John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Interim Director

1/29/2014

Certified Mail

Sarah Harrison
Johns Manville / Plant #01 - wtv1
6050 N. River Rd.
Waterville, OH 43566

Facility ID: 0448000012
Permit Number: P0088006
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 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

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
1/29/2014 Issuance of Draft Air Pollution Title V Permit

Johns Manville / Plant #01 - wtv1
6050 River Road,
Waterville, OH 43566
Lucas County
FACILITY DESC.: Other Pressed and Blown Glass and Glassware Manufacturing
PERMIT #: P0088006
PERMIT TYPE: Renewal
PERMIT DESC: Renewal of TV Permit

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: Brad Faggionato, Toledo Department of Environmental Services, 348 South Erie Street, Toledo, OH 43604. Ph: (419)936-3015

Statement of Basis For Air Pollution Title V Permit

Facility ID:	0448000012
Facility Name:	Johns Manville / Plant #01 - wtv1
Facility Description:	Fiber Glass Manufacturer
Facility Address:	6050 River Road, Waterville, OH 43566
Permit #:	P0088006, Renewal

This facility is subject to Title V because it is major for:

☐ Lead ☒ Sulfur Dioxide ☐ Carbon Monoxide ☐ Volatile Organic Compounds ☒ Nitrogen Oxides
☒ Particulate Matter ≤ 10 microns ☒ Single Hazardous Air Pollutant ☐ Combined Hazardous Air Pollutants
☒ Maximum Available Control Technology Standard(s) ☒ GHG ☐ 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. P046 – P052 and P066 were determined not to be insignificant emission units. Facility amended application and emission units were added to Title V permit.
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.2.	N	Y	Applicability of 40 CFR Part 60 Subpart CC for P001 and P013
B.3.	N	Y	Applicability of 40 CFR Part 63 Subpart HHHH for P015
B.4. – B.6.	N	Y	Applicability of 40 CFR Part 63 Subpart DDDDD for B005, B007, B009, B011, B014, B018, B019, and P026.
B.7.	N	Y	Insignificant emission units exempt from permit requirements: B005, B007, B009, B011, B014, B018, B019, F002, F010, P011, and R001.
B.8.	N	Y	Insignificant emission units with one or more applicable requirements: P016, P018 – P025, P027 – P030, P032, P033, P053, and P065
B.9.	N	Y	40 CFR Part 64 (CAM) – P001 and P013 for PE/PM10 and SO2, P015 for PE and OC

C. Emissions Unit Terms and Conditions

Key:
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										
F004	Filterable Particulate Emissions (PE)- 1.95 pounds per hour & 8.56 tons per year from Rail 1	N	Y	N	Y	Y	N	Y	Y	N	Y	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-981 issued 8/21/1996 OR- full enclosure building and adjustable accordion style chute abutting unloading rail car operating at all times (90% by weight overall control efficiency) M, R, & Rp- hourly emission limitation demonstrate compliance based on a one time calculation: RACM Table 2.10-1: uncontrolled feed material receiving at 1.0 pound of PE per ton of glass produced with a maximum operation of 16.4 tons of glass produced per hour: 16.4(1.0)(1-0.90) = 1.64 lb PE/hour; annual emissions calculated as follows: (1.64 lb/hr)(8,760 hr/yr)/(2000 lb/ton) = 7.18 tons/yr,therefore no monitoring, record keeping and/or reporting required to ensure compliance. Daily visual emission checks of enclosing building using Method 22 will be used to demonstrate compliance with enclosure ET- AP-42 used to demonstrate compliance with these limitations. Stack testing not required per EG#16 due to low level of emissions. CAM – not subject to CAM, emission limit does not use add-on control device to achieve compliance with this emission limit.
	PE- 1.95 pounds per	N	Y	N	Y	Y	N	Y	Y	N	Y	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-981 issued 8/21/1996

	hour & 8.56 tons per year from Rail 2												OR- full enclosure (building enclosure and pneumatic conveying under negative pressure) and fabric filter in storage silo operating at all times (90% by weight overall control efficiency) M, R, & Rp- hourly emission limitation demonstrate compliance based on a one time calculation: AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 11.12-2 dated 6/2006: pneumatic unloading to storage silo at 0.73 pounds of PE per ton of material transferred with a maximum operation of 20.0 tons of material transferred per hour: 20.00(0.73)(1-0.90) = 1.46 lb PE/hour; annual emissions calculated as follows: (1.46 lb/hr)(8,760 hr/yr)/(2000 lb/ton) = 6.40 tons/yr, therefore no monitoring, record keeping and/or reporting required to ensure compliance. Daily visual emission checks of enclosing will be used to demonstrate compliance with enclosure ET- AP-42 used to establish these limitations. Never stack tested but Method 5 will be requested if problems with M, R, & Rp. Stack testing not required per EG#16 due to low level of emissions. CAM – not subject to CAM, pre control emissions are less than major source threshold.
	No visible emissions from stacks serving fabric filters	N	Y	N	N	Y	N	Y	Y	N	Y	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-981 issued 8/21/1996 with continuous use fabric filter and enclosure M, R, & Rp- compliance determined by daily observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A. St – streamlining language added for visible particulate emission observations to align with permit terms library
	No visible fugitive emissions from non-stack egress points	N	Y	N	N	Y	N	Y	Y	N	Y	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-981 issued 8/21/1996 with total building enclose of operation for both Rail#1 and Rail#2 M, R, & Rp- compliance determined by daily observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A.

													St – streamlining language added for visible particulate emission observations to align with permit terms library
	None	17-07(B)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Fugitive VE shall not exceed 20% opacity as a 3-min average Less stringent than OAC rule 3745-31-05(A) BAT of no visible emissions
	None	17-08(B)(3)	N	N	N	N	N	N	N	N	N	N	Limitation: RACM for fugitive dust Less stringent than OAC rule 3745-31-05(A) BAT of 90% control using accordion style chute and total building enclosure for Rail #1 and pneumatic conveyer with total building enclosure for Rail #2 and fabric filtration on storage bins for Rail #2
	None	17-07(A)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Stack VE shall not exceed 20% opacity as a 6-min average Less stringent than OAC rule 3745-31-05(A) BAT of no visible emissions
	None	17-11(B)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Per Table I allowable emissions of 25.2 pounds per hour at hourly process weight of 15 tons per hour (Rail 1) & 30.5 pounds per hour at hourly process weight of 20 tons per hour (Rail 2) Less stringent than OAC rule 3745-31-05(A) BAT of 1.95 pounds per hour for each
F005	Filterable Particulate Emissions (PE)- 1.78 pounds per hour; 7.91 tons per year												Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-981 issued 8/21/1996 based on RACM guide recommendation. Control is pneumatic unloading trucks with 90% efficiency OR- 90% by weight overall control efficiency; full enclosure and fabric filter operating at all times M, R, & Rp- hourly & annual emission limitations based on potential to emit (PTI): AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 11.12-2 dated 6/2006: pneumatic unloading to storage silo at 0.73 pounds of PE per ton of material transferred

													with a maximum operation of 15.0 tons of material transferred per hour: 15.00(0.73)(1-0.90) = 1.10 lb PE/hour; annual emissions calculated as follows: (1.10 lb/hr)(8,760 hr/yr)/(2000 lb/ton) = 4.81 tons/yr, therefore no monitoring, record keeping and/or reporting required to ensure compliance. Daily visual emission checks of enclosing building using Method 22 will be used to demonstrate compliance with VE ET- RACM Guide Table 2.9-1 & 2.9-2 used to establish these limitations. Never stack tested but Method 5 will be requested if problems with M, R, & Rp. Stack testing not required per EG#16 due to low level of emissions. CAM – not subject to CAM, pre-control emissions less than major source threshold.
	No visible emissions from stacks serving fabric filters	N	Y	N	N	Y	N	Y	Y	N	Y	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-981 issued 8/21/1996 with continuous use fabric filter and enclosure M, R, & Rp- compliance determined by daily observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A. St - streamlining language added for visible particulate emission observations to align with permit terms library
	No visible fugitive emission from non-stack egress points	N	Y	N	N	Y	N	Y	Y	N	Y	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-981 issued 8/21/1996 with continuous use fabric filter M, R, & Rp- compliance determined by daily observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A. St - streamlining language added for visible particulate emission observations to align with permit terms library
	None	17-07(B)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Fugitive VE shall not exceed 20% opacity as a 3-min average Less stringent than OAC rule 3745-31-05(A) BAT of no visible emissions
	None	17-08(B)(3)	N	N	N	N	N	N	N	N	N	N	Limitation: RACM for fugitive dust

