



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

12/5/2013

Certified Mail

Mr. Michael Kirchner  
Libbey Glass Inc.  
1201 Buckeye Street  
Toledo, OH 43611

Facility ID: 0448010066  
Permit Number: P0114867  
County: Lucas

RE: DRAFT AIR POLLUTION TITLE V PERMIT  
Permit Type: Renewal

Dear Permit Holder:

A draft of the OAC Chapter 3745-77 Title V permit for the referenced facility has been issued. The purpose of this draft is to solicit public comments. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, Toledo Blade. A copy of the public notice, the Statement of Basis, 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 Toledo Department of Environmental Services  
348 South Erie Street  
Toledo, OH 43604

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 if a public hearing is scheduled. A decision on processing the Title V permit will be made after consideration of comments received and oral testimony if a public hearing is conducted. You will then be provided with a Preliminary Proposed Title V permit and another opportunity to comment prior to the 45-day Proposed Title V permit submittal to U.S. EPA Region 5. The permit will be issued final after U.S. EPA review is completed and no objections to the final issuance have been received. If you have any questions, please contact Toledo Department of Environmental Services at (419)936-3015.

Sincerely,

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

Cc: U.S. EPA Region 5 - *Via E-Mail Notification*  
TDES; Michigan; Indiana



PUBLIC NOTICE  
12/5/2013 Issuance of Draft Air Pollution Title V Permit

Libbey Glass Inc.  
1201 Buckeye Street,  
Toledo, OH 43611  
Lucas County

FACILITY DESC.: Other Pressed and Blown Glass and Glassware Manufacturing

PERMIT #: P0114867

PERMIT TYPE: Renewal

PERMIT DESC: Title V renewal permit for a manufacturer of pressed and blown glass

The Director of the Ohio Environmental Protection Agency issued the draft permit above. 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 permit # or: Babak Firoozi, Toledo Department of Environmental Services, 348 South Erie Street, Toledo, OH 43604. Ph: (419)936-3015





**Statement of Basis**  
 Libbey Glass Inc.  
 Permit Number: P0114867  
 Facility ID: 0448010066

## Statement of Basis For Air Pollution Title V Permit

Facility ID:	0448010066
Facility Name:	Libbey Glass Inc.
Facility Description:	manufacturer of pressed and blown glass
Facility Address:	1201 Buckeye Street, Toledo, OH 43611
Permit #:	P0114867, Renewal
This facility is subject to Title V because it is major for: <input type="checkbox"/> Lead <input checked="" type="checkbox"/> Sulfur Dioxide <input checked="" type="checkbox"/> Carbon Monoxide <input type="checkbox"/> Volatile Organic Compounds <input checked="" type="checkbox"/> Nitrogen Oxides <input checked="" type="checkbox"/> Particulate Matter ≤ 10 microns <input type="checkbox"/> Single Hazardous Air Pollutant <input type="checkbox"/> Combined Hazardous Air Pollutants <input type="checkbox"/> Maximum Available Control Technology Standard(s) <input type="checkbox"/> GHG <input type="checkbox"/> Title IV	

### A. Standard Terms and Conditions

Has each insignificant emissions unit been reviewed to confirm it meets the definition in OAC rule 3745-77-01(U)?	yes
Were there any "common control" issues associated with this facility? If yes, provide a summary of those issues and explain how the DAPC decided to resolve them.	no
Please identify the affected unit(s) and associated PTI, if applicable, along with a brief description of any changes to the permit document that qualify as a minor permit modification per OAC rule 3745-77-08(C)(1)	N/A
Please identify the affected unit(s) and associated PTI, if applicable, along with a brief description of any changes to the permit document that qualify as a significant permit modification per OAC rule 3745-77-08(C)(3)	N/A



Please identify the affected unit(s) and associated PTI, if applicable, along with a brief description of any changes to the permit document that qualify as a reopening per OAC rule 3745-77-08(D)	N/A
Please identify the affected unit(s) and associated PTI, if applicable, along with a brief description of any changes to the permit document resulting from a renewal per OAC rule 3745-77-08(E)	N/A
Please identify the affected unit(s) and pollutant(s) for which a Compliance Assurance Monitoring (CAM) Plan is required per 40 CFR 64. Provide more emissions unit specific detail in Section C.	N/A

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

Term and Condition (paragraph)	Basis		Comments
	SIP (3745- )	Other	
B.1	N	Y	Federal/State enforceable standard terms
B.2.	77	N	SIP. Insignificant emissions units are listed.
B.3.	77	N	SIP. Insignificant emissions units which qualify as de minimis are listed.

**C. Emissions Unit Terms and Conditions**

<b>Key:</b> EU = emissions unit ID ND = negative declaration (i.e., term that indicates that a particular rule(s) is (are) not applicable to a specific emissions unit) OR = operational restriction M = monitoring requirements ENF = did noncompliance issues drive the monitoring requirements? R = record keeping requirements Rp = reporting requirements ET = emission testing requirements (not including compliance method terms) St = streamlining term used to replace a PTI monitoring, record keeping, or reporting requirement with an equivalent or more stringent requirement Misc = miscellaneous requirements													
EU(s)	Limitation	Basis		ND	OR	M	ENF	R	Rp	ET	St	Misc	Comments
		SIP (3745- )	Other										



B004, B005 & B006: 10.3 MMBtu/hr gas fired boilers with #2 fuel oil backup	20 percent opacity, as a 6-minute average, from the stack.	17-07(A)(1)	N	N	Y	Y	N	Y	Y	N	N	N	Basis - an inherently clean source combusting only natural gas or #2 fuel oil. OR - appropriate to an inherently clean source. M, R & Rp - daily visible emission checks will be used to demonstrate continuous compliance ET - these emissions units have never been stack tested. Testing is not required per Engineering Guide #16 due to the low level of emissions.
	0.020 lb particulate per million Btu input.	17-10(B)1)	N	N	Y	Y	N	Y	Y	N	N	N	Basis - an inherently clean source combusting only natural gas or #2 fuel oil. OR - appropriate to create an inherently clean source. M, R & Rp - daily visible emission checks will be used to indicate a need for stack testing ET - these emissions units have never been stack tested. Testing is not required per Engineering Guide #16 due to the low level of emissions.
	0.52 lb of SO <sub>2</sub> / per mmBtu.	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis - OAC rule 3745-31-05(A)(3) established by PTI 04-367, as issued on November 26, 1986. OAC 3745-18-06(C) allows 1.6 pounds of sulfur dioxide per million Btu input. OR - restrictions of S content in the fuel appropriate to meet the SO <sub>2</sub> emissions limitation. M, R & Rp - fuel will be tested and certified compliant on an "as received" basis. ET - these emissions units have never been stack tested. Testing is not required per Engineering Guide #16 due to the low level of emissions.
	0.01 lb VOC per mmBtu.	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis - OAC rule 3745-31-05(A)(3) established by PTI 04-367, as issued on November 26, 1986. Modified to reflect 1998 revised AP-42 emissions factors. OAC 3745-21-07(B) requires the permittee to minimize VOC emissions by use of the latest available control techniques and operating practices in accordance with best current technology. The BAT determination of PTI 04-367 satisfies this requirement. OR - gas or oil only per AP-42 emission factors used to derive the limitation. M, R & Rp - monitoring of fuel type. ET - these emissions units have never been stack tested. Testing is not required per Engineering Guide #16 due to the low level of emissions.
	0.09 lb CO per mmBtu.	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis - OAC rule 3745-31-05(A)(3) established by PTI 04-367, as issued on November 26, 1986. Modified to reflect 1998



													emission values. OAC 3745-21-08(B) requiring the permittee to minimize CO emissions has been removed from the SIP OR - gas or oil only per AP-42 emission factors used to derive the limitation. M, R & Rp - monitoring of fuel type. ET - these emissions units have never been stack tested. Testing is not required per Engineering Guide #16 due to the low level of emissions.
0.145 lb of NOx per mmBtu.	N	Y	N	Y	Y	N	Y	Y	N	N	N		Basis - OAC rule 3745-31-05(A)(3) established by PTI 04-367, as issued on November 26, 1986. Modified to reflect 1998 emission values. OAC 3745-23-06(B) requiring the permittee to minimize NOx emissions has been removed from the SIP OR - gas or oil only per AP-42 emission factors used to derive the limitation. M, R & Rp - monitoring of fuel type. ET - these emissions units have never been stack tested. Testing is not required per Engineering Guide #16 due to the low level of emissions.
The combined emissions from emissions units B004, B005, and B006 shall not exceed 34 tons of CO, 18.4 tons of NOx, 1.23 tons of PE, 38.04 tons of sulfur dioxide or 0.74 ton of VOC as a rolling 12-month summation	N	Y	N	Y	Y	N	Y	Y	N	N	N		Basis - OAC rule 3745-31-05(C) synthetic minor limitation established by PTI 04-367, as issued on November 26, 1986. OR - oil quantity and quality restrictions to establish maximum emissions at 8760 hours per year of operation. M, R & Rp - monitoring of fuel oil quantity and quality. ET - compliance demonstrations based on a one-time worst case emissions calculation.
F003, F004, F007, F008,	20 percent opacity, as	17-07 (B)(1)	N	N	Y	Y	N	Y	Y	N	N	N	Basis - installed prior to the applicability of OAC rule 3745-31-05(A)(3), SIP only restrictions apply.



F009, F010, F011, F012, F013, F014 & F015: forming lines	a 3-minute average												OR - the restrictions are appropriate to an inherently clean source. M, R & Rp - monitoring, recordkeeping and reporting for these sources is limited to the type of fuel as the small amount of particulate from the molding agent is released into the building and emissions are considered fugitive. ET - compliance demonstration based standard EPA test methods. Note: Forming involves molding glassware by flowing melted glass to machines with heated dies or molds used to "form" the desired shapes. Emissions consist primarily of combustion byproducts from natural gas "open flames" used to maintain the glass the proper temperature. Modern mold release agents are silicone based and are non-photochemically reactive and low/no VOC in content (and particulate emissions)
	RACM	17-08 (B)(3)	N	N	Y	Y	N	Y	Y	N	N	N	Basis - installed prior to the applicability of OAC rule 3745-31-05(A)(3), SIP only restrictions apply. OR - the restrictions are appropriate to an inherently clean source. M, R & Rp - RACM is no control. Monitoring, recordkeeping and reporting for these sources is limited to the type of fuel as the small amount of particulate from the molding agent is released into the building and emissions are considered fugitive. ET - compliance demonstration for adequate enclosure is the VE limitation specified above.
	32 to 52 lbs SO2/hr	18-06 (E)(2)	N	N	Y	Y	N	Y	Y	N	N	N	Basis - installed prior to the applicability of OAC rule 3745-31-05(A)(3), SIP only restrictions apply. OR, M, R & Rp - monitoring, recordkeeping and reporting for this source demonstrates the exclusive use of natural gas or propane fuels, with a resultant small quantity of SO2 emitted. High allowable emissions result from the SIP process weight rate rule based on the high production rate of the glass, which (after melting) is not a significant source of sulfur. No other source of sulfur dioxide is associated with these sources. ET - compliance demonstration based standard EPA test methods. An acceptable enclosure for testing would be difficult to fabricate.
	8 lbs/hr & 40 lbs/day VOC	21-07 (G)(2)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State
	VOC rule	21-07 (G)(9)(f)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State



	exemption												
F018: roadways and parking lots	RACM, no visible emissions except for a period of time not to exceed 6 minutes paved, and 13 minutes unpaved	N	Y	N	Y	N	N	Y	Y	N	N	N	<p>Basis - A historic source, this emissions unit is subject to SIP limitations only. The company submitted calculations based on AP-42, Section 13.2.1.3 dated 11/06, predictive factor equations for paved roads which yield:  <math>E = [k(sL/2)0.65 (W/3)1.5 - C] [1 - (P/4N)] = 0.54 \text{ lb/VMT}</math>            where  <math>k = \text{PM}_{30} \text{ particle size multiplier} = 0.082 \text{ g/vmt}</math>  <math>sL = \text{road surface silt loading (g/m}^2) = 70 (=2.06 \text{ sqoz/yd)}</math>  <math>W = \text{average vehicle weight (tons)} = 2</math>  <math>C = \text{exhaust brake and tire factor} = 0.00047 \text{ g/vmt}</math>  <math>P = \text{wet days} = 130</math>  <math>N = 365 \text{ days}</math>            The company extrapolated a controlled annual emissions potential of 4.4 tpy at 82,000 vmt/yr with an 80% effective control.            M, R &amp; Rp - appropriate terms and conditions have been added to the permit in compliance with OEPA template guidance.            Daily visible emission checks will be used to demonstrate continuous compliance with VE for unpaved areas, weekly for paved areas.            ET - no annual emissions limitation was set for this source.            Compliance would be indicated by Method 22.</p>
F019: forming line	2.64 lb/hr & 11.56 tpy CO; 0.46 lb/hr & 2.02 tpy NOx; 0.18 lb/hr & 0.79 tpy PE; 0.19 lb/hr & 0.83 tpy PM10; 0.023 lb/hr & 0.1 tpy SO2; 0.87 lb/hr & 3.81 tpy VOC; and VE shall not exceed 5%	N	Y	N	Y	Y	N	Y	Y	N	N	N	<p>Basis - the BAT determination of OAC rule 3745-31-05(A)(3) established by PTI 04-1376 as issued 9/30/2004.            OR - appropriate to an inherently clean source.            M, R &amp; Rp - the hourly and annual emission limitations represent full PTE; no M, R &amp; Rp are required. The daily visible emission checks will be used to demonstrate continuous compliance with VE.            ET - AP-42 emissions factors were used to establish these limitations; these emissions units have never been stack tested.            If problems are indicated by M, R &amp; Rp Method 9 testing will be requested            Note: Forming involves molding glassware by flowing melted glass to machines with heated dies or molds used to "form" the desired shapes. Emissions consist primarily of combustion byproducts from natural gas "open flames" used to maintain the glass the proper temperature. Modern mold release agents are silicone based and are non-photochemically reactive and low/no VOC in content (and particulate emissions). Acetylene is used to "smoke" the molds.</p>



	opacity as a 3-min ave.												
	NA	17-07 (B)(1)	N	N	Y	Y	N	Y	Y	N	N	N	Limitation: VE shall not exceed 20% opacity as a 3-min ave. Basis - less stringent than BAT  OR, M, R, Rp & ET - appropriate standard clean fuel and VE T&Cs.
	NA	17-08 (B), (B)(3)	N	N	Y	Y	N	Y	Y	N	N	N	Limitation: RACM Basis - less stringent than BAT  OR, M, R, Rp & ET - appropriate standard clean fuel and VE T&Cs.
	NA	18-06 (E)(2)	N	N	Y	Y	N	Y	Y	N	N	N	Limitation: AER = 30 P <sup>0.67</sup> where P = 1.49, AER = 39 lb/hr Basis - less stringent than BAT  OR, M, R, Rp & ET - appropriate clean fuel standard T&Cs.
	exemption	21-07 (G)(9)(f)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State
	NA	21-08(B)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State
F020: forming line	2.75 lb/hr & 12.0 tpy CO; 0.66 lb/hr & 2.9 tpy NOx; 0.18 lb/hr & 0.79 tpy PE; 0.20 lb/hr & 0.86 tpy PM10; 0.033 lb/hr & 0.14 tpy SO2; 0.87 lb/hr & 3.8 tpy VOC; and VE shall not	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis - the BAT determination of OAC rule 3745-31-05(A)(3) established by PTI 04-1407 as last modified 6/23/2005. OR - appropriate to an inherently clean source. M, R & Rp - the hourly and annual emission limitations represent full PTE; no M, R & Rp are required. The daily visible emission checks will be used to demonstrate continuous compliance with VE. ET - AP-42 emissions factors were used to establish these limitations; these emissions units have never been stack tested. Testing is not required per Engineering Guide #16 due to the low level of emissions. Note: Forming involves molding glassware by flowing melted glass to machines with heated dies or molds used to “form” the desired shapes. Emissions consist primarily of combustion byproducts from natural gas “open flames” used to maintain the glass the proper temperature. Modern mold release agents are silicone based and are non-photochemically reactive and low/no VOC in content (and particulate emissions). Acetylene is used to “smoke” the molds.



