internal combustion engine (ICE) manufactured after April 1, 2006 with a displacement of less than 30 liters per cylinder subject to the emissions limitations/control measures specified in this section.]	Each engine shall be certified to meet the following emissions standards:  <ul style="list-style-type: none"> <li>○ 0.20 gram PM/kW-hr;</li> <li>○ 6.4 grams NOx + NMHC/kW-hr;</li> <li>○ 3.5 grams CO/kW-hr;</li> <li>○ 20 percent opacity during the acceleration mode;</li> <li>○ 15 percent opacity during the lugging mode; and</li> <li>○ 50 percent opacity during the peaks in either the acceleration or lugging modes.</li> </ul> This rule requires that the diesel fuel used must meet the requirements established pursuant to 40 CFR 80.510(c).  See b)(2)b. through b)(2)e.
j.	40 CFR Part 60, Subpart A	Table 8 to 40 CFR Part 60, Subpart IIII- "Applicability of General Provisions to Subpart IIII" identifies which parts of the General Provisions in 40 CFR Part 60.1-19 apply.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting the Potential to Emit (PTE) for NOx, VOC, CO, PM10/PM2.5:
- i. NOx emissions:
    - (a) Individual engine emissions shall not exceed 35.30 lbs/hr; and
    - (b) Annual emissions shall not exceed shall not exceed 17.65 tons per rolling, 12-month period from emissions units P004 and P005 combined.
  - ii. CO emissions:
    - (a) Individual engine emissions shall not exceed 15.43 lbs/hr; and



- (b) Annual emissions shall not exceed shall not exceed 7.72 tons per rolling, 12-month period from emissions units P004 and P005 combined.
- iii. VOC emissions:
  - (a) Individual engine emissions shall not exceed 3.53 lbs/hr; and
  - (b) Annual emissions shall not exceed shall not exceed 1.77 tons per rolling, 12-month period from emissions units P004 and P005 combined.
- iv. PM10/PM2.5 emissions\*:
  - (a) Individual engine emissions shall not exceed 0.90 lb/hr; and
  - (b) Annual emissions shall not exceed shall not exceed 0.45 ton per rolling, 12-month period from emissions units P004 and P005 combined.

\*All emissions of particulate matter are assumed to be less than 2.5 microns in size.

The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):

- b. The emergency stationary compression ignition (CI) internal combustion engine (ICE) is subject to and shall be operated in compliance with the requirements of 40 CFR Part 60, Subpart IIII, the standards of performance for stationary CI ICE.
- c. The emergency stationary CI ICE has been or shall be purchased certified by the manufacturer to emission standards as stringent as those identified in 40 CFR 60.4202(b)(2) and found in Tier 2 of 40 CFR 89.112, Table 1, for engines greater than or equal to 750 horsepower (560 kilowatt) and certified to the opacity standards found in 40 CFR 89.113.
- d. The emergency stationary ICE must comply with the applicable requirements specified in 40 CFR 60.4211(f) in order to be considered an emergency stationary ICE under Part 60, Subpart IIII.
- e. The fuel burned in this emissions unit shall meet U.S. EPA's specifications for Ultra Low Sulfur Diesel (ULSD) found in 40 CFR 80.510(c).
- f. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) have been determined to be the following:
  - i. for emissions of NO<sub>x</sub>, CO, VOC, and PM<sub>10</sub>/PM<sub>2.5</sub>, BAT has been determined to be compliance with the requirements established under OAC rule 3745-31-05(D); and

ii. for emissions of SO<sub>2</sub>, BAT has been determined to be compliance with the fuel usage specification for firing only ULSD.

g. These Best Available Technology (BAT) emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

h. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to emissions of NO<sub>x</sub>, CO, and VOC since the calculated annual emission rate is less than 10 tons/yr taking into account the enforceable restrictions established under OAC rule 3745-31-05(D).

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to emissions of PM<sub>10</sub>/PM<sub>2.5</sub> and SO<sub>2</sub> since the calculated annual emission rate is less than 10 tons/yr.

i. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

j. In accordance with OAC rule 3745-110-03(K)(17), the emergency stationary CI ICE has a potential to emit\* less than twenty-five tons per year of NO<sub>x</sub> and therefore is not subject to the requirements of OAC rule 3745-110-03(F)(3).