													Less stringent than OAC rule 3745-31-05(A) BAT of 90% control using total enclosure and fabric filtration
	None	17-07(A)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Stack VE shall not exceed 20% opacity as a 6-min average Less stringent than OAC rule 3745-31-05(A) BAT of no visible emissions
	None	17-11(B)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Per Table I allowable emissions of 13.6 pounds per hour at hourly process weight of 6 tons per year. Less stringent than OAC rule 3745-31-05(A) BAT of 1.78 pounds per hour
F006	Filterable Particulate Emissions (PE)- 0.88 ton per year from batch weighing operations	N	Y	N	Y	Y	N	Y	Y	N	Y	N	Basis is OAC rule 3745-31-05(A) BAT based on max material receiving capacity of 438,000 tons per year using RACM 2.9-1 & 2.9-2. OR- full enclosure and fabric filter operating at all times (90% by weight overall control efficiency) M,R, & Rp- emission limitation demonstrate compliance based on one time calculation: RACM Table 2.10-1 materials batch weighing of 0.02 pound PE per ton of glass produced: (0.02 lb PE uncontrolled/ton glass produced)(438,000 tons glass produced/year)(1 – 0.90)/(2000 lbs/ton) = 0.44 ton PE controlled/year; therefore no record keeping or reporting requirements needed to ensure compliance ET- Never stack tested and stack testing not required per EG#16 due to low level of emissions; Method 5 will be requested if problems with M, R, & Rp. CAM – not subject to CAM, pre-control emissions less than major source threshold.
	PE- 2.85 tons per year from material mixing and transfer to day bins	N	Y	N	Y	Y	N	Y	Y	N	Y	N	Basis is OAC rule 3745-31-05(A) BAT based on max material receiving capacity of 438,000 tons per year using RACM 2.9-1 & 2.9-2. OR- full enclosure and fabric filter operating at all times (90% by weight overall control efficiency)

													M, R, & Rp- emission limitation demonstrate compliance based on one time calculation: RACM Table 2.10-1 feed materials mixing of 0.04 pound PE per ton of glass produced:(0.04 lb PE uncontrolled/ton glass produced)(438,000 tons glass produced/year)(1 – 0.90)/(2000 lbs/ton) = 0.88 ton PE controlled/year; therefore no record keeping or reporting requirements needed to ensure compliance ET- Never stack tested but Method 5 will be requested if problems with M, R, & Rp. CAM – not subject to CAM, pre-control emissions less than major source threshold.
	No visible particulate emissions of fugitive dust	N	Y	N	N	Y	N	Y	Y	N	Y	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-981 issued 8/21/1996 with continuous use fabric filter and enclosure M, R, & Rp- compliance determined by daily observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A. St - streamlining language added for visible particulate emission observations to align with permit terms library
	No visible particulate emissions from any stack	N	Y	N	N	Y	N	Y	Y	N	Y	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-981 issued 8/21/1996 with continuous use fabric filter and enclosure M, R, & Rp- compliance determined by daily observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A. St - streamlining language added for visible particulate emission observations to align with permit terms library
	None	17-07(B)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Fugitive VE shall not exceed 20% opacity as a 3-min average Less stringent than OAC rule 3745-31-05(A) BAT of no visible emissions
	None	17-08(B)(3)	N	N	N	N	N	N	N	N	N	N	Limitation: RACM for fugitive dust Less stringent than OAC rule 3745-31-05(A) BAT of 90% control using total enclosure and fabric filtration

	None	17-07(A)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Stack VE shall not exceed 20% opacity as a 6-min average Less stringent than OAC rule 3745-31-05(A) BAT of no visible emissions
	26.7 pounds of PE per hour	17-11(B)(1)	N	N	Y	Y	N	Y	Y	N	Y	N	Limitation: Per Table I allowable emissions of 26.7 pounds per hour at hourly process weight of 16.4 tons per hour. M,R, & Rp- emission limitation demonstrate compliance based on one time calculation: RACM Table 2.10-1 materias batch weighing of 0.02 pound PE per ton of glass produced and feed materials mixing of 0.04 pound PE per ton of glass produced for a total emission factor of 0.06 pound PE per ton of glass produced: (0.06 lb PE uncontrolled/ton glass produced)(16.4 tons glass produced/hour)(1 – 0.90) = 0.10 pound PE controlled/hour; therefore no record keeping or reporting requirements needed to ensure compliance
P001 – Glass Melt Furnace	Filterable Particulate emissions (PE) - 17.34 tons per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 derived from short term allowable with yearly maximum allowable glass pull rate of 69,350 tons per rolling, 12-month period OR- Exclusive combustion of Natural Gas OR- daily average of ton per hour established during last stack test establishing compliance and tons per rolling, 12-month period restriction on production OR- Baghouse shall be used at all times for furnace exhaust. M, R, & Rp- recording production of glass pulled and monitoring of scrubber and baghouse to ensure compliance ET – No further stack testing required. Actual emissions less than 25 tons per year. Stack test results dated 7/25/2008 show 0.05 pound per ton glass pulled. CAM – subject to CAM, indicators are bag leak detection system, constant monitoring with alarm and daily glass pull rate.
	Sulfur dioxide (SO_2) - 2.02	N	Y	N	Y	Y	N	Y	Y	Y	N	N	Basis is OAC rule 3745-31-05(A) BAT established by

	pounds per ton of glass pull; 71 tons per rolling, 12-month period												PTI 04-01345 issued 6/13/2006 derived from AP-42 (1/95) Section 11.13.2 with baghouse control OR- Exclusive combustion of natural gas OR- daily average of ton per hour limitation based on last stack test showing compliance & 69,350 tons per rolling, 12-month period restriction on production OR- Caustic Spray Tower & baghouse shall be used at all times M, R, and Rt - monitoring for daily glass pull rate and NaOH addition rate; monitoring baghouse and caustic spray tower ET – Stack testing at renewal per EG#16 since actual emissions greater than 25 tpy. P001 & P013 glass melt furnaces have common emission stack so stack testing based on combined emissions. AER=4.04 pounds per ton glass pulled. Stack test results dated 7/25/2008 show 1.4 pounds per ton glass pulled. CAM – subject to CAM, indicators are glass pull rate, bag leak detection system and addition rate of NaOH to spray tower. Glass pull rate is a daily average, bag leak detection is continuous and NaOH addition is hourly monitoring of flow rate and NaOH concentration.
	Fluorides- 0.36 pound per ton of glass pull; 13 tons per rolling, 12-month period	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 verified by stack testing OR- Exclusive combustion of natural gas OR- daily average of ton per hour based on last stack test showing compliance & 69,350 tons per rolling, 12-month period restriction on production OR- fluorspar addition rate to batch shall not exceed rate established during most recent performance test that demonstrated compliance ET – stack test required at permit renewal. CAM – not subject to CAM, pre-control emissions less than major source threshold.
	Volatile Organic Compound	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 proposed by permittee. With no AP-42 value & RBLC references showing higher

	(VOC)- 0.04 pound per ton of glass pull; 1.4 tons per rolling, 12-month period												limits, this was accepted at BAT. OR- exclusive combustion of natural gas OR- daily average of ton per hour based on last compliance test showing compliance & 69,350 tons per rolling, 12-month period restriction on production M, R, & Rp- monitoring of glass pull & exclusive use of natural gas shall demonstrate compliance ET - Per EG16 with actual emissions less than 25 tpy, no further stack test required. P001 & P013 glass melt furnaces have common emission stack so stack testing based on combined emissions. AER=0.08 pound per ton glass pulled. Stack test results dated 7/25/2008 show 0.03 pound per ton glass pulled. CAM – not subject to CAM, pre-control emissions less than major source threshold.
	Carbon Monoxide (CO) - 0.01 pound per ton of glass pull; 0.35 ton per rolling, 12-month period.	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR – restriction on production: both daily average ton per hour based on last stack test showing compliance and 69,350 tons rolling, 12-month OR- Exclusive combustion of natural gas. M, R, & Rp- monitoring of glass pull & exclusive use of natural gas shall demonstrate compliance ET- No further stack testing required. Per EG16, actual emissions less than 25 tpy. CAM – not subject to CAM, pre-control emissions less than major source threshold.
	Nitrogen Oxides (NO_x)- 1.71 pounds per ton of glass pull; 60 tons per rolling, 12-month period	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on production: both daily average ton per hour based on last stack test showing compliance and 69,350 tons rolling, 12-month OR- Exclusive combustion of natural gas. M, R, & Rp- monitoring of glass pull & exclusive use of natural gas shall demonstrate compliance ET- Per EG 16, actual emissions less than 25 tpy,