	exceed 5% opacity as a 3-min ave.												
	NA	17-07 (B)(1)	N	N	Y	Y	N	Y	Y	N	N	N	Limitation: VE shall not exceed 20% opacity as a 3-min ave. Basis - less stringent than BAT  OR, M, R, Rp & ET - appropriate standard clean fuel and VE T&Cs.
	NA	17-08 (B), (B)(3)	N	N	Y	Y	N	Y	Y	N	N	N	Limitation: RACM Basis - less stringent than BAT  OR, M, R, Rp & ET - appropriate standard clean fuel and VE T&Cs.
	NA	18-06 (E)(2)	N	N	Y	Y	N	Y	Y	N	N	N	Limitation: AER = 30 P <sup>0.67</sup> where P = 1.08, AER = 32 lb/hr Basis - less stringent than BAT  OR, M, R, Rp & ET - appropriate clean fuel standard T&Cs.
	exemption	21-07 (G)(9)(f)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State
	NA	21-08(B)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State
P003, P005 & P006: glass melting furnaces	20 percent opacity, as a 6-minute average	17-07(A)(1)	N	N	Y	Y	N	Y	Y	N	N	N	Basis - installed prior to 1974 and not an inherently clean source. While combusting only natural gas or #2 fuel oil, the raw materials used to make glass are expected to make a contribution to opacity. OR - none, the emissions are stated at maximum calculated furnace capacity. M, R & Rp - daily visible emission checks will be used to demonstrate continuous compliance  ET - these emissions units have never been stack tested. If problems are indicated by M, R & Rp Method 9 testing will be requested
	8.4 to 8.8 lbs PE/hr	17-11(B)(1)	N	N	Y	Y	N	Y	Y	N	N	N	Basis - installed in prior to 1974 and not an inherently clean source. While combusting only natural gas or #2 fuel oil, the raw materials used to make glass are expected to make a contribution to particulate. At process weight rates of 75, 70 & 70 tpd, the Table I allowable emissions rate were set at E = 4.10 P <sup>0.67</sup> where P is the process weight rate in tons per hour



													<p>and E is the allowable emission rate in pounds of PE per hour = 8.8, 8.4 &amp; 8.4, respectively. Figure II uncontrolled emissions are estimated utilizing an AP-42, Table 11.15-1, dated 1/95, emissions factor of 1.4#PE/ton of glass pulled. Uncontrolled emissions are estimated at 4.4, 4.1 &amp; 4.1 #/hr &lt; the 10#/hr applicability rate.</p> <p>OR - none, the emissions are stated at maximum calculated furnace capacity.</p> <p>M, R &amp; Rp - production will be tracked for use with an emissions factor to assure compliance. At maximum production AP-42 calculated PTE is less than the allowable emissions, so no exceedances are anticipated. Daily visible emission checks will be used to determine a need for additional compliance demonstrations.</p> <p>ET - these emissions units were stack tested because one-time stack testing will be required to demonstrate compliance with these regulations. In compliance with Engineering Guide #16 because actual emissions for P003, P005 and P006 are &lt;25TPY, retesting is not required due to the low level of emissions.</p> <p>Stack test results:</p> <p>P003 – tested 5/14/2009</p> <table style="margin-left: 40px;"> <tr> <td>lb/hr emissions</td> <td>lb/hr permit limit</td> </tr> <tr> <td>PE 3.40</td> <td>8.8</td> </tr> </table> <p>P005 – tested 5/13/2009</p> <table style="margin-left: 40px;"> <tr> <td>PE 2.33</td> <td>8.4</td> </tr> </table> <p>P006 – tested 9/14/2010</p> <table style="margin-left: 40px;"> <tr> <td>PE 1.89</td> <td>8.4</td> </tr> </table>	lb/hr emissions	lb/hr permit limit	PE 3.40	8.8	PE 2.33	8.4	PE 1.89	8.4
lb/hr emissions	lb/hr permit limit																				
PE 3.40	8.8																				
PE 2.33	8.4																				
PE 1.89	8.4																				
61.5 to 64.4 lbs SO2/hr	18-06(E)(2)	N	N	Y	Y	N	Y	Y	N	N	N	<p>Basis - installed in prior to 1974 with no OAC rule 3745-31 05 applicability. While combusting only natural gas or #2 fuel oil, the raw materials used to make glass are expected to make a substantial contribution to SO2 emissions. <math>AER = 30 P^{0.67}</math></p> <p>Where P is the process weight rate in tons per hour and AER is the allowable emission rate in pounds of sulfur dioxide per hour. For process weight rates of 75, 70 and 70 tons per hour and the allowable emission rate in pounds of SO2 per hour are 64.4, 61.5 &amp; 61.5, respectively</p> <p>OR - none, the emissions are stated at maximum calculated</p>									



													<p>furnace capacity.  M, R &amp; Rp - production will be tracked for use with an emissions factor to determine compliance.</p> <p>ET - In compliance with Engineering Guide #16 because actual emissions for P003, P005 and P006 are &lt;25TPY, retesting is not required due to the low level of emissions.</p> <p>Stack test results:</p> <p>P003 – tested 5/14/2009</p> <table style="margin-left: 40px;"> <tr> <td>lb/hr emissions</td> <td>lb/hr permit limit</td> </tr> <tr> <td>SO2 9.89</td> <td>64.6</td> </tr> </table> <p>P005 – tested 5/13/2009</p> <table style="margin-left: 40px;"> <tr> <td>SO2 7.32</td> <td>61.5</td> </tr> </table> <p>P006 – tested 9/14/2010</p> <table style="margin-left: 40px;"> <tr> <td>SO2 4.93</td> <td>61.5</td> </tr> </table>	lb/hr emissions	lb/hr permit limit	SO2 9.89	64.6	SO2 7.32	61.5	SO2 4.93	61.5								
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SO2 9.89	64.6																												
SO2 7.32	61.5																												
SO2 4.93	61.5																												
P007 glass melting furnace	furnace stack emissions: 0.20 lb/hr CO; 46.3 lb/hr NOx; 5.81 lb/hr PE; 6.30 lb/hr PM10; 20.8 lb/hr SO2; and 0.35 lb/hr VOC.	N	Y	N	Y	Y	N	Y	Y	Y	N	N	<p>Basis - the BAT determination of OAC rule 3745-31-05(A)(3) established by PTI 04-1414 as issued 8/30/2005 and sent to the State (OEPA Central Office) for an Administrative Modification on 3/24/2008, ISSUED 6/13/2008. This determination includes compliance with OAC rule 3745-17-07(A)(1).</p> <p>OR - restrictions on throughput and fuel type.</p> <p>M, R &amp; Rp - recordkeeping of throughput will indicate any production increase which might require a new demonstration of compliance by stack testing.</p> <p>ET - AP-42 emissions factors were used to establish these limitations and compliance has been demonstrated through stack testing performed 8/17/06 as follows:</p> <table style="margin-left: 40px;"> <thead> <tr> <th>Test results</th> <th>permit limitation</th> <th>#/T</th> <th>#/hr</th> </tr> </thead> <tbody> <tr> <td>CO 0.03</td> <td>0.200.20 lb/hr</td> <td></td> <td></td> </tr> <tr> <td>NOx 6.11</td> <td>43.5</td> <td>46.3 lb/hr</td> <td></td> </tr> <tr> <td>PE 0.57</td> <td>4.085.81 lb/hr</td> <td></td> <td></td> </tr> </tbody> </table>	Test results	permit limitation	#/T	#/hr	CO 0.03	0.200.20 lb/hr			NOx 6.11	43.5	46.3 lb/hr		PE 0.57	4.085.81 lb/hr		
Test results	permit limitation	#/T	#/hr																										
CO 0.03	0.200.20 lb/hr																												
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													PM10 0.64 4.556.30 lb/hr SO2 2.47 17.620.8 lb/hr VOC not tested 0.35 lb/hr Opacity 8% 20% Stack testing performed on 5/8/13 demonstrated compliance with the NOx and SO2 emissions limits for the glass melting furnace as follows: NOx lb/ton lb/hr permit limit, lb/hr 4.08 26.1 46.3 SO2 2.5 15.8 20.8 Based on actual emissions reported for calendar year 2012 of 55 tpy SO2 and 141 tpy NOx, Engineering Guide #16 requires stack testing every 2.5 years. If problems are indicated by M, R & Rp additional testing will be requested.
furnace stack emissions, per rolling, 12-month period: 0.88 ton CO; 182.5 tons NOx; 22.9 tons PE 24.8 tons PM10; 82.0 tons SO2; and 1.53 tons VOC	N	Y	N	Y	Y	N	Y	Y	N	N	N	N	Basis - the addition of electric boost during the 2005 rebuild of this emissions unit resulted in an increase production capacity. These limitations were a part of the synthetic minor determination of OAC rule 3745-31-05(D) established by PTI 04-1414 as issued 8/30/2005. SO2 was the pollutant of concern. OR - restrictions on throughput and fuel type. M, R & Rp - recordkeeping of throughput will indicate any production increase which might require a new demonstration of compliance by stack testing. ET - compliance has been demonstrated through stack testing to establish emissions factors and validate the rolling, 12-month throughput limitations. Testing is not required per Engineering Guide #16 due to the low level of emissions.
20 percent opacity, as a 6-minute average unless otherwise	17-07 (A)(1)	N	N	Y	Y	N	Y	Y	N	N	N	N	Basis - while combusting only natural gas or #2 fuel oil, the raw materials used to make glass are expected to make a contribution to opacity. A BAT equal to the SIP limitation was established by OAC rule 3745-31-05(A)(3) in PTI 04-1414 as issued 8/30/2005 OR - none, the emissions are stated at maximum calculated



specified by the rule												<p>furnace capacity.  M, R &amp; Rp - daily visible emission checks will be used to demonstrate continuous compliance</p> <p>ET - this emissions unit was stack tested by Methods 5 and 9 to confirm that the allowable VE limitation did not result in a violation of the particulate restrictions. Stack testing performed 8/17/06 resulted in an 8% opacity average.</p>
NA	17-11 (B)(1)	N	N	N	N	N	N	N	N	N	N	<p>Basis - at a maximum production rate of 170 tons of glass per day (7.08 tph as glass)</p> <p>Table 1; <math>E = 4.10 (P)^{0.67} = 15.2 \text{ lb/hr}</math></p> <p>where <math>P = 7.08 \text{ tons/hr}</math></p> <p>or, Figure II; <math>A = 0.5782 U^{0.6456} = 12.9 \text{ lb/hr}</math></p> <p>where: AP-42 Table 11.15-1 dated 1/95 indicates the uncontrolled emissions of particulate from the manufacture of pressed and blown glass to be 17.4 lb/ton, <math>U = 17.4\#/t (7.08 \text{ tph}) = 123.2 \#/hr</math></p> <p>The process total allowable is <math>5.09+0.01+0.04= 5.14 \text{ lb/hr}</math></p>
NA	18-06 (E)(2)	N	N	N	N	N	N	N	N	N	N	<p>Basis - <math>AER = 30 P^{0.67} = 30(7.08)^{0.67} = 111 \text{ lb SO}_2\text{/hr}</math> for the entire process, where P is the process weight rate in tons per hour and AER is the allowable emission rate in pounds of sulfur dioxide per hour. The process total allowable is <math>20.8+0.01+0.02= 20.8 \text{ lb/hr}</math></p>
NA	21-07(B)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State
NA	21-08(B)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State
refiner - 0.29 lb/hr & 1.27 tpy CO; 0.17 lb/hr & 0.75 tpy NOx ; 0.01 lb/hr &	N	Y	N	Y	Y	N	Y	Y	N	N	N	<p>Basis - glass is melted in the furnace at approximately 2700°F. The refiner is the area of the furnace where the glass temperature is stabilized to approximately 2250°F. This area is natural gas fired at a maximum rate of 3,375 scf/hr with low-NOx burners as established by OAC rule 3745-31-05(A)(3) in PTI 04-1414 as issued 8/30/2005. Limitations were set as rolling, 12-month in the PTI's synthetic minor determination. OR - restrictions on throughput and fuel type.</p>





forehearths - 1.92 lb/hr & 8.41 tpy CO; 1.41 lb/hr & 6.18 tpy NOx ; 0.04 lb/hr & 0.20 tpy PE; 0.18 lb/hr & 0.79 tpy PM10; 0.02 lb/hr & 0.09 tpy SO2; 0.13 lb/hr & 0.57 tpy VOC; and  5 percent opacity, as a 3-minute average, tpy per rolling, 12- month period	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis - glass is melted in the furnace at approximately 2700°F. The refiner stabilizes the temperature to approximately 2250°F. The forehearths are channels by which molten glass is delivered to the forming machines at about 2050 degrees. This area is natural gas fired at a maximum rate of 17,666 scf/hr with standard burners and 5,148 scf/hr with low-NOx burners as established by OAC rule 3745-31-05(A)(3) in PTI 04-1414 as issued 8/30/2005. Limitations were set as rolling, 12-month in the PTI's synthetic minor determination. OR - restrictions on throughput and fuel type. M, R & Rp - recordkeeping of throughput will indicate any production increase which might require a new demonstration of compliance by stack testing..  ET - AP-42 emissions factors were used to establish these limitations, enclosure for stack testing purposes would be difficult, therefore these emissions units have never been stack tested. If problems are indicated by MR&Rp additional testing may be requested.
NA	17-07 (B)(1)	N	N	N	N	N	N	N	N	N	N	Basis - 20 percent opacity, as a 3-minute average for fugitive emissions; less stringent than the BAT determination. The refiner is an inherently clean source combusting only natural gas or #2 fuel oil. The raw materials used to make glass are not expected to be opacity free by this point of the operation.
NA	17-08(B)	N	N	N	N	N	N	N	N	N	N	Basis - SIP requirements for RACT; these requirements are satisfied by complying with BAT T&Cs.
NA	18-06 (E)(2)	N	N	N	N	N	N	N	N	N	N	Basis - $AER = 30 P^{0.67} = 30 (7.10)^{0.67} = 112 \text{ lb SO}_2/\text{hr}$ for the entire process, where P is the process weight rate in tons per hour and AER is the allowable emission rate in pounds of sulfur



													dioxide per hour. The process total allowable is 20.8+0.01+0.02= 20.8 lb/hr
	NA	21-07(B)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State
	NA	21-08(B)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State
P010: slitters and knotchers controlled by a cyclone	20% opacity	17-07 (A)(1)	N	N	Y	Y	N	Y	Y	N	N	N	<p>Basis - installed in 1956 and not an inherently clean source. Standard terms and conditions will be utilized. OR - none.</p> <p>M, R &amp; Rp - daily visible emission checks will be used to demonstrate continuous compliance</p> <p>ET - this emissions unit has never been stack tested. If problems are indicated by M, R &amp; Rp Method 9 testing will be requested.</p>
	5.5 lbs/hr of particulates	17-11 (B)(1)	N	N	Y	Y	N	Y	Y	N	N	N	<p>Basis - installed in 1956 and not an inherently clean source control, control is required by a cyclone. Uncontrolled emissions are estimated at 1% of the maximum process weight rate of 3250 lb/hr with 90% effective control = 3.25 pound per hour or 14.2 tpy. At a maximum production rate of 3250 #/hr</p> <p>Table 1; <math>E = 4.10 (P)^{0.67} = 5.7 \text{ lb/hr}</math> where <math>P = 1.6 \text{ tons/hr}</math></p> <p>or, Figure II; <math>A = 0.5782 (U)^{0.6456} = 5.5 \text{ lb/hr}</math> where uncontrolled emissions are estimated at 1% of the maximum process weight rate of 3250 lb/hr, <math>U = 32.5\#/hr</math>.</p> <p>OR - none, the emissions are stated at maximum capacity.</p> <p>M, R &amp; Rp -daily visible emission checks will be used to determine a need for additional compliance demonstrations.</p> <p>ET - these emissions units have never been stack tested. Since PTE is &lt;25TPY no testing is anticipated. If problems are indicated by M, R &amp; Rp Method 5 testing will be requested</p>
P011: decorating lehr	3#/hr and 15#/day	21-07 (G)(1)	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State