\*The potential to emit is based on the federally enforceable requirements established under OAC rule 3745-31-05(D).

k. Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit.

c) **Operational Restrictions**

(1) The following operational restrictions have been included in this permit for purposes of establishing federally enforceable requirements which limit the PTE for NO<sub>x</sub>, VOC, CO, PM<sub>10</sub>/PM<sub>2.5</sub> [See b)(2)b.]:

a. Each individual engine shall not exceed the following exhaust standards:

i. NO<sub>x</sub> – 8.01 g/kW-hr;

ii. CO – 3.50 g/kW-hr;

- iii. VOC – 0.80 g/kW-hr; and
  - iv. PM10/PM2.5 – 0.20 g/kW-hr.
- b. Exhaust standards were established from emission measurements during one of the specific engine operating modes (i.e. mode number for a specific combination of torque and speed) during certification testing. It should be noted that certification involves test cycles at several operating modes with different weighting factors (see ISO 8178) and therefore certification results may not reflect potential emissions. The maximum rolling, 12-month total hours of operation for emissions units P004 and P005 combined shall not exceed 1000 hours. Total hours of operation include operation for emergency and non-emergency situations.
- (2) See 40 CFR Part 60, Subpart IIII (40 CFR Part 60.4211 - 60.4219).
- d) Monitoring and/or Recordkeeping Requirements
- (1) See 40 CFR Part 60, Subpart IIII (40 CFR Part 60.4211 - 60.4219).
  - (2) The permittee shall maintain the manufacturer's certification, to the applicable Tier 2 emission standards in Table 1 of 40 CFR 89.112, on site or at a central location for all facility ICE and it shall be made available for review upon request. If the manufacturer's certification is not kept on site, the permittee shall maintain a log for the location of each ICE and it shall identify the agency-assigned emissions unit number, the manufacturer's identification number, and the identification number of the certificate. The manufacturer's operations manual and any written instructions or procedures developed by the permittee and approved by the manufacturer shall be maintained at the same location as the ICE.
  - (3) The permittee shall maintain documents provided by the oil supplier for each shipment of fuel oil to demonstrate compliance with the ULSD requirement. These documents must include the receipt or bill of lading that includes confirmation that the fuel meets the ULSD standard.
  - (4) For each day during which the permittee burns a fuel other than ULSD, the permittee shall maintain a record of the type, percent sulfur content, and quantity of fuel burned in this emissions unit.
  - (5) The permittee shall maintain monthly records of the following information:
    - a. the total number of hours each engine was in operation;
    - b. the number of hours each engine spent in emergency operation;
    - c. what classified the operation in (b.) above as an emergency;
    - d. the number of hours each engine spent in non-emergency operation;
    - e. the number of hours each engine spent in maintenance checks and readiness testing;



- f. the rolling, 12-month summation of the total number of hours emissions units P004 and P005 combined was in operation;
- g. the NOx emission rate, in tons per month, for each engine [d)(5)a. times 35.30 lbs/hr then divided by 2000 lbs/ton];
- h. the rolling, 12-month summation of the total NOx emission rate emissions units P004 and P005 combined.

e) Reporting Requirements

- (1) See 40 CFR Part 60, Subpart IIII (40 CFR Part 60.4211 - 60.4219).
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following all exceedances of the following:
  - a. all exceedances of the rolling, 12-month operational restriction of 1000 hours for emissions units P004 and P005 combined; and
  - b. all exceedances of the rolling, 12-month NOx emissions limitation for emissions units P004 and P005 combined.
- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emissions Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Reference Method 9 in 40 CFR Part 60, Appendix A.
  - b. Emissions Limitation:

Particulate emissions from the engine's exhaust shall not exceed 0.062 lb/MMBtu actual heat input.



Applicable Compliance Method:

Compliance shall be determined based on the manufacturer's specification sheet as follows.

$$PE = (0.90 \text{ lb of PE/hr}) / (20.52 \text{ MMBtu/hr}) = 0.04 \text{ lb of PE/MMBtu}$$

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

c. Emissions Limitation:

Sulfur dioxide emissions shall not exceed 0.5 lb/MMBtu actual heat input.

Applicable Compliance Method:

Compliance shall be determined using documents required in d)(3) above. Emissions of sulfur dioxide shall be calculated in accordance with OAC rule 3745-18-04(F)(2) using the maximum fuel sulfur content of 15 ppm.