													therefore no further stack testing required. CAM – not subject to CAM, pre-control emissions less than major source threshold.
	PM_{10}- 1.87 pounds per ton glass pulled; 66 tons per rolling, 12-month period	N	Y	N	Y	Y	N	Y	Y	Y	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on production: both daily average ton per hour based on last stack test showing compliance and 69,350 tons rolling, 12-month; exclusive combustion of natural gas; use of baghouse at all times M, R, & Rp- daily recording production of glass pulled, and monitoring of baghouse and exclusive use of natural gas to ensure compliance ET-stack testing at renewal of permit to ensure compliance. CAM – subject to CAM, indicator is glass pull rate and operation of bag house. Bag house has continuous bag leak detector. Glass pull measured on daily basis, generating an average hourly rate.
	Visible particulate emissions (VE) from the furnace stack shall not exceed 20% opacity as a 6-minute average	17-07(A)	N	N	N	Y	N	Y	Y	Y	Y	N	M, R, & Rp- Compliance shall be determined through monitoring of the bag leak detection system. ET - stack testing at renewal of permit determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.
	PE- 0.50 pound per ton of glass pull	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is 40 CFR Part 60, Subpart CC for allowable rate per part 60.292 OR- restriction on production: both daily average ton per hour based on last stack test showing compliance and 69,350 tons rolling, 12-month; exclusive combustion of natural gas; use of baghouse at all times M, R, & Rp-recording of production glass pulled and monitoring of baghouse to ensure compliance

													ET-No further stack testing required. Actual emissions less than 25 tons per year. Stack test results dated 7/25/2008 show 0.05 pound per ton glass pulled. CAM – subject to CAM, indicator is glass pull rate and operation of bag house. Bag house has continuous bag leak detector. Glass pull measured on daily basis, generating an average hourly rate.
	CO- 0.71 ton per rolling, 12-month period from P001 & P013 furnaces combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	federally enforceable limit established by PTI 04-01345 issued 6/13/2006. OR- exclusive combustion of natural gas M, R, & Rp- compliance determined through recording of glass pull and emission factors generated during most recent stack test showing compliance ET- compliance shown with M,R,Rp requirements
	NO_x- 121.71 tons per rolling 12-month period for P001 & P013 furnaces combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas OR – restriction on 69,350 tons rolling, 12-month production M, R, & Rp- compliance determined through recording of glass pull and emission factor generated through most recent stack test showing compliance ET- compliance shown with M,R,Rp requirements
	SO_2- 142.77 tons per rolling, 12-month for P001 & P013 furnaces combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas OR – restriction on 69,350 tons rolling, 12-month production OR- Caustic Spray Tower & baghouse shall be used at all times M, R, & Rp- compliance determined though recording of glass pull and emission factor generated during most recent stack test showing compliance; NaOH addition rate; monitoring baghouse and caustic spray tower ET- compliance shown with M,R,Rp requirements

	VOC- 2.85 tons per rolling, 12-month for P001 & P013 furnaces combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas OR – restriction on 69,350 tons rolling, 12-month production M, R, & Rp- compliance determined through recording of glass pull and emission factor generated during initial stack test ET- compliance shown with M,R,Rp requirements
	PM_{10}- 133.10 tons per rolling, 12-month for P001 & P013 furnaces combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for major increase established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas OR - operation of baghouse OR – restriction on 69,350 tons rolling, 12-month production M, R, & Rp- compliance determined through operation of baghouse & recording of glass pull and emission factor generated during most recent stack test showing compliance ET- compliance shown with M,R,Rp requirements
	Fluoride (F)- 25.62 tons per rolling, 12-month for P001 & P013 furnaces combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for major increase established by PTI 04-01345 issued 6/13/2006 OR – fluorspar addition rate shall not exceed rate established during most recent performance test showing compliance M, R, & Rp- monitor fluorspar usage to demonstrate compliance ET- compliance shown with M,R,Rp requirements
	None	17-07(A)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Stack VE shall not exceed 20% opacity as a 6-min average Satisfied by requirements of OAC rule 3745-31-05(A) BAT and bag leak detection system with constant monitor as surrogate.
	None	17-11(B)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Per Table I allowable emissions of 16.5

													pounds per hour at hourly process weight of 8.0 tons per hour. Less stringent than the 0.5 pound per ton of glass pulled or 4.0 pound per hour at the maximum pull rate of 8.0 tons per hour from 40 CFR Part 60 Subpart CC
	None	18-06(E)(2)	N	N	N	N	N	N	N	N	N	N	AER =120.0 pounds per hour Less stringent than the 2.2 pound per ton of glass pull or 17.6 pound per hour with a maximum glass pull rate of 8 tons per hour from OAC rule 3745-31-05(A) BAT
P001 – Forehearth area	CO- 1.8 pounds per hour; 7.9 tons per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas M, R, & Rp- permittee maintain records of natural gas usage (source of CO); emissions due to combustion of natural gas CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	$N0_x$- 2.1 pounds per hour; 9.2 tons per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR - exclusive combustion of natural gas M, R, & Rp- permittee maintain records of natural gas usage (source of NO_x); emissions due to combustion of natural gas CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	PE- 0.20 pound per hour; 0.88 ton per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas M, R, & Rp- monitoring of glass pull & records of natural

													gas usage shall demonstrate compliance CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	PM_{10}- 0.011 pound per ton of glass pull; 0.39 ton per rolling, 12-month	N	Y	N	N	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas M, R, & Rp- monitoring of glass pull & records of natural gas usage shall demonstrate compliance CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	SO_2- 0.02 pound per hour; 0.09 ton per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas M, R, & Rp- permittee maintain records of natural gas usage (source of SO_2) CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	VOC- 0.12 pound per hour; 0.53 ton per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas M, R, & Rp- maintain records of natural gas usage (source of VOC) CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks

	F- 0.038 pound per ton glass pull; 1.32 tons per rolling, 12-month	N	Y	N									Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on weight percent of fluorspar addition based on amount added during last stack test showing compliance M, R, & Rp- monitoring of fluorspar addition rate shall demonstrate compliance CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	Visible PE from any fugitive source in forehearth shall not exceed 20% opacity as a 3-minute average	17-07(B)(1)	N	N	N	Y	N	Y	Y	Y	N	N	M, R, & Rp- compliance shall be determined through visual emission observations. ET - Compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks St – adjusted terms and conditions to conform to Permit Terms and Conditions Library.
	Reasonably available control measures	17-08(B)(3)	N	N	N	Y	N	Y	Y	N	Y	N	M, R, & Rp- compliance determined through visual observations. ET - Method 22 of 40 CFR Part 60, Appendix A St – streamlining language added for fugitive emissions to align with permit library terms Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	CO- 13.36 tons per rolling, 12-month for P001 & P013	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is federally enforceable restriction established by PTI 04-01345 issued 6/13/2006. OR- exclusive combustion of natural gas; restriction on glass pull M, R, & Rp- maintain records of natural gas usage

	forehearths combined												(source of CO) ET- no further stack test required per EG#16 due to low level of emissions Note- emissions from P001 & P013 forehearths exhaust to a common stack
	$N0_x$- 15.91 tons per rolling, 12-month for P001 & P013 forehearths combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor increase to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas, restriction on glass pull M, R, & Rp- maintain records of natural gas usage (source of NO_x) ET- no further stack test required per EG#16 due to low level of emissions Note- emissions from P001 & P013 forehearths exhaust to a common stack
	SO_2- 0.10 ton per rolling, 12-month for P001 & P013 forehearths combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor increase to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas, restriction on glass pull M, R, & Rp- maintain records of natural gas usage (source of SO_2) ET- no further stack test required per EG#16 due to low level of emissions Note- emissions from P001 & P013 forehearths exhaust to a common stack
	VOC-0.87 ton per rolling, 12-month for P001 & P013 forehearths combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor increase to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR-exclusive combustion of natural gas, restriction on glass pull M, R, & Rp- maintain records of natural gas usage (source of VOC) ET- no further stack test required per EG#16 due to low level of emissions Note- emissions from P001 & P013 forehearths exhaust to a common stack