**Statement of Basis**  
 Libbey Glass Inc.  
 Permit Number: P0114867  
 Facility ID: 0448010066

	NA	17-07 (A)(1)	N	N	N	N	N	N	N	N	N	N	Basis - 20% opacity is not applicable because no process materials utilized generate particulate and combustion is direct fired.
	NA	17-11 (B)(1)	N	N	N	N	N	N	N	N	N	N	Basis - installed prior to 1974 and an inherently clean source. rule 3745-17-10 will not apply because the process is direct fired. Note: natural gas is not counted in the process weight rate because OAC rule 3745-17-01(B)(14) says "process weight" is defined as "...the total weight of all materials introduced into the source operation including solid fuels, but excluding gaseous fuels and liquid fuels when they are used solely as fuels and excluding air introduced for the purposes of combustion." The weight of the glasses being decorated and the coating material is not counted because Engineering Guide #7 says "Any material which directly or indirectly, by physical and/or chemical means, results in any emission of particulate matter is to be included in the process weight rate determination. The coating is applied by silk-screening and no coating is applied as an aerosol (sprayed).
	N	18-06 (C)	N	N	N	N	N	N	N	N	N	N	Basis: Process weight rate is 0.60 lb/hr and 13 lb/hr respectively. OAC rule 3745-18-06(C) states that: "Process equipment which has a rated capacity equal to, or less than, one thousand pounds per hour process weight input is exempt.....". OAC rule 3745-18-06(A)&(B) do not apply because indirect fired emissions units are not considered "fuel burning equipment".
P012 – decorating lehr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	This emissions unit was shutdown on 11/22/13 and is not included as part of this permit renewal.
P021 mold paste room	20% opacity	17-07 (A)(1)	N	N	N	Y	N	Y	Y	N	N	N	Basis - installed in 1971 and not an inherently clean source. Standard terms and conditions will be utilized. OR - none. M, R & Rp - daily visible emission checks will be used to demonstrate continuous compliance.  ET - these emissions units have never been stack tested. If problems are indicated by M, R & Rp, Method 9 testing will be requested
	0.82 lb	17-11 (B)(1)	N	N	N	Y	N	Y	Y	N	N	N	Basis - installed in 1971 and not an inherently clean source.



	PE/hr													<p>Standard terms and conditions will be utilized. At a maximum production rate, using 0.98 lb/hr of applied coating materials, the minimum process weight rate limitation applies = 0.551 lb/hr. Uncontrolled emissions are estimated at 1% of the maximum process weight rate. Figure II does not apply since the uncontrolled mass rate of emissions is less than 10#/hr. The weight of the molds being prepared is not counted because Engineering Guide #7 says "Any material which directly or indirectly, by physical and/or chemical means, results in any emission of particulate matter is to be included in the process weight rate determination."</p> <p>OR - none, the emissions are stated at maximum capacity. M, R &amp; Rp -daily visible emission checks will be used to determine a need for additional compliance demonstrations.</p> <p>ET - these emissions units have never been stack tested. Since PTE is &lt;25TPY no testing is anticipated. If problems are indicated by M, R &amp; Rp Method 5 testing will be requested</p>																				
P022: glass melting furnace	furnace stack emissions: CO - 0.75 lb/hr or 3.29 tpy; NOx - 28.0 lb/hr or 123 tpy; PE - 38.5 tpy; PM10 - 8.66 lb/hr or 37.9 tpy; SO2 - 21.0 lb/hr or 92.0 tpy; and VOC - 1.13 lb/hr or 4.95 tpy	N	Y	N	Y	Y	N	Y	Y	N	N	N	<p>Basis - the BAT determination of OAC rule 3745-31-05(A)(3) established by PTI 04-1456 as issued 12/5/2006. This determination was based on AP-42 emissions factors (NSPS CC requirements for PE) with a maximum pull rate of 75 tpd.</p> <p>OR - restrictions on fuel type.</p> <p>M, R &amp; Rp - recordkeeping of fuel type will indicate the need for a new demonstration of compliance by stack testing..</p> <p>ET - AP-42 emissions factors were used to establish these limitations and compliance has been demonstrated through stack testing performed as follows:</p> <table style="margin-left: 40px;"> <thead> <tr> <th>test results@max</th> <th>permit</th> <th></th> </tr> <tr> <th>#/T</th> <th>#/hr</th> <th>limitation</th> </tr> </thead> <tbody> <tr> <td>CO 0.01</td> <td>0.03</td> <td>0.75 lb/hr</td> </tr> <tr> <td>NOx 6.76</td> <td>21.8</td> <td>28.0 lb/hr</td> </tr> <tr> <td>PE 0.69</td> <td>2.25</td> <td>8.80 lb/hr</td> </tr> <tr> <td>PM10 0.75</td> <td>2.42</td> <td>8.66 lb/hr</td> </tr> <tr> <td>SO2 1.52</td> <td>4.91</td> <td>21.0 lb/hr</td> </tr> </tbody> </table>	test results@max	permit		#/T	#/hr	limitation	CO 0.01	0.03	0.75 lb/hr	NOx 6.76	21.8	28.0 lb/hr	PE 0.69	2.25	8.80 lb/hr	PM10 0.75	2.42	8.66 lb/hr	SO2 1.52	4.91	21.0 lb/hr
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PM10 0.75	2.42	8.66 lb/hr																																
SO2 1.52	4.91	21.0 lb/hr																																



													VOC not tested      1.13 lb/hr opacity    5%            20% Testing is not required per Engineering Guide #16 due to the low level of emissions.
NA	17-07 (A)(1)	N	N	Y	Y	N	Y	Y	N	N	N	N	OR – combust only natural gas or #2 fuel oil as fuel Basis - while combusting only natural gas or #2 fuel oil, the raw materials used to make glass are expected to make a contribution to opacity. A BAT equal to 20% was established by OAC rule 3745-31-05(A)(3) in PTI 04-1456 as issued 12/5/2006.
8.80#/hr	17-11 (B)(1)	N	N	N	N	N	N	N	N	N	N	N	Basis - at a maximum production rate of 75 tons of glass per day - 3.125 t/hr Table 1; $E = 4.10 (P)^{0.67} = 8.80 \text{ lb/hr}$ where $P = (75 \text{ tons}/24 \text{ hours})$ or, Figure II; $A = 0.5782 U^{0.6456} = 9.04 \text{ lb/hr}$ where: AP-42 Table 11.15-1 dated 1/95 indicates the uncontrolled emissions of particulate from the manufacture of pressed and blown glass to be 17.4 lb/ton, $U = 17.4\#/t (75t/24 \text{ hr}) = 70.7 \text{ lb/hr}$
NA	18-06 (E)(2)	N	N	N	N	N	N	N	N	N	N	N	Basis - $AER = 30 P^{0.67} = 30(7.10)^{0.67} = 112 \text{ lb SO}_2/\text{hr}$ for the entire process, where P is the process weight rate in tons per hour and AER is the allowable emission rate in pounds of sulfur dioxide per hour. The BATallowable was set by AP-42 Table 11.15-1 emissions of 5.6#/t (75t/24 hr) = 17.5 lb/hr plus 20% for testing error = 21.0 lb/hr
NA	21-07(B)	N	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State
NA	21-08(B)	N	N	N	N	N	N	N	N	N	N	N	Basis – this section of the SIP has been vacated by the State





**DRAFT**

**Division of Air Pollution Control  
Title V Permit  
for  
Libbey Glass Inc.**

Facility ID:	0448010066
Permit Number:	P0114867
Permit Type:	Renewal
Issued:	12/5/2013
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance





**Division of Air Pollution Control**  
**Title V Permit**  
for  
Libbey Glass Inc.

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**Draft Title V Permit**  
Libbey Glass Inc.  
**Permit Number:** P0114867  
**Facility ID:** 0448010066

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

## Authorization

Facility ID: 0448010066  
Facility Description: Manufacturer of pressed and blown glass  
Application Number(s): A0047452, A0048792  
Permit Number: P0114867  
Permit Description: Title V renewal permit for a manufacturer of pressed and blown glass  
Permit Type: Renewal  
Issue Date: 12/5/2013  
Effective Date: To be entered upon final issuance  
Expiration Date: To be entered upon final issuance  
Superseded Permit Number: P0088082

This document constitutes issuance of an OAC Chapter 3745-77 Title V permit to:

Libbey Glass Inc.  
1201 Buckeye Street  
Toledo, OH 43611

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

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

The above named entity is hereby granted a Title V permit pursuant to Chapter 3745-77 of the Ohio Administrative Code. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. You will be sent a notice approximately 18 months prior to the expiration date regarding the renewal of this permit. If you do not receive a notice, please contact the Toledo Department of Environmental Services. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, if a timely renewal application is submitted. A renewal application will be considered timely if it is submitted no earlier than 18 months and no later than 6 months prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally  
Director



**Draft Title V Permit**  
Libbey Glass Inc.  
**Permit Number:** P0114867  
**Facility ID:** 0448010066  
**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. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions
  - (2) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions
  - (3) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting For State-Only Requirements
  - (4) Standard Term and Condition A. 29., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (5) Standard Term and Condition A. 30.

*(Authority for term: ORC 3704.036(A))*

## **2. 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 (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), 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.

*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))*

- 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 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.

*(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))*



- c) The permittee shall submit required reports in the following manner:
- (1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted by January 31, April 30, July 31, and October 31 of each year in accordance with Standard Term and Condition A.2.c)(2) below; and each report shall cover the previous calendar quarter. An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any submitted scheduled maintenancerequests, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.

*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

- (2) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit or, in some cases, in section B. Facility-Wide Terms and Conditions of this Title V permit), all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:



Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures taken, shall be submitted promptly to the Toledo Department of Environmental Services. Except as provided below, the written reports shall be submitted by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this Standard Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this Standard Term and Condition.

See A.29 below if no deviations occurred during the quarter.

*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

- (3) All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with Standard Term and Condition A.2)c)(2) above shall be submitted in the following manner:

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; Standard Terms and Conditions: A.3, A.4, A.5, A.7.e), A.8, A.13, A.15, A.19, A.20, A.21, and A.23 of this Title V permit, as well as any deviations from the requirements in section C. Emissions Unit Terms and Conditions of this Title V permit, and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted to the Toledo Department of Environmental Services by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations



from federally enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable requirements not specifically addressed by permit or rule for the insignificant activities or emissions levels (IEU) identified in section B. Facility-Wide Terms and Conditions of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with Standard Term and Condition A.2.c)(2) above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.

*(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))*

- (4) 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 (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete." Signature by the Responsible Official may be represented by entry of the personal identification number (PIN) by the Responsible Official as part of the electronic submission process or by the scanned attestation document signed by the Responsible Official that is attached to the electronically submitted written report.

*(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))*

- (5) Consistent with A.2.c.1. above, reports of any required monitoring and/or record keeping information required to be submitted to Ohio EPA shall be submitted to Toledo Department of Environmental Services unless otherwise specified.

*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

### **3. Reporting of Any Exceedence of a Federally Enforceable Emission Limitation or Control Requirement Resulting From Scheduled Maintenance**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in Standard Term and Condition A.2.c)(1) above.



*(Authority for term: OAC rule 3745-77-07(A)(3)(c))*

#### **4. Risk Management Plans**

If applicable, the permittee shall 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"); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

- a) a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or
- b) as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

*(Authority for term: OAC rule 3745-77-07(A)(4))*

#### **5. 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.

*(Authority for term: OAC rule 3745-77-07(A)(5))*

#### **6. Severability Clause**

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

*(Authority for term: OAC rule 3745-77-07(A)(6))*

#### **7. 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 reissuance, or modification, or for denial of a permit renewal application.
- 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 except as provided pursuant to A.16 below.
- c) This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.11 below. 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, reopening 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.
- f) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when:
  - (1) the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or
  - (2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or
  - (3) a combination of (1) and (2) above.

The permittee shall continue to comply with all applicable OAC Chapter 3745-31 requirements for all regulated air contaminant sources once this permit ceases to be enforceable. The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.

*(Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))*

## **8. 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.

*(Authority for term: OAC rule 3745-77-07(A)(8))*

## **9. Marketable Permit Programs**

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

*(Authority for term: OAC rule 3745-77-07(A)(9))*



## **10. Reasonably Anticipated Operating Scenarios**

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these standard terms and conditions shall apply to all operating scenarios authorized in this permit.

*(Authority for term: OAC rule 3745-77-07(A)(10))*

## **11. Reopening for Cause**

This Title V permit will be reopened prior to its expiration date under the following conditions:

- a) Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.
- b) This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.
- c) The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.
- d) The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

*(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))*

## **12. Federal and State Enforceability**

Only those terms and conditions designated in this permit as federally enforceable, that 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, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

*(Authority for term: OAC rule 3745-77-07(B))*

## **13. Compliance Requirements**

- a) Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V 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 paragraph (E) of OAC rule 3745-77-03.
  - (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 Toledo Department of Environmental Services concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
- d) Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the Toledo Department of Environmental Services) and the Administrator of the U.S. EPA in the following manner and with the following content:
  - (1) Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
  - (2) Compliance certifications shall include the following:
    - a. Identification of each term or condition that is the basis of the certification. The identification may include a statement by the Responsible Official that every term and condition that is federally enforceable has been reviewed, and such terms and conditions with which there has been continuous compliance throughout the year are not separately identified.



- b. The permittee's current compliance status.
  - c. Whether compliance was continuous or intermittent consistent with A.13.d.2.a above.
  - d. The method(s) used for determining the compliance status of the source currently and over the required reporting period consistent with A.13.d.2.a above.
  - e. Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
- (3) Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

*(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))*

#### **14. Permit Shield**

- a) Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.
- b) This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

*(Authority for term: OAC rule 3745-77-07(F))*

#### **15. Operational Flexibility**

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the Toledo Department of Environmental Services with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the Toledo Department of Environmental Services as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

*(Authority for term: OAC rules 3745-77-07(H)(1) and (2))*

#### **16. Emergencies**

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met.