If required, the permittee shall perform sulfur content analysis of a fuel sample in accordance with 40 CFR 580 using the appropriate ASTM method(s).

d. Emissions Limitations:

Each engine shall be certified to meet the following emission standards:

0.20 gram PM/kW-hr;

6.4 grams NO<sub>x</sub> + NMHC/kW-hr;

3.5 grams CO/kW-hr;

20 percent opacity during the acceleration mode;

15 percent opacity during the lugging mode; and

50 percent opacity during the peaks in either the acceleration or lugging modes.

Applicable Compliance Method:

Compliance with the emissions limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's instructions.

e. Emission Limitation:

NO<sub>x</sub> emissions from emissions units P004 and P005 combined shall not exceed 17.65 tons NO<sub>x</sub> per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the tons per rolling, 12-month period limitation shall be demonstrated through the recordkeeping requirements in d)(5) of this permit.



f. Emission Limitations:

Emissions from emissions units P004 and P005 combined shall not exceed the following:

- i. 7.72 tons CO per rolling, 12-month period;
- ii. 1.77 tons VOC per rolling, 12-month period; and
- iii. 0.45 ton PM10/PM2.5 per rolling, 12-month period.

Applicable Compliance Method:

The rolling 12-month limitations were developed by multiplying the hourly emission rate by a maximum operating schedule of 1000 hours per year, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation(s) and the 1000 hours per year operating restriction, compliance with the annual limitation(s) shall also be demonstrated.

g. Emission Limitations:

- i. NO<sub>x</sub> – 8.01 g/kW-hr and 25.40 lbs/hr;
- ii. CO – 3.5 g/kW-hr, 15.43 lbs/hr, and
- iii. VOC – 0.80 g/kW-hr, 3.53 lbs/hr; and
- iv. PM10/PM2.5 – 0.20 g/kW-hr, 0.90 lbs/hr.

Applicable Compliance Method:

Compliance with the above emission limitations shall be demonstrated using information from engine certification testing.

Exhaust standards were established from emission measurements during one of the specific engine operating modes (i.e. mode number for a specific combination of torque and speed) during certification testing. It should be noted that certification involves test cycles at several operating modes with different weighting factors (see ISO 8178) and as such certification results may not be representative of potential emissions.

The lbs/hr limitations were established by multiplying the g/kW-hr standards multiplied by a maximum engine capacity of 2000kW/hr and dividing by 453.59 g/lb. Therefore, provided compliance is shown with the g/kW-hr standards compliance with the hourly limitations shall also be demonstrated.

g) Miscellaneous Requirements

- (1) None.

**10. Emissions Unit Group - Emergency Pumps: P006 and P007**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P006	Emergency Diesel Back-up RICE Pump #1
P007	Emergency Back-Up Diesel RICE Pump #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) b)(1)e., b)(1)h., (b)(2)g., b)(2)h., and d)(5).

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	<b>Applicable Rules/Requirements</b>	<b>Applicable Emissions Limitations/Control Measures</b>
a.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)(5)(b)	Particulate emissions from the engine's exhaust shall not exceed 0.310 lb/MMBtu actual heat input.
c.	OAC rule 3745-18-06(G)	Exempt from the requirements of OAC rule 3745-18-06(G) pursuant to OAC rule 3745-18-06(B).
d.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)e. and b)(2)f.
e.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)g. and b)(2)h.
f.	OAC rule 3745-31-05(D)	Federally enforceable limitations from emissions units P006 and P007 combined for nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOC), and emissions of particulate matter 10 microns or less in size and particulate matter less than 2.5 microns in size (PM10/PM2.5)  See b)(2)a.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
h.	OAC rule 3745-114-01 ORC 3704.03(F)(3)(c) and (F)(4)	See d)(5).
i.	40 CFR Part 60, Subpart IIII [40 CFR Part 60.4211 - 60.4219]  [In accordance with 40 CFR 60.4200(a)(2)(ii) and 60.4205(c), this emissions unit is a 244 kW (327 HP) emergency stationary compression ignition (CI) internal combustion engine (ICE) manufactured with a Model Year 2006 to 2010 (Tier 3) with a displacement of less than 30 liters per cylinder subject to the emissions limitations/control measures specified in this section.]	Each engine shall be certified to meet the following emissions standards: <ul style="list-style-type: none"> <li>○ 0.20 gram particulate matter (PM)/kW-hr;</li> <li>○ 4.0 grams NOx + nonmethane hydrocarbons (NMHC)/kW-hr;</li> <li>○ 3.5 grams CO/kW-hr</li> <li>○ 20 percent opacity during the acceleration mode;</li> <li>○ 15 percent opacity during the lugging mode; and</li> <li>○ 50 percent opacity during the peaks in either the acceleration or lugging modes.</li> </ul> <p>This rule requires that the diesel fuel used must meet the requirements established pursuant to 40 CFR 80.510(c).</p> <p>See b)(2)b. through b)(2)d.</p>
f.	40 CFR Part 60, Subpart A	Table 8 to 40 CFR Part 60, Subpart IIII- "Applicability of General Provisions to Subpart IIII" identifies which parts of the General Provisions in 40 CFR Part 60.1-19 apply.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting the Potential to Emit (PTE) for NOx, VOC, CO, PM10/PM2.5:
- i. NOx emissions:
    - (a) Individual engine emissions shall not exceed 1.94 lbs/hr; and
    - (b) Annual emissions shall not exceed shall not exceed 1.0 ton per rolling, 12-month period from emissions units P006 and P007 combined.
  - ii. CO emissions:
    - (a) Individual engine emissions shall not exceed 1.9 lbs/hr; and