	PM_{10}- 0.78 ton per rolling, 12-month for P001 & P013 forehearths combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for major increase established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas; restriction on glass pull M, R, & Rp- compliance determined through monitoring of glass pull with stack derived emission factor ET- no further stack test required per EG#16 due to low level of emissions Note- emissions from P001 & P013 forehearths exhaust to a common stack
	F- 2.70 tons per rolling, 12-month for P001 & P013 forehearths combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for major increase established by PTI 04-01345 issued 6/13/2006 OR - restriction of fluorspar usage based on last stack test showing compliance M, R, & Rp- compliance determined though monitoring of fluorspar usage below levels determined on last stack test showing compliance ET- no further stack test required per EG#16 due to low level of emissions Note- emissions from P001 & P013 forehearths exhaust to a common stack
	None	18-06(A)	N	Y	N	N	N	N	N	N	N	N	ND- no emission limitations with natural gas as fuel
P001 – Forming Area	PE- 0.50 pound per hour; 2.2 tons per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- monitoring glass pull and emission factor from initial stack test shall determine compliance ET- no further stack test required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	PM_{10}- 0.20 pound per ton glass pull; 7.0 tons per rolling, 12-	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- monitoring glass pull and emission factor

	month												from initial stack test shall determine compliance ET- no further stack test required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	VOC- 0.09 pound per ton glass pull; 3.2 tons per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- monitoring glass pull and emission factor from initial stack test shall determine compliance ET- no further stack test required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	F-0.021 pound per ton glass pull;0.73 ton per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- monitoring glass pull and emission factor from initial stack test shall determine compliance ET- no further stack test required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	Reasonably Available Control Measures for fugitive dust	17-08(B)	N	N	N	Y	N	Y	Y	N	Y	N	M, R, & Rp- compliance determined through visual observations. ET - Method 22 of 40 CFR Part 60, Appendix A St – streamlining language added for fugitive emissions to align with permit library terms
	Visible particulate emissions (VE) from forming stacks shall not exceed	17-07(A)(1)	N	N	N	Y	N	Y	Y	Y	Y	N	M, R, & Rp- compliance determined through visual observations. ET - Method 9 of 40 CFR Part 60, Appendix A St – adjusted terms and conditions to conform to Permit Terms and Conditions Library.

	20% opacity as a 6-minute average												
	Methanol- 5.18 tons per rolling, 12-month from P001 & P013 forming areas combined	31-05(D)	N	N	N	N	N	N	N	N	N	N	Basis is federally enforceable restriction established by PTI 04-01345 issued 6/13/2006 M, R, & Rp- limit established to reflect maximum potential to emit; actual emissions at full production expected to be less than 0.5 ton per year based on mass balance ET- no further stack test required per EG#16 due to low level of emissions
	VOC- 6.41 tons per rolling 12-month from P001 & P013 forming areas combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- emissions based on emissions at maximum glass pull rate, therefore monitoring of glass pull shall determine compliance ET- no further stack test required per EG#16 due to low level of emissions
	PM_{10}- 14.24 tons per rolling, 12-month from P001 & P013 forming areas combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for a major increase established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- - emissions based on emissions at maximum glass pull rate, therefore monitoring of glass pull shall determine compliance ET- no further stack test required per EG#16 due to low level of emissions
	F- 1.49 tons per rolling, 12-month from P001 & P013 forming area combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for a major increase established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- - emissions based on emissions at maximum glass pull rate, therefore monitoring of glass pull shall determine compliance ET- no further stack test required per EG#16 due to low level of emissions

P013 – glass melting furnace	Filterable Particulate emissions (PE) -18.25 tons per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 derived from short term allowable with yearly maximum allowable glass pull rate of 73,000 tons per rolling, 12-month period OR- Exclusive combustion of natural gas OR- daily average of tons per hour established during last stack test showing compliance & tons per rolling 12-month period restriction on production OR- Baghouse shall be used at all times for furnace exhaust. M, R, & Rp- monitoring of glass pull, bag leak detection system & exclusive use of natural gas shall ensure compliance ET - No further stack testing required. Actual emissions less than 25 tons per year. Stack test results dated 7/25/2008 show 0.05 pound per ton glass pulled. CAM – subject to CAM, indicator is bag leak detection system, constant monitoring with alarm and glass pull rate.
	Sulfur dioxide (SO_2) - 2.02 pounds per ton of glass pull; 75 tons per rolling, 12-month period	N	Y	N	Y	Y	N	Y	Y	Y	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 derived from AP-42 (1/95) Section 11.13.2 with baghouse control OR- Exclusive combustion of natural gas OR- daily average of tons per hour limitation based on last stack test showing compliance & 73,000 tons per 12-month period restriction on production OR- Caustic Spray Tower & baghouse shall be used at all times M, R, & Rp- monitoring of glass pull and NaOH addition rate, exclusive combustion of natural gas & monitor caustic spray tower and bag leak detector shall demonstrate compliance ET - stack retesting required at permit renewal CAM – subject to CAM, indicators are glass pull rate, bag leak detection system and addition rate of NaOH to spray tower. Glass pull rate is a daily average, bag leak detection is continuous and NaOH addition is hourly monitoring of flow rate and NaOH concentration.

	Visible PE from any furnace stack shall not exceed 20% opacity as a 6-minute average	17-07(A)(1)	N	N	N	Y	N	Y	Y	N	N	N	M, R, & RP- Bag leak detection system shall act as surrogate for emission reading. ET- bag leak detection system is continuous monitor on bag house. If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.
	Volatile Organic Compound (VOC)- 0.04 pound per ton of glass pull; 1.5 tons per rolling, 12-month period	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006. With no AP-42 value & RBLC references showing higher limits, this was accepted at BAT. OR- exclusive combustion of natural gas OR- daily average of ton per hour based on the last compliance test showing compliance & 73,000 tons per rolling, 12-month period restriction on production M, R, & Rp- monitoring of glass pull & exclusive use of natural gas shall demonstrate compliance ET - Per EG16 with actual emissions less than 25 tpy, no further stack testing required. P001 & P013 glass melt furnaces have common emission stack so stack testing based on combined emissions. AER=0.08 lb/ton glass pulled. Stack test results dated 7/25/2008 show 0.03 lb/ton glass pulled. CAM – not subject to CAM, pre-control emissions less than major source threshold.
	Carbon Monoxide (CO) - 0.01 pound per ton of glass pull; 0.37 ton per rolling, 12-month period.	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on production: both daily average ton per hour based on last stack test showing compliance and 73,000 tons rolling, 12-month period OR- Exclusive combustion of natural gas. M, R, & Rp- monitoring of daily glass pull & exclusive use of natural gas shall demonstrate compliance ET- Per EG 16, actual emissions less than 25 tpy, therefore no further stack testing required. CAM – not subject to CAM, pre-control emissions less

													than major source threshold.
	Nitrogen Oxides ($N0_x$)- 1.71 pounds per ton glass pull; 63 tons per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas; restriction on production: both daily average ton per hour based on last stack test showing compliance and 73,000 tons per rolling, 12-month period M, R, & Rp- daily monitoring of glass pull & exclusive use of natural gas shall determine compliance ET- Per EG 16, actual emissions less than 25 tpy, therefore no further stack testing required. CAM – not subject to CAM, pre-control emissions less than major source threshold.
	PM_{10}- 1.87 pounds per ton glass pull; 69 tons per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	Y	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas; restriction on production: both daily average ton per hour based on last stack test showing compliance and 73,000 tons rolling, 12-month; baghouse used at all times M, R, & Rp- daily recording production of glass pulled, baghouse leak detection system, & exclusive use of natural gas ET- stack test required at permit renewal CAM – subject to CAM, indicator is glass pull rate and operation of bag house. Bag house has continuous bag leak detector. Glass pull measured on daily basis, generating an average hourly rate.
	Fluoride (F)- 0.36 pound per ton glass pull; 14 tons per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 verified by stack testing OR- restriction on fluorspar usage – no more than used in last stack test showing compliance; production restriction - daily average ton per hour based on last stack test showing compliance & 73,000 tons per rolling, 12-month period; operation of quench tower at all times M, R, & Rp- monitoring quench tower; monitor fluorspar addition; monitor daily throughput of glass pull