This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

*(Authority for term: OAC rule 3745-77-07(G))*

## **17. Off-Permit Changes**

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

- a) The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.
- b) The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emissions levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.
- c) The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).
- d) The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.
- e) The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit-to-install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

*(Authority for term: OAC rule 3745-77-07(I))*

## **18. Compliance Method Requirements**

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Federal Register 8314, Feb. 24, 1997), in the context of any future proceeding.

*(This term is provided for informational purposes only.)*



**19. Insignificant Activities or Emissions Levels**

Each IEU that is subject to one or more applicable requirements shall comply with those applicable requirements.

*(Authority for term: OAC rule 3745-77-07(A)(1))*

**20. Permit to Install Requirement**

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

*(Authority for term: OAC rule 3745-77-07(A)(1))*

**21. 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.

*(Authority for term: OAC rule 3745-77-07(A)(1))*

**22. Permanent Shutdown of an Emissions Unit**

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the Responsible 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 Responsible Official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that 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 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

Unless otherwise exempted, no emissions unit identified in this permit that has been certified by the Responsible Official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.

*(Authority for term: OAC rule 3745-77-01)*

**23. Title VI Provisions**

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:



- a) Persons operating appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.
- b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.
- c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

*(Authority for term: OAC rule 3745-77-01(H)(11))*

**24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or record keeping information shall be submitted to the Toledo Department of Environmental Services.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Toledo Department of Environmental Services. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. 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.)

**25. Records Retention Requirements Under State Law Only**

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.

**26. Inspections and Information Requests**

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

*(Authority for term: OAC rule 3745-77-07(C))*

**27. Scheduled Maintenance/Malfunction Reporting For State-Only Requirements**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the Toledo Department of Environmental Services in accordance with paragraph (B) of OAC rule 3745-15-06. 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 emissions unit(s) that is (are) served by such control system(s).

**28. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Toledo Department of Environmental Services must be notified in writing of any transfer of this permit.

*(Authority for term: OAC rule 3745-77-01(C))*

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

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation 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 by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

- a) where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in Standard Term and Condition A.2.c)(2); or
- b) where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potential to emit; or
- c) where the company's Responsible Official has certified that an emissions unit has been permanently shut down.



**30. Submitting Documents Required by this Permit**

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 Toledo Department of Environmental Services, 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the Responsible Official may be represented as provided through procedures established in Air Services.



**Draft Title V Permit**

Libbey Glass Inc.

**Permit Number:** P0114867

**Facility ID:** 0448010066

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

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



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

a) B.3.

2. The following insignificant emissions units are located at this facility:

B003 - boiler #4, 7.323 mmBtu; and  
P023 - mycalex machining room.

Each insignificant emissions unit at this facility must comply with all applicable State and federal regulations, as well as any emission limitations and/or control requirements contained within the identified permit to install for the emissions unit. Insignificant emissions units listed above that are not subject to specific permit to install requirements are subject to one or more applicable requirements contained in the SIP-approved versions of OAC Chapters 3745-17, 3745-18, and 3745-21.

[Authority for term: OAC rule 3745-77-07(A)(13)]

3. The following insignificant emissions units located at this facility are exempt from permit requirements because they are not subject to any applicable requirements or because they meet the "de minimis" criteria established in OAC rule 3745-15-05:

F001 - batch unloading facilities;  
F002 - batch house;  
G001 - gasoline dispensing facility;  
K001 - maintenance paint booth;  
P021 - mold paste room;  
P025 - colomony;  
P027 - mold cleaning oven;  
T002 - 10,000 gallon #2 fuel oil storage tank;  
T003 - 30,000 gallon #2 fuel oil storage tank;  
Z002 - groundwater treatment plant;  
Z003 - cullet crusher #1;  
Z004 - cullet crusher #2; and  
Z005 - forehearth stirrer preheater.



**Draft Title V Permit**  
Libbey Glass Inc.  
**Permit Number:** P0114867  
**Facility ID:** 0448010066  
**Effective Date:** To be entered upon final issuance

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



1. F004, B-1 Forming line

Operations, Property and/or Equipment Description:

Glass forming line B-1 and annealing Lehr with no controls

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 3745-17-07(B)(1)	see b)(2)a.
b.	OAC rule 3745-17-08(B), (B)(3)	see b)(2)b.
c.	OAC rule 3745-18-06(E)(2)	emissions of sulfur dioxide shall not exceed 43 pounds per hour; and see b)(2)c.

(2) Additional Terms and Conditions

- a. Visible particulate emissions shall not exceed 20% opacity as a 3-minute average, except for a period of time not to exceed 3 minutes during any 60-minute observation period.
- b. It has been determined that no control measures are necessary to comply with the requirements of OAC rule 3745-17-08.
- c. The exclusive combustion of natural gas and/or propane shall be considered an adequate demonstration of compliance with this emissions limitation.

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or propane as fuel in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or propane, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

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

- a. an identification of each day when a fuel other than natural gas and/or propane was burned in this emissions unit

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(3)

[Authority for term: OAC rule 3745-77-07(C)(1)]

- b. Emission Limitation:

43 lbs/hr of sulfur dioxide



**Draft Title V Permit**  
Libbey Glass Inc.  
**Permit Number:** P0114867  
**Facility ID:** 0448010066

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

Applicable Compliance Method:

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



2. F007, F-2 Forming line

Operations, Property and/or Equipment Description:

glass forming line F-2 and annealing Lehr with no controls

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 3745-17-07(B)(1)	see b)(2)a.
b.	OAC rule 3745-17-08(B), (B)(3)	see b)(2)b.
c.	OAC rule 3745-18-06(E)(2)	emissions of sulfur dioxide shall not exceed 52 pounds per hour; and see b)(2)c.

(2) Additional Terms and Conditions

- a. Visible particulate emissions shall not exceed 20% opacity as a 3-minute average, except for a period of time not to exceed 3 minutes during any 60-minute observation period.
- b. It has been determined that no control measures are necessary to comply with the requirements of OAC rule 3745-17-08.
- c. The exclusive combustion of natural gas and/or propane shall be considered an adequate demonstration of compliance with this emissions limitation.

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or propane as fuel in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or propane, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

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

- a. an identification of each day when a fuel other than natural gas and/or propane was burned in this emissions unit

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(3)

[Authority for term: OAC rule 3745-77-07(C)(1)]

- b. Emission Limitation:

52 lbs/hr of sulfur dioxide



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Libbey Glass Inc.  
**Permit Number:** P0114867  
**Facility ID:** 0448010066

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

Applicable Compliance Method:

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



3. F009, E-1 Forming line

Operations, Property and/or Equipment Description:

glass forming line E-1 and annealing Lehr with no controls

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 3745-17-07(B)(1)	see b)(2)a.
b.	OAC rule 3745-17-08(B), (B)(3)	see b)(2)b.
c.	OAC rule 3745-18-06(E)(2)	emissions of sulfur dioxide shall not exceed 45 pounds per hour; and see b)(2)c.

(2) Additional Terms and Conditions

- a. Visible particulate emissions shall not exceed 20% opacity as a 3-minute average, except for a period of time not to exceed 3 minutes during any 60-minute observation period.
- b. It has been determined that no control measures are necessary to comply with the requirements of OAC rule 3745-17-08.
- c. The exclusive combustion of natural gas and/or propane shall be considered an adequate demonstration of compliance with this emissions limitation.

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or propane as fuel in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or propane, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

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

- a. an identification of each day when a fuel other than natural gas and/or propane was burned in this emissions unit

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(3)

[Authority for term: OAC rule 3745-77-07(C)(1)]

- b. Emission Limitation:

45 pounds per hour of sulfur dioxide



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Libbey Glass Inc.

**Permit Number:** P0114867

**Facility ID:** 0448010066

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

Applicable Compliance Method:

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



4. F012, G-2 Forming line

Operations, Property and/or Equipment Description:

glass forming line G-2 and annealing Lehr with no controls

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 3745-17-07(B)(1)	see b)(2)a.
b.	OAC rule 3745-17-08(B), (B)(3)	see b)(2)b.
c.	OAC rule 3745-18-06(E)(2)	emissions of sulfur dioxide shall not exceed 32 pounds per hour; and see b)(2)c.

(2) Additional Terms and Conditions

- a. Visible particulate emissions shall not exceed 20% opacity as a 3-minute average, except for a period of time not to exceed 3 minutes during any 60-minute observation period.
- b. It has been determined that no control measures are necessary to comply with the requirements of OAC rule 3745-17-08.
- c. The exclusive combustion of natural gas and/or propane shall be considered an adequate demonstration of compliance with this emissions limitation.

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or propane as fuel in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or propane, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

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

- a. an identification of each day when a fuel other than natural gas and/or propane was burned in this emissions unit

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(3)

[Authority for term: OAC rule 3745-77-07(C)(1)]

- b. Emission Limitation:

32 pounds per hour of sulfur dioxide



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

Applicable Compliance Method:

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



5. F013, G-3 Forming line

Operations, Property and/or Equipment Description:

glass forming line G-3 and annealing Lehr with no controls

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 3745-17-07(B)(1)	see b)(2)a.
b.	OAC rule 3745-17-08(B), (B)(3)	see b)(2)b.
c.	OAC rule 3745-18-06(E)(2)	emissions of sulfur dioxide shall not exceed 33 pounds per hour; and see b)(2)c.

(2) Additional Terms and Conditions

- a. Visible particulate emissions shall not exceed 20% opacity as a 3-minute average, except for a period of time not to exceed 3 minutes during any 60-minute observation period.
- b. It has been determined that no control measures are necessary to comply with the requirements of OAC rule 3745-17-08.
- c. The exclusive combustion of natural gas and/or propane shall be considered an adequate demonstration of compliance with this emissions limitation.

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or propane as fuel in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or propane, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

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

- a. an identification of each day when a fuel other than natural gas and/or propane was burned in this emissions unit

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(3)

[Authority for term: OAC rule 3745-77-07(C)(1)]

- b. Emission Limitation:

33 pounds per hour of sulfur dioxide



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**Facility ID:** 0448010066

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

Applicable Compliance Method:

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



**6. F018, Roadways and parking lots**

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

Plant roadways, parking lots and loading 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 operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
paved roadways and parking areas (see b)(2)a.)		
a.	OAC rule 3745-17-07 (B)(4)	no visible particulate emissions except for 6 minutes during any 60-minute period
b.	OAC rule 3745-17-08 (B), (B)(8), (B)(9)	reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (see b)(2)c., and b)(2)e. through b)(2)i.)
unpaved roadways and parking areas (see b)(2)b.)		
a.	OAC rule 3745-17-07 (B)(5)	no visible particulate emissions except for 13 minutes during any 60-minute period
b.	OAC rule 3745-17-08 (B), (B)(2)	reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (see b)(2)d. through b)(2)i.)

(2) Additional Terms and Conditions

a. The paved roadways and parking areas that are covered by this permit and subject to the requirements of OAC rules 3745-17-07 and 3745-17-08 are listed below:



Ash Street office parking  
Ash Street entrance  
Ash Street lower lot  
Ash Street upper lot  
batch unloading  
Buckeye Street pad  
Buckeye Street parking lot  
cullet yard  
DC loading docks  
NFC parking lot

[Authority for term: OAC rule 3745-77-07(C)(1)]

- b. The unpaved roadways and parking areas that are covered by this permit and subject to the requirements of OAC rules 3745-17-07 and 3745-17-08 are listed below:

DC Int plant docks  
Inland storage  
security road  
service drive actyl  
trailer field

[Authority for term: OAC rule 3745-77-07(C)(1)]

- c. The permittee shall employ reasonably available control measures on all paved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the paved roadways and parking areas by sweeping at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- d. The permittee shall employ reasonably available control measures on all unpaved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the unpaved roadways and parking areas with a suitable dust suppression chemicals or by the reapplication of aggregate at sufficient treatment frequencies to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- e. The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for a paved or unpaved 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. Implementation of any



control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

- f. Any unpaved roadway or parking area, which during the term of this permit is paved or takes the characteristics of a paved surface due to the application of certain types of dust suppressants, may be controlled with the control measure(s) specified above for paved surfaces. Any unpaved roadway or parking area that takes the characteristics of a paved roadway or parking area due to the application of certain types of dust suppressants shall remain subject to the visible emission limitation for unpaved roadways and parking areas. Any unpaved roadway or parking area that is paved shall be subject to the visible emission limitation for paved roadways and parking areas.
- g. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.
- h. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.
- i. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-17-08.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of the roadways and parking areas in accordance with the following minimum frequencies:
  - a. weekly for paved roadways and parking areas; and
  - b. daily for unpaved roadways and parking areas.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The purpose of the inspections is to determine the need for implementing the above-mentioned 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]



- (3) For emission points for which the daily checks show emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check of such emission point by the permittee or an Ohio EPA inspector indicates abnormal emissions, the frequency of emissions checks shall revert to daily for that emission point until such time as there are 30 consecutive operating days of normal visible emissions.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (4) The permittee shall maintain records of the following information:
- a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
  - b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
  - c. the dates the control measures were implemented; and
  - d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

The information required in (4)d. shall be kept separately for (i) the paved roadways and parking areas and (ii) the unpaved roadways and parking areas, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- 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 quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.



[Authority for term: OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

- (1) Compliance with the emission limitation for the paved and unpaved roadways and parking areas identified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources," as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(d) of OAC rule 3745-17-03.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

- (1) None.



**7. F019, G-4 Forming line**

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

glass forming line G-4 and annealing Lehr with no controls

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(A)(3) established by PTI 04-01376 as issued 9/30/2004	emissions of carbon monoxide (CO) shall not exceed 2.64 pounds per hour and 11.56 tons per year; emissions of nitrogen oxides (NOx) shall not exceed 0.46 pound per hour and 2.02 tons per year; particulate emissions (PE) shall not exceed 0.18 pound per hour and 0.79 ton per year; emissions of particulate matter less than 10 micron in diameter (PM10) shall not exceed 0.19 pound per hour and 0.83 ton per year; emissions of sulfur dioxide (SO2) shall not exceed 0.023 pound per hour and 0.1 ton per year; emissions of volatile organic compounds (VOC) shall not exceed 0.87 pound per hour and 3.81 tons per year; and see b)(2)a. and b)(2)b.
b.	OAC rule 3745-17-07(B)(1)	see b)(2)c.
c.	OAC rule 3745-17-08(B), (B)(3)	see b)(2)c.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-18-06(E)(2)	see b)(2)c.

(2) Additional Terms and Conditions

- a. Visible particulate emissions shall not exceed 5% opacity as a 3-minute average, except for a period of time not to exceed 3 minutes during any 60-minute observation period.
- b. The hourly and annual emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.
- c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

- (1) The permittee shall burn only acetylene, natural gas and/or propane as fuel in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than acetylene, natural gas and/or propane, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the location and color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;



- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas, propane, and/or acetylene was burned in this emissions unit as fuel. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. an identification of each day when a fuel other than natural gas and/or propane was burned in this emissions unit;
  - b. an identification of all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
  - c. describe any corrective actions taken to eliminate the visible fugitive particulate emissions.

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

5% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1)]

b. Emission Limitation:

2.64 pounds per hour CO emissions

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the CO emission factor from Table 1.4-1 of AP-42 Section 1.4 dated 7/1998 (84 lb/mm scf) by the maximum natural gas firing rate of 2,865 ft<sup>3</sup>/hr. Add to this the product of the CO emission factor from AP-42 Section 5.3 for Channel Black Production dated 4/1977 (33,500 lbs/ton) and the estimated yield of carbon product produced based on 5% yield from 0.066 mmBtu/hr of acetylene combusted (7.17E -5 ton C/hr).