**Effective Date:** To be entered upon final issuance

- (b) Annual emissions shall not exceed shall not exceed 0.95 ton per rolling, 12-month period from emissions units P006 and P007 combined.
- iii. VOC emissions:
  - (a) Individual engine emissions shall not exceed 0.2 lb/hr; and
  - (b) Annual emissions shall not exceed shall not exceed 0.1 ton per rolling, 12-month period from emissions units P006 and P007 combined.
- iv. PM10/PM2.5 emissions\*:
  - (a) Individual engine emissions shall not exceed 0.1 lb/hr; and
  - (b) Annual emissions shall not exceed shall not exceed 0.05 ton per rolling, 12-month period from emissions units P006 and P007 combined.

\*All emissions of particulate matter are assumed to be less than 2.5 microns in size.

The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):

- b. The stationary engine is subject to and shall be operated in compliance with the requirements of 40 CFR Part 60, Subpart IIII, the standards of performance for stationary CI ICE.
- c. The stationary engine shall be purchased certified by the manufacturer to emission standards as stringent as those identified in 40 CFR 60.4202.
- d. The fuel burned in this emissions unit shall meet U.S. EPA's specifications for Ultra Low Sulfur Diesel (ULSD) found in 40 CFR 80.510(c).
- e. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) have been determined to be the following:
  - i. for NOx, CO, VOC, and PM10/PM2.5, BAT has been determined to be compliance with the requirements established under OAC rule 3745-31-05(D); and
  - ii. for SO2, BAT has been determined to be compliance with the fuel usage specification for firing only ULSD.
- f. These Best Available Technology (BAT) emission limits apply until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

- g. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to emissions of NO<sub>x</sub> since the calculated annual emission rate is less than 10 tons/yr taking into account the enforceable restrictions established under OAC rule 3745-31-05(D).

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to emissions of CO, VOC, and PM<sub>10</sub>/PM<sub>2.5</sub> since the calculated annual emission rate is less than 10 tons/yr.

- h. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

c) **Operational Restrictions**

- (1) The following operational restrictions have been included in this permit for purposes of establishing federally enforceable requirements which limit the PTE for NO<sub>x</sub>, VOC, CO, PM<sub>10</sub>/PM<sub>2.5</sub> [see b)(2)b.]:

- a. Each individual engine shall not exceed the following exhaust standards (based on engine vendor specifications):

- i. NO<sub>x</sub> - 3.60 g/kW-hr;
- ii. CO – 3.53 g/kW-hr;
- iii. VOC – 0.40 g/kW-hr; and
- iv. PM<sub>10</sub>/PM<sub>2.5</sub> – 0.20 g/kW-hr.

Exhaust standards were established from emission measurements during one of the specific engine operating modes (i.e. mode number for a specific combination of torque and speed) during certification testing. It should be noted that certification involves test cycles at several operating modes with different weighting factors (see ISO 8178) and as such certification results may not be representative of potential emissions.

- b. The maximum rolling, 12-month total hours of operation for emissions units P006 and P007 combined shall not exceed 1000 hours. Total hours of operation include operation for emergency and non-emergency situations.

- (2) See 40 CFR Part 60, Subpart IIII (40 CFR Part 60.4211 - 60.4219).