													ET- stack test required at permit renewal CAM – not subject to CAM, pre-control emissions less than major source threshold.
	PE- 0.50 pound per ton of glass pull	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is 40 CFR Part 60, Subpart CC for allowable rate per Part 60.292 OR- exclusive use of natural gas; baghouse used at all times emission unit in production; production restriction - both daily average ton per hour based on last stack test showing compliance & 73,000 tons rolling, 12-month period M, R, & Rp- monitor daily glass throughput, baghouse leak detection system, & exclusive use of natural gas ET- No further stack testing required. Actual emissions less than 25 tons per year. Stack test results dated 7/25/2008 show 0.05 pound per ton glass pulled. CAM – subject to CAM, indicator is daily glass pull rate and operation of bag house. Bag house has continuous bag leak detector. Glass pull measured on daily basis, generating an average hourly rate.
	CO- 0.71 ton per rolling, 12-month from P001 & P013 furnace combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	federally enforceable restriction established by PTI 04-01345 issued 6/13/2006. OR- exclusive use of natural gas; production restriction - 73,000 tons rolling, 12-month period M, R, & Rp- monitoring of daily glass pull and emission limit derived in last stack test that demonstrated compliance ET- Per EG 16, no further stack test required, actual emission less than 25 tpy
	$N0_x$- 121.71 tons per rolling, 12-month from P001 & P013 furnace combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas; restriction on glass pull of 73,000 tons per rolling, 12-month period M, R, & Rp- monitor glass pull and emission factor from last stack test that demonstrated compliance; monitor exclusive use of natural gas as fuel

													ET- Per EG 16, no further stack test required, actual emission less than 25 tpy
	SO_2- 142.77 tons per rolling, 12-month from P001 & P013 furnace combined	31-05(D)	N	N	Y	Y	N	Y	Y	Y	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas; restriction on glass pull of 73,000 tons per rolling, 12-month period M, R, & Rp- monitor glass pull rate & exclusive use of natural gas shall demonstrate compliance ET- Per EG 16, actual emissions greater than 25 tpy, retest required prior to permit renewal
	VOC- 2.85 tons per rolling, 12-month from P001 & P013 furnace combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas; restriction on glass pull of 73,000 tons per rolling, 12-month period M, R, & Rp- monitor daily glass pull rate & exclusive use of natural gas shall demonstrate compliance ET - no further stack test required per EG#16 due to low level of emissions
	PM_{10}- 133.10 tons per rolling, 12-month from P001 & P013 furnace combined	31-10 through 20	N	N	Y	Y	N	Y	Y	Y	N	N	Basis is result of PSD review for major increase established by PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas; restriction on glass pull of 73,000 tons per rolling, 12-month period; baghouse used at all times emission unit in production M, R, & Rp- monitor glass pull, exclusive use of natural gas, & baghouse leak detection system used at all times shall demonstrate compliance ET- Per EG 16, actual emissions over 25 tpy, stack test required
	F- 25.62 tons per rolling, 12-month from P001 & P013 furnace combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for major increase per PTI 04-01345 issued 6/13/2013 OR- restriction on glass pull of 73,000 tons per rolling, 12-month period; scrubber used all times emission unit in production; fluorspar restriction no greater than amount added during last stack test showing compliance M, R, & Rp- monitor glass pull; scrubber operation;

													&fluorspar addition ET- stack test required at permit renewal
	None	17-11(B)	N	N	N	N	N	N	N	N	N	N	Limitation: Per Table I allowable emissions of 17.2 lb/hr at hourly process weight of 8.4 tons/hr. Less stringent than 0.5 pound per ton of glass pulled or 4.25 pounds per hour at the maximum pull rate of 8.4 tons per hour from 40 CFR Part 60 Subpart CC
	None	18-06(E)(2)	N	N	N	N	N	N	N	N	N	N	AER = 125.84 pound per hour per OAC rule 3745-18-06(E)(2) Less stringent than 2.2 pounds per ton of glass pulled at a max pull rate of 8.4 tons per hour or 18.7 pounds per hour from OAC rule 3745-31-05(A) BAT
P013 – forehearth area	CO - 1.9 pounds per hour; 8.3 tons per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas M, R, & Rp- exclusive use of natural gas; emissions based on combustion of natural gas CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	$N0_x$ - 2.2 pounds per hour; 9.6 tons per rolling 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas M, R, & Rp- exclusive use of natural gas & emissions due to combustion of natural gas CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	PE - 0.20 pound per	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006

	hour; 0.88 tons per year												OR- exclusive combustion of natural gas; production restriction - both daily average ton per hour based on last stack test showing compliance & 73,000 tons rolling, 12-month period M, R, & Rp- monitoring of daily glass pull rate and exclusive use of natural gas shall demonstrate compliance CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	PM_{10}- 0.011 pound per ton glass pull; 0.41 ton per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas; production restriction - both daily average ton per hour based on last stack test showing compliance & 73,000 tons rolling, 12-month period M, R, & Rp- monitoring of daily glass pull rate, exclusive use of natural gas shall demonstrate compliance CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	SO_2- 0.02 pound per hour; 0.09 ton per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas M, R, & Rp- emissions due to combustion of natural gas CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	VOC - 0.13 pound per hour; 0.57 ton	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006

	per rolling, 12-month period												OR- exclusive combustion of natural gas M, R, & Rp- emissions due to combustion of natural gas CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	F - 0.038 pound per ton glass pull; 1.39 tons per rolling, 12-month period	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull; fluorspar restriction M, R, & Rp- monitoring of glass pull & fluorspar addition shall demonstrate compliance CAM – not subject to CAM, no control and emissions less than major source threshold. Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	Visible particulate emissions from any fugitive source shall not exceed 20% opacity as a 3-minute average	17-07(B)(1)	N	N	N	Y	N	Y	Y	N	Y	N	M, R, & RP- compliance shall be determined through visible emission observations. ET - Method 9 of 40 CFR Part 60, Appendix A Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks St – adjusted terms and conditions to conform to Permit Terms and Conditions Library.
	Reasonably available control measures for fugitive dust	17-08(B)	N	N	N	Y	N	Y	Y	N	Y	N	M, R, & Rp- compliance determined through visual observations. ET - Method 22 of 40 CFR Part 60, Appendix A St – streamlining language added for fugitive emissions to align with permit library terms Note: egress through roof ventilators, per OAC rule 3745-17-01(B)(19) are considered fugitive emissions and are not considered stacks
	None	18-06(A)	N	Y	N	N	N	N	N	N	N	N	ND- no emission limitations with natural gas as fuel
	CO- 13.36 tons per	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established

	rolling, 12-month from P001 & P013 forehearths combined												by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas M, R, & Rp- exclusive use of natural gas & maintain records of natural gas usage ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	$N0_x$- 15.91 tons per rolling, 12-month from P001 & P013 forehearths combined	31-O5(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas M, R, & Rp- exclusive use of natural gas & maintain records of natural gas usage ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	SO_2- 0.10 ton per rolling, 12-month from P001 & P013 forehearths combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas M, R, & Rp- exclusive use of natural gas & maintain records of natural gas usage ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	VOC- 0.87 ton per rolling 12-month from P001 & P013 forehearths combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas M, R, & Rp- exclusive use of natural gas & maintain records of natural gas usage ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.

	PM_{10}- 0.78 tons per rolling, 12-month from P001 & P013 forehearths combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for major increase established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull OR – exclusive combustion of natural gas M, R, & Rp- monitoring of glass pull and exclusive use of natural gas shall demonstrates compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	F- 2.70 tons per rolling, 12-month from P001 & P013 forehearths combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for major increase established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull OR – restriction of fluorspar addition to batch M, R, & Rp- monitoring of glass pull and fluorspar addition shall demonstrate compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
P013 – forming area	PE- 0.50 pound per hour; 2.2 tons per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- monitoring of glass pull shall demonstrate compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	PM_{10}- 0.20 pound per ton glass pull; 7.0 tons per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- monitoring of glass pull shall demonstrate compliance ET- no further stack testing required per EG#16 due to

													low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	VOC- 0.09 pound per ton glass pull; 3.2 tons per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- monitoring of glass pull shall demonstrate compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	F- 0.021 pound per ton glass pull; 0.73 ton per rolling, 12-month	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull OR – restriction of fluorspar addition to batch M, R, & Rp- monitoring of glass pull and fluorspar addition shall demonstrate compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	Visible PE from any forming stack shall not exceed 20% opacity as a 6-minute average	17-07(A)(1)	N	N	N	Y	N	Y	Y	N	Y	N	M, R, & Rp- compliance shall be determined through visual emission observations. ET - Compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9. St – adjusted terms and conditions to conform to Permit Terms and Conditions Library.
	Reasonably Available Control Measures for fugitive dust	17-08(B)	N	N	N	Y	N	Y	Y	N	Y	N	M, R, & Rp- compliance determined through visual observations. ET - Method 22 of 40 CFR Part 60, Appendix A St – streamlining language added for fugitive emissions to align with permit library terms