If required, the permittee shall demonstrate compliance using Methods 1 through 4 and 10 of 40 CFR part 60, Appendix A. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

c. Emission Limitation:

11.56 tons per year CO emissions

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds/ton. Therefore, compliance with the hourly CO limit constitutes compliance with the annual CO limit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

d. Emission Limitation:

0.18 pound per hour PE



Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the PE emission factor from Table 1.5-1 of AP-42 Section 1.4 dated 7/1998 for a maximum propane sulfur concentration of 123 ppm (0.00437 lb/mmBtu) by the maximum propane firing rate (2.92 mmBtu/hr). Add to this the product of the PE emission factor from AP-42 Section 5.3 for Channel Black Production dated 4/1977 (2,300 lbs/ton) and the estimated yield of carbon product produced based on 5% yield from 0.066 mmBtu/hr of acetylene combusted ( $7.17E^{-5}$  ton C/hr).

If required, the permittee shall demonstrate compliance using Method 5 of 40 CFR part 60, Appendix A. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e. Emission Limitation:

0.79 ton per year PE

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds/ton. Therefore, compliance with the hourly particulate emission limit constitutes compliance with the annual particulate emission limit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f. Emission Limitation:

0.19 pound per hour PM10

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the PM10 emission factor from Table 1.4-2 of AP-42 Section 1.4 dated 7/1998 (7.6 lb/mmscf) by the maximum natural gas firing rate of 2,865 ft<sup>3</sup>/hr. Add to this the product of the PE (assume all PE is PM10) emission factor from AP-42 Section 5.3 for Channel Black Production dated 4/1977 (2,300 lbs/ton) and the estimated yield of carbon product produced based on 5% yield from 0.066 mmBtu/hr of acetylene combusted ( $7.17E^{-5}$  ton C/hr).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]



g. Emission Limitation:

0.83 ton per year PM10

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds/ton. Therefore, compliance with the hourly particulate emission limit constitutes compliance with the annual particulate emission limit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

h. Emission Limitation:

0.46 pound per hour NOx emissions

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the AP-42 NOx emission factor from Table 1.5-1 dated 10/1996 (0.153 lb/mmBtu) by the maximum propane firing rate of 2.92 mmBtu/hr. Multiply the NOx permittee supplied emission factor of (130 lb/mmscf) by the maximum acetylene firing rate of 45 ft<sup>3</sup>/hr and the ratio of the heating value of acetylene to natural gas (1,470 Btu/scf / 1,020 Btu/scf), and add to this the NOx emissions from propane combustion.

If required, the permittee shall demonstrate compliance using Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

i. Emission Limitation:

2.02 tons per year NOx emissions

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds/ton. Therefore, compliance with the hourly NOx limit constitutes compliance with the annual NOx limit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

j. Emission Limitation:

0.023 pound per hour SO2 emissions



Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the SO<sub>2</sub> emission factor from Table 1.5-1 of AP-42 Section 1.4 dated 7/1998 for a maximum propane sulfur concentration of 123 ppm (0.0078 lb/mmBtu) by the maximum propane firing rate (2.92 mmBtu/hr).

If required, the permittee shall demonstrate compliance using Methods 1 through 4 and 6C of 40 CFR part 60, Appendix A. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

k. Emission Limitation:

0.1 ton per year SO<sub>2</sub> emissions

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds/ton. Therefore, compliance with the hourly emission limitation constitutes compliance with the annual SO<sub>2</sub> emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

l. Emission Limitation:

0.87 pound per hour VOC emissions

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the VOC emission factor from Table 1.4-2 of AP-42 Section 1.4 dated 7/1998 (5.5 lb/mmscf) by the maximum natural gas firing rate of 2,865 ft<sup>3</sup>/hr. Add to this the product of the VOC emission factor from AP-42 Section 5.3 for Channel Black Production dated 4/1977 (11,500 lbs/ton) and the estimated yield of carbon product produced based on 5% yield from 0.066 mmBtu/hr of acetylene combusted (7.17E -5 ton C/hr ). Add to this the maximum application rate of mold release agent 0.027 lb/hr (assuming a worst case VOC content of 100%).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Method 25 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]



m. Emission Limitation:

3.81 tons per year VOC emissions

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds/ton. Compliance with the hourly VOC emissions limit constitutes compliance with the annual limit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



**8. F020, D-1 Forming line**

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

Glass forming line with glass forming machine and 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.	OAC rule 3745-31-05(A)(3) established by PTI 04-01407 as issued 4/28/2005 and modified 6/23/2005	emissions of carbon monoxide (CO) shall not exceed 2.75 pounds per hour and 12.0 tons per year; emissions of nitrogen oxides (NOx) shall not exceed 0.66 pound per hour and 2.9 tons per year; particulate emissions (PE) shall not exceed 0.18 pound per hour and 0.79 ton per year; emissions of particulate matter less than 10 micron in diameter (PM10) shall not exceed 0.20 pound per hour and 0.86 ton per year; emissions of sulfur dioxide (SO2) shall not exceed 0.033 pound per hour and 0.14 ton per year; emissions of volatile organic compounds (VOC) shall not exceed 0.87 pound per hour and 3.8 tons per year; and see b)(2)a. and b)(2)b.
b.	OAC rule 3745-17-07(B)(1)	see b)(2)c.
c.	OAC rule 3745-17-08(B), (B)(3)	see b)(2)c.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-18-06(E)(2)	see b)(2)c.

(2) Additional Terms and Conditions

- a. Visible particulate emissions shall not exceed 5% opacity as a 3-minute average, except for a period of time not to exceed 3 minutes during any 60-minute observation period.
- b. The hourly and annual emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.
- c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

- (1) The permittee shall burn only acetylene, natural gas and/or propane as fuel in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than acetylene, natural gas and/or propane, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the location and color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;



- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas, propane, and/or acetylene was burned in this emissions unit as fuel. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. an identification of each day when a fuel other than natural gas and/or propane was burned in this emissions unit;
  - b. an identification of all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
  - c. describe any corrective actions taken to eliminate the visible fugitive particulate emissions.

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

5% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1)]

b. Emission Limitation:

2.75 pound per hour CO emissions

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the CO emission factor from Table 1.4-1 of AP-42 Section 1.4 dated 7/1998 (84 lb/mm scf) by the maximum natural gas firing rate of 4,179 ft<sup>3</sup>/hr. Add to this the product of the CO emission factor from AP-42 Section 5.3 for Channel Black Production dated 4/1977 (33,500 lbs/ton) and the estimated yield of carbon product produced based on 5% yield from 0.066 mmBtu/hr of acetylene combusted (7.17E-5 ton C/hr).

If required, the permittee shall demonstrate compliance using Methods 1 through 4 and 10 of 40 CFR part 60, Appendix A. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

c. Emission Limitation:

12.0 tons per year CO emissions

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds per ton. Therefore, compliance with the hourly CO limit constitutes compliance with the annual CO limit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

d. Emission Limitation:

0.18 pound per hour PE



Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the PE emission factor from Table 1.5-1 of AP-42 Section 1.4 dated 7/1998 for a maximum propane sulfur concentration of 123 ppm (0.00437 lb/mmBtu) by the maximum propane firing rate (4.263 mmBtu/hr). Add to this the product of the PE emission factor from AP-42 Section 5.3 for Channel Black Production dated 4/1977 (2,300 lbs/ton) and the estimated yield of carbon product produced based on 5% yield from 0.066 mmBtu/hr of acetylene combusted (7.17E-5 ton C/hr ).

If required, the permittee shall demonstrate compliance using Method 5 of 40 CFR part 60, Appendix A. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e. Emission Limitation:

0.79 ton per year PE

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds per ton. Therefore, compliance with the hourly particulate emission limit constitutes compliance with the annual particulate emission limit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f. Emission Limitation:

0.20 pound per hour PM10

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the PM10 emission factor from Table 1.4-2 of AP-42 Section 1.4 dated 7/1998 (7.6 lb/mmscf) by the maximum natural gas firing rate of 4,179 ft<sup>3</sup>/hr. Add to this the product of the PE (assume all PE is PM10) emission factor from AP-42 Section 5.3 for Channel Black Production dated 4/1977 (2,300 lbs/ton) and the estimated yield of carbon product produced based on 5% yield from 0.066 mmBtu/hr of acetylene combusted (7.17E-5 ton C/hr ).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]



g. Emission Limitation:

0.86 ton per year PM10

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds per ton. Therefore, compliance with the hourly particulate emission limit constitutes compliance with the annual particulate emission limit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

h. Emission Limitation:

0.66 pounds per hour NOx emissions

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the AP-42 NOx emission factor from Table 1.5-1 dated 10/1996 (0.153 lb/mmBtu) by the maximum propane firing rate of 4.263 mmBtu/hr. Multiply the NOx permittee supplied emission factor of (130 lb/mmscf) by the maximum acetylene firing rate of 45 ft<sup>3</sup>/hr and the ratio of the heating value of acetylene to natural gas (1,470 Btu/scf / 1,020 Btu/scf), and add to this the NOx emissions from propane combustion.

If required, the permittee shall demonstrate compliance using Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

i. Emission Limitation:

2.9 tons per year NOx emissions

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds per ton. Therefore, compliance with the hourly NOx limit constitutes compliance with the annual NOx limit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

j. Emission Limitation:

0.033 pound per hour SO2 emissions



Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the SO<sub>2</sub> emission factor from Table 1.5-1 of AP-42 Section 1.4 dated 7/1998 for a maximum propane sulfur concentration of 123 ppm (0.0078 lb/mmBtu) by the maximum propane firing rate (4.263 mmBtu/hr).

If required, the permittee shall demonstrate compliance using Methods 1 through 4 and 6C of 40 CFR part 60, Appendix A. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

k. Emission Limitation:

0.14 ton year SO<sub>2</sub> emissions

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds per ton. Therefore, compliance with the hourly emission limitation constitutes compliance with the annual SO<sub>2</sub> emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

l. Emission Limitation:

0.87 pounds per hour VOC emissions

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the VOC emission factor from Table 1.4-2 of AP-42 Section 1.4 dated 7/1998 (5.5 lb/mmscf) by the maximum natural gas firing rate of 4,179 ft<sup>3</sup>/hr. Add to this the product of the VOC emission factor from AP-42 Section 5.3 for Channel Black Production dated 4/1977 (11,500 lbs/ton) and the estimated yield of carbon product produced based on 5% yield from 0.066 mmBtu/hr of acetylene combusted (7.17E-5 ton C/hr). Add to this the maximum application rate of mold release agent 0.027 lb/hr (assuming a worst case VOC content of 100%).

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Method 25 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods can be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]



m. Emission Limitation:

3.8 tons per year VOC emissions

Applicable Compliance Method:

Annual allowable emissions are based on the hourly allowable emission rate multiplied by 8760 hours per year and divided by 2000 pounds per ton. Compliance with the hourly VOC emissions limit constitutes compliance with the annual limit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



**9. P003, B - Furnace**

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

glass melting furnace "B" with no controls

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 3745-17-07(A)(1)	see b)(2)a. below
b.	OAC rule 3745-17-11(B)(1)	particulate emissions (PE) shall not exceed 8.8 pounds per hour
c.	OAC rule 3745-18-06(E)(2)	emissions of sulfur dioxide (SO <sub>2</sub> ) shall not exceed 64.4 pounds per hour

(2) Additional Terms and Conditions

a. Except as provided in OAC rule 3745-17-07(A)(3), visible particulate emissions from any stack shall not exceed 20 percent opacity as a six-minute average, except:

i. visible particulate emissions may exceed 20 percent opacity, as a six-minute average, for not more than six consecutive minutes in any sixty minutes; but

ii. shall not exceed 60 percent opacity, as a six-minute average, at any time; and

iii. the presence of uncombined water shall not be deemed a violation for failure of stack emissions meeting this requirement.

c) Operational Restrictions

(1) None.



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 stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible 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) 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall maintain daily records of the following:
  - a. the tons of glass produced in this emissions unit, and
  - b. the hours of operation of this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (3) This emissions unit can be fired with natural gas and #2 fuel oil. However, to avoid additional monitoring, recordkeeping, and reporting requirements for #2 fuel oil usage, #2 fuel oil shall be employed as a standby fuel and shall be employed only on an emergency basis. SO<sub>2</sub> emissions from fuel combustion are considered to be a small fraction of the SO<sub>2</sub> emissions. Most SO<sub>2</sub> emissions are generated from impurities in the feed stock material. Because the potential to emit for SO<sub>2</sub>, based upon the AP-42 emission factor, is well below the allowable emission rate, there is no need for monitoring, record keeping, and reporting requirements to ensure ongoing compliance with the allowable emission rate.

[Authority for term: OAC rule 3745-77-07(C)(1)]



e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions;
  - b. Maintain records for this emissions unit of the total annual hours of operation on the standby fuel. If the annual usage of fuel oil in this emissions unit exceeds 500 hours, the permittee shall immediately report the exceedance and at the earliest possible date perform additional test(s) while combusting fuel oil.

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

A visible emissions test conducted on 5/14/2009 resulted in an average 17% opacity.

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1)]

- b. Emission Limitation:

8.8 pounds per hour of particulates



Applicable Compliance Method:

A test conducted on 5/14/2009 resulted in a particulate emission rate of 3.40 pounds per hour.

Compliance shall be demonstrated through calculations performed as follows: multiply the AP-42 (Table 11.15-1, 1/95 Edition) particulate emission factor of 1.4 pounds of particulates per ton of glass produced by the daily average production rate of glass, in tons per hour, established through the record keeping requirements of d)(2).

If required, the permittee shall perform emission testing in accordance with Method 5 of 40 CFR Part 60 Subpart A, and the procedures of OAC rule 3745-17-03(B)(10).

[Authority for term: OAC rule 3745-77-07(C)(1)]

c. Emission Limitation:

64.4 pounds per hour of sulfur dioxide

Applicable Compliance Method:

A test conducted on 5/14/2009 resulted in a sulfur dioxide emission rate of 9.89 pounds per hour.

Compliance shall be demonstrated through calculations performed as follows: multiply the AP-42 (Table 11.15-1, 1/95 Edition) sulfur dioxide emission factor of 3.4 pounds of sulfur dioxide emissions per ton of glass produced by the daily average production rate of glass, in tons per hour, established through the record keeping requirements of d)(2).

If required, the permittee shall perform emission testing in accordance with Method 6 of 40 CFR Part 60 Subpart A, and the procedures of OAC rule 3745-18-04(E)(1).

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) If the permittee burns fuel oil in this emissions unit for more than 500 hours in a calendar year, then the Ohio EPA may require the permittee to conduct emission testing while combusting fuel oil. The fuel oil testing is in addition to natural gas testing that might be required based on Engineering Guide #16.

g) Miscellaneous Requirements

- (1) None.