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

- (1) See 40 CFR Part 60, Subpart IIII (40 CFR Part 60.4211 - 60.4219).

- (2) The permittee shall maintain documents provided by the oil supplier for each shipment of fuel oil to demonstrate compliance with the ULSD requirement. These documents must include the receipt or bill of lading that includes confirmation that the fuel meets the ULSD standard.

- (3) For each day during which the permittee burns a fuel other than ULSD, the permittee shall maintain a record of the type, percent sulfur content, and quantity of fuel burned in this emissions unit.
  - (4) The permittee shall maintain monthly records of the following information:
    - a. the total number of hours each engine was in operation;
    - b. the number of hours each engine spent in emergency operation;
    - c. what classified the operation in (b.) above as an emergency;
    - d. the number of hours each engine spent in non-emergency operation;
    - e. the number of hours each engine spent in maintenance checks and readiness testing;
    - f. the rolling, 12-month summation of the total number of hours emissions units P006 and P007 combined was in operation;
    - g. the NOx emission rate, in tons per month, for each engine [d)(5)a. times 1.94 lbs/hr then divided by 2000 lbs/ton];
    - h. the rolling, 12-month summation of the total NOx emission rate emissions units P006 and P007 combined.
  - (5) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit.
- e) Reporting Requirements
- (1) See 40 CFR Part 60, Subpart IIII (40 CFR Part 60.4211 - 60.4219).
  - (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following all exceedances of the following:
    - a. all exceedances of the rolling, 12-month operational restriction of 1000 hours for emissions units P006 and P007 combined; and
    - b. all exceedances of the rolling, 12-month NOx emissions limitation for emissions units P006 and P007 combined.



- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Reference Method 9 in 40 CFR Part 60, Appendix A.

- b. Emissions Limitation:

Particulate emissions from the engine's exhaust shall not exceed 0.310 lb/MMBtu actual heat input.

Applicable Compliance Method:

Compliance shall be determined based on the manufacturer's specification sheet as follows.

$$PE = (0.1 \text{ lb of PE/hr}) / (1.71 \text{ MMBtu/hr}) = 0.058 \text{ lb of PE/MMBtu}$$

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

- c. Emissions Limitations:

Each engine shall be certified to meet the following emission standards:

0.20 gram PM/kW-hr;

4.0 grams NO<sub>x</sub> + NMHC/kW-hr;

3.5 grams CO/kW-hr

20 percent opacity during the acceleration mode;

15 percent opacity during the lugging mode; and

50 percent opacity during the peaks in either the acceleration or lugging modes.



Applicable Compliance Method:

Compliance with the emissions limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's instructions.

d. Emission Limitation:

NOx emissions from emissions units P006 and P007 combined shall not exceed 1.0 ton NOx per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the tons per rolling, 12-month period limitation shall be demonstrated through the recordkeeping requirements in d)(5) of this permit.

e. Emission Limitations:

Emissions from emissions units P006 and P007 combined shall not exceed the following:

- i. 0.95 ton CO per rolling, 12-month period;
- ii. 0.1 ton VOC per rolling, 12-month period; and
- iii. 0.05 ton PM10/PM2.5 per rolling, 12-month period.

Applicable Compliance Method:

The rolling 12-month limitations were developed by multiplying the hourly emission rate by a maximum operating schedule of 1000 hours per year, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation(s) and the 1000 hours per year operating restriction, compliance with the annual limitation(s) shall also be demonstrated.

f. Emission Limitations:

- i. NOx – 3.60 g/kW-hr and 1.94 lbs/hr;
- ii. CO – 3.53 g/kW-hr and 1.0 lb/hr;
- iii. VOC – 0.40 g/kW-hr and 0.2 lb/hr; and
- iv. PM10/PM2.5 – 0.20 g/kW-hr and 0.1 lb/hr.



**Draft Permit-to-Install**  
NSG Glass North America, Inc.  
**Permit Number:** P0125848  
**Facility ID:** 0387002042

**Effective Date:** To be entered upon final issuance

Applicable Compliance Method:

Compliance with the above emission limitations shall be demonstrated using information from engine certification testing.

Exhaust standards were established from emission measurements during one of the specific engine operating modes (i.e. mode number for a specific combination of torque and speed) during certification testing. It should be noted that certification involves test cycles at several operating modes with different weighting factors (see ISO 8178) and as such certification results may not be representative of potential emissions.

g) Miscellaneous Requirements

- (1) None.