	Methanol- 5.18 tons per rolling, 12-month for P001 & P013 forming areas combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is volunteered by company established by PTI 04-01345 issued 6/13/2006 OR- restriction of glass pull M, R, & Rp- monitoring of glass pull shall demonstrate compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	VOC- 6.41 tons per rolling, 12-month from P001 & P013 forming areas combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is synthetic minor to avoid PSD review established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- monitoring of glass pull shall demonstrate compliance ET- no further stack testing required per EG#16 due to low level of emissions
	PM_{10}- 14.24 tons per rolling, 12-month from P001 & P013 forming areas combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for a major increase established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull M, R, & Rp- monitoring of glass pull shall demonstrate compliance ET- no further stack testing required per EG#16 due to low level of emissions
	F- 1.49 tons per rolling, 12-month from P001 & P013 forming areas combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for a major increase established by PTI 04-01345 issued 6/13/2006 OR- restriction on glass pull OR – restriction of fluorspar addition to batch M, R, & Rp- monitoring of glass pull and fluorspar addition shall demonstrate compliance ET- no further stack testing required per EG#16 due to low level of emissions
P015	Filterable Particulate Emissions (PE) - 2.35												Basis is OAC rule 3745-31-05(A) BAT established by PTI 04-306 issued 4/22/1987 OR- baghouse used at all times M, R, & Rp- baghouse performance shall demonstrate

	pounds per hour; 10.29 tons per year for curing oven when AGF mat is processed												compliance; monitor pressure drop & verify baghouse operation while EU operational ET- no further stack testing required per EG#16 due to low level of emissions CAM – subject to CAM, indicators are pressure drop across baghouse and visible emissions 20% or less, both monitored daily. EPA reference method 9 will determine visible emission compliance.
	PE - 13 pounds per hour from all stacks serving this emissions unit when not processing AGF mat	17-11(B)(1)	N	N	Y	Y	N	Y	Y	N	N	N	OR- Baghouse used at all times M,R, Rp- baghouse performance shall demonstrate compliance; monitor pressure drop & verify baghouse operation while EU operational ET- no further stack test required due to level of emissions CAM – subject to CAM, indicators are pressure drop across baghouse and visible emissions 20% or less, both monitored daily. EPA reference method 9 will determine visible emission compliance.
	Particulate Emissions (PE) - 0.88 pound per hour; 3.86 tons per year for edge trimming	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0115149 issued 11/13/2013 established by PTI 04-264 issued 8/21/1985 OR- baghouse used at all times. M, R, & Rp- baghouse performance shall demonstrate compliance; monitor pressure drop & verify baghouse operation while EU operational ET- no further stack testing required per EG#16 due to low level of emissions CAM – subject to CAM, indicators are pressure drop across baghouse and visible emissions 20% or less, both monitored daily. EPA reference method 9 will determine visible emission compliance.
	Organic Compounds (OC) - 85% total reduction.	21-07(M)(2)	N	N	Y	Y	N	Y	Y	Y	N	N	OR- Combustion of natural gas only in emissions unit. OR- regenerative thermal oxidizer (RTO) shall be run at all times M, R, & Rp- monitoring of oxidizer & exclusive use of natural gas shall demonstrate compliance

													ET- destructive efficiency stack testing will be required every 5 years; capture efficiency will only be required if change in process CAM – No other applicable BAT requirement that limits OC emissions. Stack testing indicates that potential emissions exceed 100 TPY. Therefore, CAM is applicable. Indicator is RTO combustion chamber temperature set point as determined by latest stack test to show compliance, monitored continuously.
	OC- RCO destructive efficiency shall maintain a level such that 90% or more of the carbon in the organic material being incinerated shall be oxidized to carbon dioxide.	21-07(M)(2)	N	N	Y	Y	N	Y	Y	Y	N	N	OR- Combustion of natural gas only in emissions unit. OR- regenerative thermal oxidizer (RTO) shall be run at all times M, R, & Rp- monitoring of oxidizer & exclusive use of natural gas shall demonstrate compliance ET- destructive efficiency stack testing will be required at permit renewal; capture efficiency will only be required if change in process CAM – No other applicable BAT requirement that limits OC emissions. Stack testing indicates that potential emissions exceed 100 TPY. Therefore, CAM is applicable. Indicator is RTO combustion chamber temperature set point as determined by latest stack test to show compliance, monitored continuously.
	Visible PE from any stack shall not exceed 20% opacity as a 6-minute average.	17-07(A)(1)	N	N	N	Y	N	Y	Y	Y	N	N	M,R, &Rp- compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9. Et – daily VE checks on stacks performed using 40 CFR Part 60, Appendix A, Method 9.
	Sulfur Dioxide (SO_2)- 82.2 pounds per hour	18-06(E)	N	N	Y	Y	N	Y	Y	N	N	N	OR- Combustion of natural gas only in emissions unit. M,R,Rp- monitor exclusive use of natural gas Limitation based on process weight rate rule with a process weight of 5.65 tons per hour. ET- not required per EG#16, under 25tpy Note - SO_2 emissions are result of combustion of natural

													gas only; therefore negligible CAM – not subject to CAM, no control.
	Formaldehyde (F) – 0.05 pounds per ton or reduce uncontrolled emissions by 96% or more	N	Y	N	Y	Y	N	Y	Y	Y	N	N	Basis- 40 CFR Part 63, Subpart HHHH M,R,Rp- emission limit of 0.05 pound per ton or operation of the incinerator at levels determined during emissions testing will demonstrate compliance. Currently complying with oxidizer. ET- stack testing will be required as specified in MACT. CAM – not subject to CAM, subject to applicable MACT.
	None	17-11(B)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Per Table I allowable emissions of 13.0 pounds per hour at hourly process weight of 5.65 tons per hour. Less stringent than OAC rule 3745-31-05(A) BAT
P017	Filterable Particulate Emissions (PE)- 1.5 pounds per hour; 4.35 tons per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0115109 issued 7/29/2013 OR- baghouse used at all times OR- exclusive use of natural gas in emission unit OR – restriction on annual production of 5800 hours per rolling, 12-month period M, R, & Rp- monitoring of baghouse, rolling, 12-month hours of operation & exclusive combustion of natural gas shall demonstrate compliance ET- Testing is required at the discretion of the Agency per EG#16. Less than 5 tpy actual emissions. CAM – not applicable, uncontrolled emissions less than major status.
	Carbon Monoxide (CO)- 0.23 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0115109 issued 7/29/2013 OR- combustion of only natural gas in emission unit M,R,Rp - emission limitations are based on natural gas combustion and were established to reflect the potential to emit for this emission unit. Therefore, it is sufficient to monitor exclusive combustion of natural gas to ensure compliance

													ET- no further stack testing required per EG#16 due to low level of emissions
	Nitrogen Oxides (NO_x)- 0.27 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0115109 issued 7/29/2013 OR- combustion of only natural gas in emission unit M,R,Rt - emission limitations are based on natural gas combustion and were established to reflect the potential to emit for this emission unit. Therefore, it is sufficient to monitor exclusive combustion of natural gas to ensure compliance ET- no stack test required per EG#16 due to low level of emissions
	Sulfur Dioxide (SO_2)- 0.002 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0115109 issued 7/29/2013 OR- combustion of only natural gas in emission unit M,R,Rt - emission limitations are based on natural gas combustion and were established to reflect the potential to emit for this emission unit. Therefore, it is sufficient to monitor exclusive combustion of natural gas to ensure compliance ET- no stack test required per EG#16 due to low level of emissions
	Volatile Organic Compound (VOC)- 0.01 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0115109 issued 7/29/2013 OR- combustion of only natural gas in emission unit M,R,Rt - emission limitations are based on natural gas combustion and were established to reflect the potential to emit for this emission unit. Therefore, it is sufficient to monitor exclusive combustion of natural gas to ensure compliance ET- no stack test required per EG#16 due to low level of emissions
	Visible particulate emissions (VE) from the	N	Y	N	N	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0115109 issued 7/29/2013 M, R, Rt - compliance shall be determined through daily