**10. P007, G - Furnace**

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

G-furnace (27-G) Melter, regenerators, stack, refiner and forehearths

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
	170 tons/day glass melting furnace, natural gas fired at a maximum rate of 33,583 scf/hr, with electric boost and no control	
a.	OAC rule 3745-31-05(A)(3) as established in PTI 04-01414 as issued August 30, 2005 and modified June 13, 2008	0.20 pound of carbon monoxide (CO) per hour; 46.3 pounds of nitrogen oxides (NOx) per hour; 5.81 pounds of particulate emissions (PE) per hour; 6.30 pounds of particulate matter less than 10 microns in diameter (PM10) per hour; 20.8 pounds of sulfur dioxide emissions (SO2) per hour; 0.35 pound of volatile organic compound emissions (VOC) per hour; and see b)(2)a.
b.	OAC rule 3745-31-05(D)	0.88 ton per rolling, 12-month period of CO; 182.5 tons per rolling, 12-month period of NOx; 22.9 tons per rolling, 12-month period of PE; 24.8 tons per rolling, 12-month period of



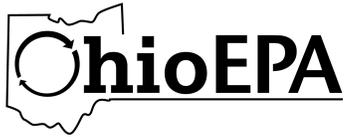
	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		PM10; 82.0 tons per rolling, 12-month period of SO <sub>2</sub> ; and 1.53 tons per rolling, 12-month period of VOC.
c.	OAC rule 3745-17-07(A)(1)	See b)(2)b.
d.	OAC rule 3745-17-11(A)(2)	See b)(2)c.
e.	OAC rule 3745-18-06(E)(2)	See b)(2)c.
Refiner - natural gas fired at a maximum rate of 3,375 scf/hr with low-NO <sub>x</sub> burners		
f.	OAC rule 3745-31-05(A)(3) as established in PTI 04-01414 as issued August 30, 2005 and modified June 13, 2008	0.29 pound per hour and 1.27 tons per rolling 12-month period of CO emissions; 0.17 pound per hour and 0.75 ton per rolling 12-month period of NO <sub>x</sub> emissions; 0.01 pound per hour and 0.03 ton per rolling 12-month period of PE; 0.03 pound per hour and 0.12 ton per rolling 12-month period of PM10 emissions; 0.01 pound per hour and 0.01 ton per rolling 12-month period of SO <sub>2</sub> ; 0.02 pound per hour and 0.08 ton per rolling 12-month period of VOC emissions; and see b)(2)d. and b)(2)e.
g.	OAC rule 3745-17-07(B)(1)	See b)(2)c.
h.	OAC rule 3745-17-08(B)	See b)(2)f.
i.	OAC rule 3745-18-06(E)(2)	See b)(2)c.
Forehearths - natural gas fired with standard burners (17,666 scf/hr) and low-NO <sub>x</sub> burners (5,148 scf/hr)		
j.	OAC rule 3745-31-05(A)(3) as established in PTI 04-01414 as issued August 30, 2005 and	1.92 pounds per hour and 8.41 tons per rolling 12-month period of CO emissions; 1.41 pounds per hour and 6.18 tons per



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	modified June 13, 2008	rolling 12-month period of NOx emissions; 0.04 pound per hour and 0.20 ton per rolling 12-month period of PE; 0.18 pound per hour and 0.79 ton per rolling 12-month period of PM10 emissions; 0.02 pound per hour and 0.09 ton per rolling 12-month period of SO2 emissions; 0.13 pound per hour and 0.57 ton per rolling 12-month period of VOC emissions; and see b)(2)d. and b)(2)e.
k.	OAC rule 3745-17-07(B)(1)	See b)(2)c.
l.	OAC rule 3745-17-08(B)	See b)(2)f.
m.	OAC rule 3745-18-06(E)(2)	See b)(2)c.

(2) Additional Terms and Conditions

- a. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
- b. Visible particulate emissions from any stack shall not exceed 20 percent opacity as a six-minute average, unless otherwise specified by the rule.
- c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- d. The permittee shall allow no visible emissions of fugitive dust from any enclosure (building) surrounding this emissions unit. Visible emissions of fugitive dust through roof-mounted ventilator(s) shall not exceed 5% opacity as a 3-minute average.
- e. The hourly and annual emission limitations were established for PTI purposes to reflect the potential to emit for this emissions source at the maximum firing rate for natural gas. Therefore, it is not necessary to develop monitoring, recordkeeping and/or reporting requirements to ensure compliance with these limitations.



f. Compliance with this rule is achieved through the exclusive combustion of natural gas.

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or number two fuel oil as fuel in the glass melting furnace of this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(2) The permittee shall burn only natural gas as fuel in the refiner and forehearths of this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(3) The rate of glass pull from this emissions unit shall not exceed 55,800 tons per rolling, 12-month period, based upon a rolling, 12-month summation of the monthly pull rates.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil in the glass melting furnace, the permittee shall maintain a record of the type, quantity, and heating value in Btu/dscf of the fuel burned.

This emissions unit can be fired with natural gas and #2 fuel oil. However, to avoid additional monitoring, recordkeeping, and reporting requirements for #2 fuel oil usage, #2 fuel oil shall be employed as a standby fuel and shall be employed only on an emergency basis. SO<sub>2</sub> emissions from fuel combustion are considered to be a small fraction of the SO<sub>2</sub> emissions. Most SO<sub>2</sub> emissions are generated from impurities in the feed stock material. Because the potential to emit for SO<sub>2</sub>, based upon AP-42 emission factor, is well below the allowable emission rate, there is no need for monitoring, record keeping, and reporting requirements to ensure ongoing compliance with the allowable emission rate.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) For each day during which the permittee burns a fuel other than natural gas in the refiner or forehearths, the permittee shall maintain a record of the type, quantity, and heating value in Btu/dscf of the fuel burned.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee shall maintain daily records of:

- a. the glass pull rate, in tons/day; and
- b. the hours of operation of this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]



- (4) The permittee shall maintain monthly records of the following information:
- a. the glass pull rate for each month, in tons; and
  - b. the rolling, 12-month summation of the glass pull rates.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (5) 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 G-furnace stack. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to 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. 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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 roof ventilator serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;



- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (7) The permittee shall perform daily checks, when the emissions unit is in operation, for any visible fugitive particulate emissions from building egress points (doors, windows). The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
- b. the total duration of any visible emission incident; and
- c. any corrective actions taken to eliminate the visible emissions.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (8) For emission points for which the daily checks show emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check of such emission point by the permittee or an Ohio EPA inspector indicates abnormal emissions, the frequency of emissions checks shall revert to daily for that emission point until such time as there are 30 consecutive operating days of normal visible emissions.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in the glass melting furnace of this emissions unit. Each report shall be submitted to the Toledo Division of Environmental Services within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the refiner or forehearth of this emissions unit. Each report shall be submitted to the Toledo Division of Environmental Services within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (3) On an annual basis, the permittee shall report the total number of days during which #2 fuel oil was fired in this emissions unit. These reports shall be submitted to the Director (the Toledo Division of Environmental Services) by January 31 of each year and shall cover the previous 12-month period.\



[Authority for term: OAC rule 3745-77-07(C)(1)]

- (4) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month glass pull rate limitation. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. These reports shall be submitted to the Director (the Toledo Division of Environmental Services) by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (5) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- a. identify all days during which any visible particulate emissions were observed from the G-furnace stack, the roof ventilator serving this emissions unit or building egress points;
  - b. describe any corrective actions taken to minimize or eliminate the visible particulate emissions from the melting furnace stack;
  - c. describe any corrective actions taken to eliminate the visible particulate emissions from the roof ventilator serving this emissions unit; and
  - d. describe any corrective actions taken to eliminate the visible fugitive particulate emissions from building egress points (doors, windows).

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:  
20% opacity as a 6-minute average from the melting furnace stack



Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1)]

b. Emission Limitation:

0.20 pound per hour CO emissions from the melting furnace

Applicable Compliance Method:

Compliance shall be determined through calculations based on the emission factor demonstrated during the most recent stack test, as follows: multiply the stack test emission factor (0.028 pound of CO emissions per ton of glass pulled, performed August 17, 2006) by the maximum hourly throughput rate (170 tons per day divided by 24 hours per day).

If required, the permittee shall perform emission testing in accordance with the methods and procedures of Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

c. Emission Limitation:

0.88 ton per rolling, 12-month period of CO from the melting furnace

Applicable Compliance Method:

Annual emissions are based on the allowable hourly emission rate (0.20 lb/hr) multiplied by the maximum annual hours of operation (8,760 hrs/yr) and divided by 2000 lbs/ton. Therefore if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

d. Emission Limitation:

46.3 pounds per hour NOx emissions from the melting furnace

Applicable Compliance Method:

Compliance shall be determined through calculations based on the emission factor demonstrated during the most recent stack test, as follows: multiply the stack test emission factor (4.08 pounds of NOx emissions per ton of glass pulled



as performed May 8, 2013) by the maximum hourly throughput rate (170 tons per day divided by 24 hours per day).

If required, the permittee shall perform emission testing in accordance with the methods and procedures of Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e. Emission Limitation:

182.5 tons per rolling, 12-month period of NO<sub>x</sub> from the melting furnace

Applicable Compliance Method:

Compliance shall be determined through calculations based on the emission factor demonstrated during the most recent stack test, as follows: multiply the stack test emission factor (4.08 pounds of NO<sub>x</sub> emissions per ton of glass pulled as performed May 8, 2013) by the maximum annual throughput rate (55,800 tons per year) and divide by 2,000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f. Emission Limitation:

6.30 pounds per hour PM<sub>10</sub> emissions from the melting furnace

Applicable Compliance Method:

Compliance shall be determined through calculations based on the emission factor demonstrated during the most recent stack test, as follows: multiply the stack test emission factor (0.64 pound of PM<sub>10</sub> emissions per ton of glass pulled, performed August 17, 2006) by the maximum hourly throughput rate (170 tons per day divided by 24 hours per day).

If required, compliance shall be demonstrated based upon the procedures specified in Methods 201 and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g. Emission Limitation:

24.8 tons per rolling, 12-month period of PM<sub>10</sub> from the melting furnace

Applicable Compliance Method:

Compliance shall be determined through calculations based on the emission factor demonstrated during the most recent stack test, as follows: multiply the



stack test emission factor (0.64 pound of PM10 emissions per ton of glass pulled, performed August 17, 2006) by the maximum annual throughput rate (55,800 tons per year) and divide by 2,000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

h. Emission Limitation:

5.81 pounds per hour PE emissions from the melting furnace

Applicable Compliance Method:

Compliance shall be determined through calculations based on the emission factor demonstrated during the most recent stack test, as follows: multiply the stack test emission factor (0.57 pound of PE emissions per ton of glass pulled, performed August 17, 2006) by the maximum hourly throughput rate (170 tons per day divided by 24 hours per day).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 5 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

i. Emission Limitation:

22.9 tons per rolling, 12-month period of PE from the melting furnace

Applicable Compliance Method:

Compliance shall be determined through calculations based on the emission factor demonstrated during the most recent stack test, as follows: multiply the stack test emission factor (0.57 pound of PE emissions per ton of glass pulled, performed August 17, 2006) by the maximum annual throughput rate (55,800 tons per year) and divide by 2,000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

j. Emission Limitation:

20.8 pounds per hour SO<sub>2</sub> emissions from the melting furnace

Applicable Compliance Method:

Compliance shall be determined through calculations based on the emission factor demonstrated during the most recent stack test, as follows: multiply the stack test emission factor (2.5 pounds of SO<sub>2</sub> emissions per ton of glass pulled, performed May 8, 2013) by the maximum hourly throughput rate (170 tons per day divided by 24 hours per day).



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

[Authority for term: OAC rule 3745-77-07(C)(1)]

k. Emission Limitation:

82.0 tons per rolling, 12-month period of SO<sub>2</sub> from the melting furnace

Applicable Compliance Method:

Compliance shall be determined through calculations based on the emission factor demonstrated during the most recent stack test, as follows: multiply the stack test emission factor (2.5 pounds of SO<sub>2</sub> emissions per ton of glass pulled, performed May 8, 2013) by the maximum annual throughput rate (55,800 tons per year) and divide by 2,000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

l. Emission Limitation:

0.35 pound per hour VOC emissions from the melting furnace

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 25, or 25A of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-21-10. Use of Method 25 or 25A is to be selected based on the results of pre-survey stack sampling and U.S. EPA guidance documents. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

m. Emission Limitation:

1.53 tons per rolling, 12-month period of VOC from the melting furnace

Applicable Compliance Method:

This emission limitation was developed by multiplying the VOC hourly emission limitation (0.35 pound per hour) by the maximum annual operating rate (8760 hrs/yr) and divided by 2000 pounds per ton. Therefore, if compliance is shown by with the hourly emission limitation, compliance is also shown with the annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]



n. Emission Limitation:

Fugitive emissions through roof ventilator(s) shall not exceed 5% opacity as a 3-minute average

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1)]

o. Emission Limitation:

0.29 pound per hour CO emissions from the refiner

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the CO emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (84 lbs/mmmscf of natural gas burned) by the maximum natural gas firing rate of 3.375 E-3mmmscf/hr

[Authority for term: OAC rule 3745-77-07(C)(1)]

p. Emission Limitation:

1.27 tons per rolling, 12-month period of CO from the refiner

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly CO emission limitation (0.29 lb/hr) by the maximum annual operating hours (8760 hrs/hr) and dividing by 2000 pounds per ton. Therefore is compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

q. Emission Limitation:

0.17 pound per hour NOx emissions from the refiner

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the NOx emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (50 lbs/mmmscf of natural gas burned) by the maximum natural gas firing rate of 3.375 E-3mmmscf/hr



[Authority for term: OAC rule 3745-77-07(C)(1)]

r. Emission Limitation:

0.75 ton per rolling, 12-month period of NO<sub>x</sub> from the refiner

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly NO<sub>x</sub> emission limitation (0.17 lb/hr) by the maximum annual operating hours (8760 hrs/yr) and dividing by 2000 pounds per ton. Therefore, if compliance is shown by the hourly emission limitation, compliance is also shown with annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

s. Emission Limitation:

0.03 pound per hour PM<sub>10</sub> emissions from the refiner

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the NO<sub>x</sub> emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (7.6 lbs/mm<sup>3</sup>scf of natural gas burned) by the maximum natural gas firing rate (3.375 E-3mm<sup>3</sup>scf/hr).

[Authority for term: OAC rule 3745-77-07(C)(1)]

t. Emission Limitation:

0.12 ton per rolling, 12-month period of PM<sub>10</sub> from the refiner

Applicable Compliance Method:

This emission limitation was developed by multiplying the PM<sub>10</sub> emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (7.6 lbs/mm<sup>3</sup>scf of natural gas burned), by the maximum natural gas firing rate (3.375 E-3mm<sup>3</sup>scf/hr), by the maximum annual operating hours (8760 hrs/yr) and dividing by 2000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

u. Emission Limitation:

0.01 pound per hour PE emissions from the refiner

Applicable Compliance Method:



Compliance shall be demonstrated through calculations performed as follows: multiply the PE emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (1.9 lbs/mmscf of natural gas burned) by the maximum natural gas firing rate (3,375 scf/hr).

[Authority for term: OAC rule 3745-77-07(C)(1)]

v. Emission Limitation:

0.03 ton per rolling, 12-month period of PE from the refiner

Applicable Compliance Method:

This emission limitation was developed by multiplying the PE emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (1.9 lbs/mmscf of natural gas burned), by the maximum natural gas firing rate (3.375 E-3mmscf/hr), by the maximum annual operating hours (8760 hrs/yr) and dividing by 2000 pounds per ton. Therefore, if compliance is shown by the hourly emission limitation, compliance is also shown with annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

w. Emission Limitation:

0.01 pound per hour SO<sub>2</sub> emissions from the refiner

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the SO<sub>2</sub> emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (0.6 lb/mmscf of natural gas burned) by the maximum natural gas firing rate (3,375 scf/hr).

[Authority for term: OAC rule 3745-77-07(C)(1)]

x. Emission Limitation:

0.01 ton per rolling, 12-month period of SO<sub>2</sub> from the refiner

Applicable Compliance Method:

This emission limitation was developed by multiplying the SO<sub>2</sub> emission factor from AP-42, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (0.6 lb/mmscf of natural gas burned), by the maximum natural gas firing rate (3.375 E-3mmscf/hr), by the maximum annual operating hours (8760 hrs/yr) and dividing by 2000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

y. Emission Limitation:



0.02 pound per hour VOC emissions from the refiner

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the VOC emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (5.5 lbs/mmescf of natural gas burned) by the maximum natural gas firing rate (3,375 scf/hr).

[Authority for term: OAC rule 3745-77-07(C)(1)]

z. Emission Limitation:

0.08 ton per rolling, 12-month period of VOC from the refiner

Applicable Compliance Method:

This emission limitation was developed by multiplying the VOC emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (5.5 lbs/mmescf of natural gas burned), by the maximum natural gas firing rate (3.375 E-3mmescf/hr), by the maximum annual operating hours (8760 hrs/yr) and dividing by 2000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

aa. Emission Limitation:

1.92 pounds per hour CO emissions from the forehearths

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the CO emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (84 lbs/mmescf of natural gas burned) by the maximum natural gas firing rate (0.022814 mmescf/hr).

[Authority for term: OAC rule 3745-77-07(C)(1)]

bb. Emission Limitation:

8.41 tons per rolling, 12-month period of CO from the forehearths

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly CO emission limitation (1.92 lb/hr) by the maximum annual operating hours (8760 hrs/hr) and dividing by 2000 pounds per ton. Therefore, if compliance is shown with the hourly emission limitation, compliance is also shown with the annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]



cc. Emission Limitation:

1.41 pounds per hour NO<sub>x</sub> emissions from the forehearths

Applicable Compliance Method:

This emissions unit includes firing natural gas with standard burners (maximum firing rate of 17,666 scf/hr) and low NO<sub>x</sub> burners (maximum firing rate of 5,148 scf/hr). Compliance shall be demonstrated by multiplying the low NO<sub>x</sub> emission factor from AP-42 emission factor, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (50 lbs/mmscf of natural gas burned) by the maximum natural gas low NO<sub>x</sub> burner firing rate (0.017666 mmscf/hr) and adding that total to the product of the maximum standard burner firing rate (0.005148 mmscf/hr) multiplied by the AP-42 emission factor for a standard natural gas fired burner (100 lbs/mmscf of natural gas burned).

[Authority for term: OAC rule 3745-77-07(C)(1)]

dd. Emission Limitation:

6.18 tons per rolling, 12-month period of NO<sub>x</sub> from the forehearths

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly NO<sub>x</sub> emission limitation (1.41 lb/hr) by the maximum annual operating hours (8760 hrs/yr) and dividing by 2000 pounds per ton. Therefore, if compliance is shown by the short term emission limitation, compliance is also shown with annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

ee. Emission Limitation:

0.18 pound per hour PM<sub>10</sub> emissions from the forehearths

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the PM<sub>10</sub> emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (7.6 lbs/mmscf of natural gas burned) by the maximum natural gas firing rate (0.022814 mmscf/hr).

[Authority for term: OAC rule 3745-77-07(C)(1)]

ff. Emission Limitation:

0.79 ton per rolling, 12-month period of PM<sub>10</sub> from the forehearths

Applicable Compliance Method:



This emission limitation was developed by multiplying the hourly PM10 emission limitation (0.18 lb/hr) by the maximum annual operating hours (8760 hrs/yr) and dividing by 2000 pounds per ton. Therefore, if compliance is shown by the short term emission limitation, compliance is also shown with annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

gg. Emission Limitation:

0.04 pound per hour PE emissions from the forehearths

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the PE emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (1.9 lbs/mmscf of natural gas burned) by the maximum natural gas firing rate (0.022814 mmscf/hr).

[Authority for term: OAC rule 3745-77-07(C)(1)]

hh. Emission Limitation:

0.20 ton per rolling, 12-month period of PE from the forehearths

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly PE emission limitation (0.04 lb/hr) by the maximum annual operating hours (8760 hrs/yr) and dividing by 2000 pounds per ton. Therefore, if compliance is shown by the short term emission limitation, compliance is also shown with annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

ii. Emission Limitation:

0.02 pound per hour SO2 emissions from the forehearths

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the SO2 emission factor from AP-42 emission factor, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (0.6 lb/mmscf of natural gas burned) by the maximum natural gas firing rate (0.022814 mmscf/hr).

[Authority for term: OAC rule 3745-77-07(C)(1)]

jj. Emission Limitation:



0.09 ton per rolling, 12-month period of SO<sub>2</sub> from the forehearths

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly SO<sub>2</sub> emission limitation (0.002 lb/hr) by the maximum annual operating hours (8760 hrs/yr) and dividing by 2000 pounds per ton. Therefore, if compliance is shown by the short term emission limitation, compliance is also shown with annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

kk. Emission Limitation:

0.13 pound per hour VOC emissions from the forehearths

Applicable Compliance Method:

Compliance shall be demonstrated through calculations performed as follows: multiply the VOC emission factor from AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Table 1.4-1, dated 7/98 (5.5 lbs/mmscf of natural gas burned) by the maximum natural gas firing rate (0.022814 mmscf/hr).

[Authority for term: OAC rule 3745-77-07(C)(1)]

ll. Emission Limitation:

0.57 ton per rolling, 12-month period of VOC from the forehearths

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly VOC emission limitation (0.13 lb/hr) by the maximum annual operating hours (8760 hrs/yr). Therefore, if compliance is shown by the short term emission limitation, compliance is also shown with annual emission limitation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

mm. Emission Limitation:

No visible emissions from any enclosure (building) surrounding this emissions unit

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(4).



[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) Emission testing requirements

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

- a. The emission testing shall be conducted approximately 2.5 years after permit issuance and within 6 months prior to permit renewal.
- b. The permittee shall maintain records for this emissions unit of the total annual hours of operation on the standby fuel. If the annual usage of fuel oil in this emissions unit exceeds 500 hours, the permittee shall immediately report the exceedance, and Ohio EPA may require the permittee to conduct emission testing at the glass furnace while combusting fuel oil.
- c. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for NO<sub>x</sub> and SO<sub>2</sub> from the glass melting furnace stack.
- d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

NO<sub>x</sub>: Methods 1-4 and 7E of 40 CFR Part 60, Appendix A

SO<sub>2</sub>: Methods 1-4 and 6C of 40 CFR Part 60, Appendix A.

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

- e. During the testing, the permittee shall record the following operational parameters for each test run: glass pull rate in tons/hr, the melting furnace natural gas firing rate in scf/hr, and the electric boost rate.
- f. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Toledo Division of Environmental Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Toledo Division of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Toledo Division of Environmental Services's refusal to accept the results of the emission test(s).

Personnel from the Toledo Division of Environmental Services 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.



**Draft Title V Permit**

Libbey Glass Inc.

**Permit Number:** P0114867

**Facility ID:** 0448010066

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

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Toledo Division of Environmental Services 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 Toledo Division of Environmental Services.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



11. P010, Slitters and knotchers

Operations, Property and/or Equipment Description:

Corrugated carton 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) 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
	3,250 pounds per hour corrugated cardboard carton cutting controlled by a cyclone dust collector	
a.	OAC rule 3745-17-07(A)(1)	see b)(2)a.
b.	OAC rule 3745-17-11(B)(1)	particulate emissions (PE) shall not exceed 5.5 pounds per hour

(2) Additional Terms and Conditions

a. Except as provided in OAC rule 3745-17-07(A)(3), visible particulate emissions from any stack shall not exceed 20 percent opacity as a six-minute average, except:

- i. visible particulate emissions may exceed 20 percent opacity, as a six-minute average, for not more than six consecutive minutes in any sixty minutes; but
- ii. shall not exceed 60 percent opacity, as a six-minute average, at any time; and
- iii. the presence of uncombined water shall not be deemed a violation for failure of stack emissions meeting this requirement.

c) Operational Restrictions

(1) None.



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 stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. 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 quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1)]

b. Emission Limitation:

5.5 pounds per hour of particulates

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 5 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



**12. P022, F - Furnace**

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

75 ton per day natural gas fired pressed/blown glass furnace, F furnace, with particulate control by checker design

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(A)(3) established by PTI 04-01456 as issued 12/5/2006	emissions of carbon monoxide (CO) shall not exceed 0.75 pound per hour or 3.29 tons per year; emissions of nitrogen oxides (NOx) shall not exceed 28.0 pounds per hour or 123 tons per year; particulate emissions (PE) shall not exceed 38.5 tons per year; emissions of particulate matter 10 microns or less in diameter (PM10) shall not exceed 8.66 pounds per hour or 37.9 tons per year; emissions of sulfur dioxide (SO2) shall not exceed 21.0 pounds per hour or 92.0 tons per year; emissions of volatile organic compounds (VOC) shall not exceed 1.13 pounds per hour or 4.95 tons per year; and see b)(2)a. and b)(2)b.
b.	OAC rule 3745-17-07(A)(1)	see b)(2)c.
c.	OAC rule 3745-17-11(B)(1)	emissions of PE shall not exceed 8.80 pounds per hour



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-18-06(E)(2)	see b)(2)d.
e.	40 CFR Part 60, Subpart CC	exempt, see b)(2)e.

(2) Additional Terms and Conditions

- a. The hourly and annual emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.
- b. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-17-11(B)(1).
- c. Visible particulate emissions shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
- d. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- e. No “capital expenditure” was associated with the increase in the production rate of this emissions unit. Pursuant to 40 CFR 60.14(E)(2), an increase in the production rate of an existing facility shall not be considered a modification without a “capital expenditure”.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas and/or number two fuel oil in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) This emissions unit can be fired with natural gas and #2 fuel oil. However, to avoid additional monitoring, recordkeeping, and reporting requirements for #2 fuel oil usage, #2 fuel oil shall be employed as a standby fuel and shall be employed only on an emergency basis. SO<sub>2</sub> emissions from fuel combustion are considered to be a small fraction of the SO<sub>2</sub> emissions. Most SO<sub>2</sub> emissions are generated from impurities in the feed stock material. Because the potential to emit for SO<sub>2</sub>, based upon the AP-42 emission factor, is well below the allowable emission rate, there is no need for



monitoring, record keeping, and reporting requirements to ensure ongoing compliance with the allowable emission rate.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (3) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible 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. 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (4) The permittee shall monitor and record each day during which #2 fuel oil is burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or number two fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible



particulate emissions. These reports shall be submitted to the Director (the Toledo Division of Environmental Services) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (3) On an annual basis, the permittee shall report the total number of days during which #2 fuel oil was fired in this emissions unit. These reports shall be submitted to the Director (the Toledo Division of Environmental Services) by January 31 of each year and shall cover the previous 12-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1)]

- b. Emission Limitation:

0.75 pound of CO per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 15-2 dated 1/95, as follows: multiply the emission factor of 0.2 pound of CO emissions per ton of glass pulled by the maximum design rate of glass pull (3.125 tons per hour).

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



4 and 10 of 40 CFR Part 60 Appendix A. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

c. Emission Limitation:

3.29 tons of CO per year.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 0.75 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

d. Emission Limitation:

28.0 pounds of NO<sub>x</sub> per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 15-1 dated 1/95, as follows: multiply the emission factor of 8.5 pound of NO<sub>x</sub> emissions per ton of glass pulled by the maximum design rate of glass pull (3.125 tons per hour).

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

e. Emission Limitation:

123 tons of NO<sub>x</sub> per year.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 28.0 pounds of NO<sub>x</sub> per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]



f. Emission Limitation:

8.80 pounds of PE per hour.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 5 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(10). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g. Emission Limitation:

38.5 tons of PE per year.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 8.80 pounds of PE per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

h. Emission Limitation:

8.66 pounds of PM10 per hour.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

[Authority for term: OAC rule 3745-77-07(C)(1)]

i. Emission Limitation:

37.9 tons of PM10 per year.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 8.66 pounds of PM10 per hour by 8,760 hours per year and divide by 2,000 pounds per ton.



[Authority for term: OAC rule 3745-77-07(C)(1)]

j. Emission Limitation:

21.0 pounds of SO<sub>2</sub> per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 15-1 dated 1/95, as follows: multiply the emission factor of 5.6 pound of SO<sub>2</sub> emissions per ton of glass pulled by the maximum design rate of glass pull (3.125 tons per hour).

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

k. Emission Limitation:

92.0 tons of SO<sub>2</sub> per year.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 21.0 pounds of SO<sub>2</sub> per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

l. Emission Limitation:

1.13 pounds of VOC per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 15-2 dated 1/95, as follows: multiply the emission factor of 0.3 pound of VOC emissions per ton of glass pulled by the maximum design rate of glass pull (3.125 tons per hour).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 4 and 25 or 25A of 40 CFR Part 60 Appendix A using the methods and



procedures specified in OAC rule 3745-21-10. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

m. Emission Limitation:

4.95 tons of VOC per year.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 1.13 pounds of VOC per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) If the permittee fires with #2 fuel oil for greater than 60 days in a calendar year, then Ohio EPA may require additional testing to be performed while firing #2 fuel oil.

g) Miscellaneous Requirements

- (1) None.



**13. Emissions Unit Group -Boilers: B004,B005,B006,**

EU ID	Operations, Property and/or Equipment Description
B004	10.3 mmBtu natural gas/no.2 fuel oil fired boiler, Boiler no.1, w/no control
B005	10.3 mmBtu natural gas/no.2 fuel oil fired boiler, Boiler no.2, w/no control
B006	10.3 mmBtu natural gas/no.2 fuel oil fired boiler, Boiler no.3, w/no control

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(A)(3) established by PTI 04-00367, as modified on February 19, 2002	carbon monoxide emissions (CO) shall not exceed 0.09 pound per million Btu of actual heat input; nitrogen oxides emissions (NOx) shall not exceed 0.145 pound per million Btu of actual heat input; sulfur dioxide emissions (SO2) shall not exceed 0.52 pound per million Btu of actual heat input; volatile organic compound emissions (VOC) 0.01 pound per million Btu of actual heat input; and see b)(2)a.
b.	OAC rule 3745-31-05(D) synthetic minor limitation established by PTI 04-00367, as modified on February 19, 2002	see b)(2)b.
c.	OAC rule 3745-17-07(A)(1)	see b)(2)c.
d.	OAC rule 3745-17-10(B)(1)	particulate emissions (PE) shall not exceed 0.020 pound per million Btu of



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		actual heat input
e.	OAC rule 3745-18-06(D)	see b)(2)d.

(2) Additional Terms and Conditions

- a. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-17-10(B)(1).
- b. The combined annual emissions from emissions units B004, B005, and B006 shall not exceed 34 tons of CO, 18.4 tons of NOx, 1.23 tons of PE, 38.04 tons of SO2 and 0.74 ton of VOC, as rolling, 12-month summations.
- c. Except as provided in OAC rule 3745-17-07(A)(3), visible particulate emissions from any stack shall not exceed 20 percent opacity as a six-minute average, except:
  - i. visible particulate emissions may exceed 20 percent opacity, as a six-minute average, for not more than six consecutive minutes in any sixty minutes; but
  - ii. shall not exceed 60 percent opacity, as a six-minute average, at any time; and
  - iii. the presence of uncombined water shall not be deemed a violation for failure of stack emissions meeting this requirement.
- d. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

- (1) The permittee shall burn only natural gas and/or #2 fuel oil in this emissions unit.  
 [Authority for term: OAC rule 3745-77-07(A)(1)]
- (2) The quality of the oil burned in this emissions unit shall meet on an "as received" basis a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.52 pound sulfur dioxide/mmBtu actual heat input. Compliance with the above-mentioned specification shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of oil.  
 [Authority for term: OAC rule 3745-77-07(A)(1)]
- (3) The combined #2 fuel oil usage in emissions units B004, B005, and B006 shall not exceed 1,040,000 gallons in any calendar year.