	stack shall not exceed 10% opacity as a 6-minute average												visible emissions observations ET - performed in accordance with 40 CFR Part 60, Appendix A, Method 9.
	None	17-07(A)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Stack VE shall not exceed 20% opacity as a 6-min average Less stringent than OAC rule 3745-31-05(A) BAT
	None	17-11(B)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Per Table I of OAC rule 3745-17-11, allowable emissions of 6.52 lb/hr at hourly process weight of 2.0 tons/hr. Less stringent than 1.5 pounds per hour from OAC rule 3745-31-05(A) BAT
	None	18-06(E)											AER = 47.73 pounds per hour with a process weight of 2.0 tons per hour per OAC rule 3745-18-06(E) Less stringent than 0.002 pounds per hour from OAC rule 3745-31-05(A) BAT
	CO- 0.67 ton per year	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is federally enforceable restriction to limit annual emissions originally per PTI 04-01345 issued 6/13/2006 OR- exclusive combustion of natural gas in emission unit & 5800 hours of operation per rolling, 12-month period restriction M, R, & Rp- recording hours of operation & monitor exclusive use of natural gas ET- no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	NO_x- 0.79 ton per year	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is federally enforceable restriction to limit annual emissions originally per PTI 04-01345 issued 6/13/2006 OR- combustion of natural gas in emission unit & 5800 hours of operation per rolling, 12-month period restriction M, R, & Rp- recording hours of operation & monitor exclusive use of natural gas

													ET- no stack test required due to level of emissions per EG #16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	SO_2- 0.006 ton per year	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is federally enforceable restriction to limit annual emissions originally per PTI 04-01345 issued 6/13/2006. OR- exclusive combustion of natural gas in emission unit & 5800 hours of operation per rolling, 12-month period restriction M, R, & Rp- recording hours of operation & monitor exclusive use of natural gas ET- no stack test required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	VOC- 0.04 ton per year	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis is federally enforceable restriction to limit annual emissions originally per PTI 04-01345 issued 6/13/2006. OR- exclusive combustion of natural gas in emission unit & 5800 hours of operation per rolling, 12-month period restriction M, R, & Rp- record hours of operation & monitor exclusive use of natural gas ET- no stack test required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	PM_{10}- 1.11 pounds per hour; 4.85 tons per year	31- 10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for major increase originally per PTI 04-01345 issued 6/13/2006. OR- operation of baghouse at all times emission unit in operation; exclusive combustion of natural gas; 5800 hours of operation per rolling, 12-month period restriction M, R, & Rp- monitor hours of operation & baghouse; exclusive use of natural gas to demonstrate compliance ET- no further stack testing per EG#16 required due to low level of emissions

													CAM – not applicable, uncontrolled emissions less than major status.
P026	Filterable Particulate Emissions (PE)- 0.88 pound per hour; 3.9 tons per year from chopper process	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) per PTI 04-01345 issued 6/13/2006 OR- fabric filter must operate whenever emission unit in operation; restriction on product throughput of 1250 tons per rolling, 12-month period from P026 & P028 combined M, R, & Rp- monitor baghouse and product throughput. EPA reference method 9 will determine visible emission compliance. ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, pre-control emissions less than major source threshold. Note – P026 and P028 both share common baghouse.
	Particulate Matter as PM_{10} (PM_{10})- 0.038 pound per hour; 0.17 ton per year from chopper process	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) per PTI 04-01345 issued 6/13/2006 OR- fabric filter must operate whenever emission unit in operation; restriction on product throughput of 1250 tons from P026 & P028 combined M, R, & Rp- monitor baghouse and product throughput ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, pre-control emissions less than major source threshold.
	Volatile Organic Compounds (VOC)- 0.24 pound per hour; 1.1 tons per year from chopper process	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) per PTI 04-01345 issued 6/13/2006 OR- exclusive use of natural gas M, R, & Rp- hourly & annual limitation established per PTE, therefore monitor of exclusive use of natural gas shall demonstrate compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.

	Visible Particulate emissions from stacks serving this emissions unit shall not exceed 10% opacity as a 6-minute average	N	Y	N	N	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) per PTI 04-01345 issued 6/13/2006 M, R, & Rp- compliance shall be determined through visible emissions performed. ET - Method 9 of 40 CFR Part 60, Appendix A
	None	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis – 40 CFR Part 63 Subpart DDDDD OR – good air pollution control practices M, R, & Rp – biennial tune up and one time energy assessment
	None	17-07(A)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Stack VE shall not exceed 20% opacity as a 6-min average Less stringent than OAC rule 3745-31-05(A) BAT
	None	17-11(B)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Per Table I allowable emissions of 1.11 pounds per hour at hourly process weight of 0.14 tons per hour. Less stringent than 0.88 pound per hour from OAC rule 3745-31-05(A) BAT
	Carbon Monoxide (CO)- 0.1207 ton per rolling, 12-month from P026 and P028 combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable restriction on annual limitation per PTI 04-01345 issued 6/13/2006 OR- restriction on natural gas usage in P026 & P028 combined M, R, & Rp- record keeping requirements of natural gas usage shall determine compliance ET- no further stack testing required due to level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold. Note- P028 is an insignificant unit & shares common

													control device with P026
	Nitrogen Oxides (NO_x)- 0.1437 ton per rolling, 12-month from P026 & P028 combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- synthetic minor to avoid PSD review per PTI 04-01345 issued 6/13/2006 OR- restriction on natural gas usage in P026 & P028 combined M,R, & Rp- record keeping requirements of natural gas usage shall determine compliance ET- no further stack testing required due to level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold. Note- P028 is an insignificant unit & shares a common control device with P026
	Sulfur Dioxide (SO_2)- 0.0009 ton per rolling, 12-month from P026 & P028 combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- synthetic minor to avoid PSD review per PTI 04-01345 issued 6/13/2006 OR- restriction on natural gas usage in P026 & P028 combined M, R, & Rp- emissions from combustion of natural gas. Record keeping requirements of natural gas usage shall determine compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold. Note- P028 is an insignificant unit & shares a common control device with P026
	VOC- 0.4275 ton per rolling, 12-month from P026 & P028 combined	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- synthetic minor to avoid PSD review per PTI 04-01345 issued 6/13/2006 OR- restriction on natural gas usage in P026 & P028 combined M, R, & Rp- emissions from combustion of natural gas. Record keeping requirements of natural gas usage shall determine compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions

													less than major source threshold. Note- P028 is an insignificant unit & shares a common control device with P026
	PM_{10} - 0.0484 ton per rolling, 12-month for P026 & P028 combined	31-10 through 20	N	N	Y	Y	N	Y	Y	N	N	N	Basis is result of PSD review for major increase per PTI 04-01345 issued 6/13/2006 OR- restriction on natural gas usage of 2.874 mmscf per rolling, 12-month period & product throughput of 1250 tons per rolling, 12-month period M, R, & Rp- record keeping requirements of natural gas usage & product throughput shall determine compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, pre-control emissions less than major source threshold.
	CO- 0.124 pound per hour; 0.55 ton per year from dryer oven	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI 04-01345 issued 6/13/2006 OR- restriction on natural gas usage in P026 & P028 combined M, R, & Rp- these limits are based on PTE for dryer oven, monitoring of exclusive use of natural gas will show compliance ET- no further stack testing required due to emission levels CAM – not subject to CAM, no control and emissions less than major source threshold.
	NO_x- 0.149 pound per hour; 0.66 ton per year from dryer oven	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI 04-01345 issued 6/13/2006 OR- restriction on natural gas usage in P026 & P028 combined M, R, & Rp- these limits are based on PTE for dryer oven, monitoring of exclusive use of natural gas will show compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.