[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or #2 fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/mmBtu). The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F). A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods, such as D240 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter and D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or equivalent methods as approved by the director.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (3) The permittee shall measure and record on a monthly basis, the total quantity of oil combusted in emissions units B004, B005, and B006 as a monthly total and as a rolling, 12-month summation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (4) The permittee shall calculate and record, on a monthly basis, the combined sulfur dioxide emissions (tons/year) from B004, B005, and B006 as a rolling, 12-month summation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. an identification of each day when a fuel other than natural gas and/or #2 fuel oil was burned in this emissions unit;



- b. an identification of each month when the sulfur dioxide emission rate (lb/mmBtu) for any oil received during the calendar month exceeded 0.52 pound of sulfur dioxide per million Btu;
- c. an identification of each month in which the combined #2 fuel oil usage of emissions units B004, B005, and B006 exceeded 1,040,000 gallons as a rolling, 12-month summation, and the actual combined #2 fuel oil usage for each such month; and
- d. an identification of each month during which the combined sulfur dioxide emission rate, as a rolling, 12-month summation, for emissions units B004, B005, and B006 exceeded 38.04 tons of sulfur dioxide, and the actual combined sulfur dioxide emission rate for each such month.

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1)]

- b. Emission Limitation:

0.09 pound of carbon monoxide per million Btu of actual heat input



Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors as follows:

for natural gas: divide the emission factor of 84 pounds of carbon monoxide emissions per million cubic feet of natural gas (Table 1.4-2 dated 7/98) by an average natural gas heating value of 1,020 Btu per standard cubic foot natural gas, and

for #2 fuel oil: divide the emission factor for #2 fuel oil combustion of 5 pounds of carbon monoxide per thousand gallons (Table 1.3-1, 9/98 Edition) by the #2 fuel oil heating value of 140 million Btu per thousand gallons.

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

c. Emission Limitation:

The combined annual emissions from emissions units B004, B005, and B006 shall not exceed 34 tons of carbon monoxide.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculation:

multiply the AP-42 (Table 1.3-1, 9/98 Edition) carbon monoxide emission factor for #2 fuel oil combustion of 5 pounds of carbon monoxide per thousand gallons by the maximum allowable oil usage limitation of 1,040,000 gallons in a calendar year and add the product of the AP-42 (7/98 Edition) carbon monoxide emission factor of 84 pounds of carbon monoxide emissions per million cubic feet of natural gas multiplied by the calculated maximum annual natural gas usage of 120 million standard cubic feet and then divide by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

d. Emission Limitation:

0.020 pound of particulate emissions per million Btu of actual heat input

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, as follows:



for natural gas; divide the emission factor of 1.9 pounds of PE per million standard cubic feet (Table 1.4-2 dated 7/98) by a heating value of 1020 Btus per standard cubic foot, and

for #2 fuel oil; divide the emission factor of 2 pounds per thousand gallons (Table 1.3-1, 9/98 Edition) by average #2 fuel oil heating value of 140 million Btu per thousand gallons.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 thru 5 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(9). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e. Emission Limitation:

The combined annual emissions from emissions units B004, B005, and B006 shall not exceed 1.23 tons of particulate.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculation:

multiply the AP-42 (1.3-1, 9/98 Edition) particulate emission factor for #2 fuel oil combustion of 2 pounds per thousand gallons by the maximum allowable oil usage limitation of 1,040,000 gallons in a calendar year and add the product of the AP-42 (1.4-2, 7/98 Edition) emission factor of 1.9 pounds of particulate emissions per million cubic feet of natural gas multiplied by the calculated maximum annual natural gas usage of 120 million standard cubic feet and then divide by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

f. Emission Limitation:

0.145 pound of nitrogen oxides per million Btu of actual heat input

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors as follows:

for natural gas: divide the emission factor of 100 pounds of nitrogen oxides emissions per million cubic feet of natural gas (Table 1.4-2 dated 7/98) by an average natural gas heating value of 1,020 Btu per standard cubic foot natural gas, and



for #2 fuel oil: divide the emission factor for #2 fuel oil combustion of 20 pounds of nitrogen oxides emissions per thousand gallons (Table 1.3-1, 9/98 Edition) by the #2 fuel oil heating value of 140 million Btu per thousand gallons.

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

g. Emission Limitation:

The combined annual emissions from emissions units B004, B005, and B006 shall not exceed 18.4 tons of nitrogen oxides.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculation:

multiply the AP-42 (Table 1.3-1, 9/98 Edition) nitrogen oxides emission factor for #2 fuel oil combustion of 20 pounds of nitrogen oxides per thousand gallons by the maximum allowable oil usage limitation of 1,040,000 gallons in a calendar year and add the product of the AP-42 (1.4-1, 7/98 Edition) nitrogen oxides emission factor of 100 pounds of nitrogen oxides emissions per million cubic feet of natural gas multiplied by the calculated maximum annual natural gas usage of 120 million standard cubic feet and then divide by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

h. Emission Limitation:

0.52 pound of sulfur dioxide emissions per million Btu of actual heat input

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors as follows:

for natural gas; divide the emission factor of 0.6 pound of SO<sub>2</sub> emissions per million standard cubic feet (Table 1.4-2 dated 7/98) by a heating value of 1020 Btus per standard cubic foot, and

for #2 fuel oil: divide the emission factor for #2 fuel oil combustion of 142S pounds of SO<sub>2</sub> per thousand gallons (Table 1.3-1, 9/98 Edition where S is the percentage of sulfur in the fuel recorded in d) by the fuel oil heating value, in mmBtu/1000gal recorded in d).

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



4 and 6 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-18-04. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

i. Emission Limitation:

The combined annual emissions from emissions units B004, B005, and B006 shall not exceed 38.04 tons of sulfur dioxide, as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculation:

multiply the AP-42 (Table 1.3-1, 9/98 Edition) sulfur dioxide emission factor for #2 fuel oil combustion of 142S pounds of sulfur dioxide per thousand gallons where  $S = 0.5$ , by the maximum allowable oil usage limitation of 1,040,000 gallons in a calendar year and add the product of the AP-42 (1.4-1, 7/98 Edition) sulfur dioxide emission factor of 0.6 pound of sulfur dioxide emissions per million cubic feet of natural gas multiplied by the calculated maximum annual natural gas usage of 120 million standard cubic feet and then divide by 2000 lbs/ton.

If required, the permittee shall demonstrate compliance with the sulfur dioxide emission factors through emission testing performed in accordance with Methods 1 thru 4 and 6 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-18-04. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

j. Emission Limitation:

0.01 pound of volatile organic compounds per million Btu of actual heat input

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, as follows:

for natural gas; divide the emission factor of 5.5 pounds of VOC emissions per million standard cubic feet (Table 1.4-2 dated 7/98) by a heating value of 1020 Btus per standard cubic foot, and

for #2 fuel oil; divide the emission factor of 0.2 pound per thousand gallons (Table 1.3-3, 9/98 Edition) by average #2 fuel oil heating value of 140 million Btu per thousand gallons.

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



4 and 25 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-21-10. Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

k. Emission Limitation:

The combined annual emissions from emissions units B004, B005, and B006 shall not exceed 0.74 ton of volatile organic compounds.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculation:

multiply the AP-42 (7/98 Edition) volatile organic compounds emission factor of 5.5 pounds of volatile organic compound emissions per million cubic feet of natural gas by the calculated maximum annual natural gas usage of 270 million standard cubic feet and then divide by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



**14. Emissions Unit Group -Forming Lines w/lehrs: F003,F011,F015,**

EU ID	Operations, Property and/or Equipment Description
F003	glass forming line A-1 and annealing lehr with no controls
F011	glass forming line D-2 and annealing lehr with no controls
F015	glass forming line G-5 and annealing lehr with no controls

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
	glass forming line G-5 and annealing lehr with no controls	
a.	OAC rule 3745-17-07(B)(1)	see b)(2)a.
b.	OAC rule 3745-17-08(B), (B)(3)	see b)(2)b.
c.	OAC rule 3745-18-06(E)(2)	emissions of sulfur dioxide shall not exceed 47 pounds per hour; and see b)(2)c.

(2) Additional Terms and Conditions

- a. Visible particulate emissions shall not exceed 20% opacity as a 3-minute average, except for a period of time not to exceed 3 minutes during any 60-minute observation period.
- b. It has been determined that no control measures are necessary to comply with the requirements of OAC rule 3745-17-08.
- c. The exclusive combustion of natural gas and/or propane shall be considered an adequate demonstration of compliance with this emissions limitation.



c) Operational Restrictions

- (1) The permittee shall burn only natural gas and/or propane as fuel in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or propane, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

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

- a. an identification of each day when a fuel other than natural gas and/or propane was burned in this emissions unit;

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

[Authority for term: OAC rule 3745-77-07(A)(1)]

- (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(3)

[Authority for term: OAC rule 3745-77-07(C)(1)]



b. Emission Limitation:

47 pounds per hour of sulfur dioxide

Applicable Compliance Method:

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



**15. Emissions Unit Group -decorating lines: P011**

EU ID	Operations, Property and/or Equipment Description
P011	Deco lehr #1 for firing of decorating line #1 glassware

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.	None	None

(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) of these terms and conditions shall be determined in accordance with the following methods:

a. None.



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g) Miscellaneous Requirements

(1) None.



**16. Emissions Unit Group -forming lines w/lehrs F008,10,14: F008,F010,F014,**

EU ID	Operations, Property and/or Equipment Description
F008	glass forming line D-3 and annealing lehr with no controls
F010	glass forming line F-1 and annealing lehr with no controls
F014	glass forming line G-6 and annealing lehr with no controls

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 3745-17-07(B)(1)	see b)(2)a.
b.	OAC rule 3745-17-08(B), (B)(3)	see b)(2)b.
c.	OAC rule 3745-18-06(E)(2)	emissions of sulfur dioxide shall not exceed 41 pounds per hour; and see b)(2)c.

(2) Additional Terms and Conditions

- a. Visible particulate emissions shall not exceed 20% opacity as a 3-minute average, except for a period of time not to exceed 3 minutes during any 60-minute observation period.
- b. It has been determined that no control measures are necessary to comply with the requirements of OAC rule 3745-17-08.
- c. The exclusive combustion of natural gas and/or propane shall be considered an adequate demonstration of compliance with this emissions limitation.

c) Operational Restrictions

(1) The permittee shall burn only natural gas and/or propane as fuel in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or propane, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

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

- a. an identification of each day when a fuel other than natural gas and/or propane was burned in this emissions unit;

The 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(3)

[Authority for term: OAC rule 3745-77-07(C)(1)]

- b. Emission Limitation:

41 pounds per hour of sulfur dioxide

Applicable Compliance Method:

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



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4 and 6 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-18-04(E). Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.



**17. Emissions Unit Group -glass melting furnaces: P005,P006,**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P005	glass melting furnace "D" with no controls
P006	glass melting furnace "E" with no controls

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 3745-17-07(A)(1)	see b)(2)a.
b.	OAC rule 3745-17-11(B)(1)	particulate emissions (PE) shall not exceed 8.4 pounds per hour
c.	OAC rule 3745-18-06(E)(2)	emissions of sulfur dioxide (SO2) shall not exceed 61.5 pounds per hour

(2) Additional Terms and Conditions

a. Except as provided in OAC rule 3745-17-07(A)(3), visible particulate emissions from any stack shall not exceed 20 percent opacity as a six-minute average, except:

- i. visible particulate emissions may exceed 20 percent opacity, as a six-minute average, for not more than six consecutive minutes in any sixty minutes; but
- ii. shall not exceed 60 percent opacity, as a six-minute average, at any time; and
- iii. the presence of uncombined water shall not be deemed a violation for failure of stack emissions meeting this requirement.



c) Operational Restrictions

- (1) None.

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 stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible 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. 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall maintain daily records of the following:

- a. the tons of glass produced in this emissions unit, and
- b. the hours of operation of this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (3) This emissions unit can be fired with natural gas and #2 fuel oil. However, to avoid additional monitoring, recordkeeping, and reporting requirements for #2 fuel oil usage, #2 fuel oil shall be employed as a standby fuel and shall be employed only on an emergency basis. SO<sub>2</sub> emissions from fuel combustion are considered to be a small fraction of the SO<sub>2</sub> emissions. Most SO<sub>2</sub> emissions are generated from impurities in the feed stock material. Because the potential to emit for SO<sub>2</sub>, based upon the AP-42 emission factor, is well below the allowable emission rate, there is no need for



monitoring, record keeping, and reporting requirements to ensure ongoing compliance with the allowable emission rate.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

- (1) On an annual basis, the permittee shall report the total number of days during which #2 fuel oil was fired in this emissions unit. These reports shall be submitted to the Director (the Toledo Division of Environmental Services) by January 31 of each year and shall cover the previous 12-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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

The quarterly deviation (excursion) 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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. Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

A visible emissions test for P005 conducted on 5/13/2009 resulted in an average 7% opacity.

A visible emissions test for P006 conducted on 9/14/2010 resulted in an average 10% opacity.

Compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).



[Authority for term: OAC rule 3745-77-07(C)(1)]

b. Emission Limitation:

8.4 pounds per hour of particulates

Applicable Compliance Method:

A test conducted for P005 on 5/13/2009 resulted in a particulate emission rate of 2.33 pounds per hour.

A test conducted for P006 on 9/14/2010 resulted in a particulate emission rate of 1.89 pounds per hour.

Compliance shall be demonstrated through calculations performed as follows: multiply the AP-42 (Table 11.15-1, 1/95 Edition) particulate emission factor of 1.4 pounds of particulates per ton of glass produced by the daily average production rate of glass, in tons per hour, established through the record keeping requirements of d)(2).

If required, the permittee shall perform emission testing in accordance with Method 5 of 40 CFR Part 60 Subpart A, and the procedures of OAC rule 3745-17-03(B)(10).

[Authority for term: OAC rule 3745-77-07(C)(1)]

c. Emission Limitation:

61.5 pounds per hour of sulfur dioxide

Applicable Compliance Method:

A test conducted for P005 on 5/13/2009 resulted in a sulfur dioxide emission rate of 7.32 pounds per hour.

A test conducted for P006 on 9/14/2010 resulted in a particulate emission rate of 4.93 pounds per hour.

Compliance shall be demonstrated through calculations performed as follows: multiply the AP-42 (Table 11.15-1, 1/95 Edition) sulfur dioxide emission factor of 3.4 pounds of sulfur dioxide emissions per ton of glass produced by the daily average production rate of glass, in tons per hour, established through the record keeping requirements of d)(2).

If required, the permittee shall perform emission testing in accordance with Method 6 of 40 CFR Part 60 Subpart A, and the procedures of OAC rule 3745-18-04(E)(1).

[Authority for term: OAC rule 3745-77-07(C)(1)]



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g) Miscellaneous Requirements

(1) None.