	PE- 0.003 pound per hour; 0.014 ton per year from dryer oven	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI 04-01345 issued 6/13/2006 OR- restriction on natural gas usage and product throughput in P026 & P028 combined M, R, & Rp- these limits are based on PTE for dryer oven, monitoring of exclusive use of natural gas will show compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold.
	PM_{10}- 0.011 pound per hour; 0.049 ton per year from dryer oven	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI 04-01345 issued 6/13/2006 OR- restriction on natural gas usage and product throughput in P026 & P028 combined M, R, & Rp- these limits are based on PTE for dryer oven, monitoring of exclusive use of natural gas will show compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold.
	SO_2- 0.0009 pound per hour; 0.004 ton per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI 04-01345 issued 6/13/2006 OR- restriction on natural gas usage in P026 & P028 combined M, R, & Rp- these limits are based on PTE for dryer oven, monitoring of exclusive use of natural gas will show compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	VOC- 0.009 pound per hour; 0.04 ton	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI 04-01345 issued 6/13/2006

	per year												OR- restriction on natural gas usage in this emission unit M, R, & Rp- these limits are based on PTE for dryer oven, monitoring of exclusive use of natural gas will show compliance ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, no control and emissions less than major source threshold.
	None	17-07(A)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: Stack VE shall not exceed 20% opacity as a 6-min average Less stringent than OAC rule 3745-31-05(A) BAT of 10% opacity as a 6-min average
	None	17-10(B)(1)	N	N	N	N	N	N	N	N	N	N	Limitation: The maximum allowable amount of particulate emissions for fuel burning equipment fired only with gaseous fuels shall be 0.020 pound per million Btu of actual heat input Less stringent than 0.003 pounds per hour [(0.020 lb/mmBTU)(1.5 mmBTU/hr) = 0.30 lb/hr)] from OAC rule 3745-31-05(A) BAT
	None	18-06(E)	N	N	N	N	N	N	N	N	N	N	ND- exempt, burner capacity less than 10mmBTU
P045	Carbon Monoxide (CO)- 0.17 pound per hour and 0.75 ton per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, these limits will no longer apply. OR- Combustion of only natural gas in emission unit. M, R, & Rp- Represent the maximum emissions from a 2 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance. ET- No stack testing required per EG#16, less than 25 tpy. CAM – not subject to CAM, no control and emissions less than major source threshold.

	Nitrogen Oxides (NO_x)- 0.20 pound per hour and 0.88 ton per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, these limits will no longer apply. OR- Combustion of only natural gas in emission unit. M, R, & Rp- Represent the maximum emissions from a 2 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall be sufficient to verify compliance. ET- No stack testing required per EG#16, less than 25 tpy. CAM – not subject to CAM, no control and emissions less than major source threshold.
	Sulfur Dioxide (SO_2)- 0.01 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, this limit will no longer apply. OR- Combustion of only natural gas in emission unit. M, R, & Rp- Represent the maximum emissions from a 2 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall be sufficient to verify compliance. ET- No stack testing required per EG#16, less than 25 tpy. CAM – not subject to CAM, no control and emissions less than major source threshold.
	Filterable Particulate Emissions (PE)- 0.11 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, this limit will no longer apply. OR- Wet scrubber used at all times emission unit in operation (pressure drop across scrubber & water flow rate in ranges determined during last stack test showing compliance) M, R, & Rp- throughput of glass fibers by formulation

													and monitor wet scrubber for pressure drop and flow rate ET- no stack test required per EG#16, less than 25 tpy CAM – not subject to CAM, pre-control emissions less than major source threshold.
	PM_{10}- 0.82 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, this limit will no longer apply. OR- Wet scrubber used at all times emission unit in operation (pressure drop across scrubber & water flow rate in ranges determined during last stack test showing compliance), combustion of only natural gas in emissions unit M, R, & Rp- Monitor throughput of glass fibers by formulation, exclusive use of natural gas and wet scrubber pressure drop & water flow rate; rolling 12-month calculation of PM_{10} emissions for combination of emission units P045, P058, P061-P064, P069 and P070. ET- no stack test required, less than 25 tpy; stack test may be required to establish emission factor for specific formulation CAM – not subject to CAM, pre-control emissions less than major source threshold.
	Volatile Organic Compounds (VOC)- 2.23 pounds per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is ORC 3704.03(T) per PTI P0112207 issued 3/21/2013 OR- combustion of only natural gas in emission unit M, R, & Rp- monitor throughput of glass fibers by formulation and exclusive use of natural gas; rolling 12-month calculation of VOC emissions for combination of emission units P045, P058, P061-P064, P069 and P070 ET- no stack test required per EG#16, less than 25 tpy; stack test may be required to establish emission factor for specific formulation CAM – not subject to CAM, no control and emissions less than major source threshold.

	Visible PE from any stack shall not exceed 10% as a 6-minute average	N	Y	N	N	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then this limit will no longer apply. M, R, & RP- compliance shall be determined through visible emission observations. ET - Method 9 of 40 CFR Part 60, Appendix A
	Visible PE from any stack shall not exceed 20% as a 6-minute average	17-07(A)(1)	N	N	N	Y	N	Y	Y	N	N	N	Limitation: Stack VE shall not exceed 20% opacity as a 6-min average Less stringent than OAC rule 3745-31-05(A) BAT. This limit will apply when U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05. M, R, & RP- compliance shall be determined through visible emission observations. ET - Method 9 of 40 CFR Part 60, Appendix A
	4.17 pounds of PE per hour												Less stringent than 0.11 pound per hour from OAC rule 3745-31-05(A) BAT. This limit will apply when U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05. Limitation: Per Table I allowable emissions of 4.17 pounds per hour at hourly process weight of 1.025 tons per hour. OR- Wet scrubber used at all times emission unit in operation (pressure drop across scrubber & water flow rate in ranges determined during last stack test showing compliance) M, R, & Rp- throughput of glass fibers by formulation and monitor wet scrubber for pressure drop and flow rate ET- no stack test required per EG#16, less than 25 tpy CAM – not subject to CAM, pre-control emissions less than major source threshold.
	30.51 pounds of SO_2 per hour												AER = 30.51 pounds per hour Less stringent than 0.01 pound per hour from OAC rule 3745-31-05(A) BAT. This limit will apply when U.S. EPA approves the December 1, 2006 version of OAC rule

													3745-31-05. OR- Combustion of only natural gas in emission unit. M, R, & Rp- Represent the maximum emissions from a 2 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall be sufficient to verify compliance. ET- No stack testing required per EG#16, less than 25 tpy. CAM – not subject to CAM, no control and emissions less than major source threshold.
	PE- 0.45 ton per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. OR- monitor throughput of glass fibers by formulation, combustion of only natural gas in emissions unit & employ wet scrubber at all times M, R, & Rp- limit set to potential to emit for emission unit, no further monitoring required ET- no stack testing required per EG#16 CAM – not subject to CAM, emissions less than major source threshold.
	SO_2- 0.01 ton per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to avoid major increase in permitted limit per PTI P0112207 issued 3/21/2013 when U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 and BAT limits no longer apply. OR- combustion of only natural gas in this emissions unit M, R, & Rp- compliance determined by monitoring exclusive use of natural gas ET- no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	PM_{10}- 3.60 tons per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. Also set group rolling, 12-month limit on P045, P058, P061-P064, P069, and P070 of 16.69

													tons to avoid major increase. OR- throughput restriction on group production, combustion of only natural gas in emissions unit & employ wet scrubber at all times M, R, & Rp- monitor throughput of glass fibers by formulation, monitor exclusive use of natural gas & wet scrubber (pressure drop across scrubber & water flow rate in ranges determined during last stack test showing compliance) ET- Initial stack test established emission factors, no further testing required per EG#16 CAM – not subject to CAM, emissions less than major source threshold.
P046-P052, P066	PE – 0.21 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0109601 issued 6/13/2012. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, these limits will no longer apply. OR- mist elimination system operating any time emission unit in operation. M, R, & Rp- Represent the maximum potential emissions from this emissions unit of 100 pounds of glass fibers produced per hour, based on the current configuration of the emission unit. Therefore no recordkeeping or reporting requirements except tracking operation of mist elimination system operation. ET- No stack testing required per EG#16, less than 25 tpy. CAM – not subject to CAM, emissions less than major source threshold.
	PE – 0.92 ton per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable restriction to limit emissions from emission unit when BAT will no longer be applicable per PTI P0109601 issued 6/13/2012. OR- mist elimination system operating any time emission unit in operation. M, R, & Rp- Represent the maximum potential emissions from this emissions unit of 100 pounds of glass fibers produced per hour multiplied by 8,760 hours per year

													and divided by 2,000 pounds per ton, based on the current configuration of the emission unit. Therefore no recordkeeping or reporting requirements except tracking operation of mist elimination system operation. ET- No stack testing required per EG#16, less than 25 tpy. CAM – not subject to CAM, emissions less than major source threshold.
	VOC – 1.07 pounds per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0109601 issued 6/13/2012. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, this limit will no longer apply. OR- mist elimination system operating any time emission unit in operation. M, R, & Rp- Represent the maximum potential emissions from this emissions unit of 100 pounds of glass fibers produced per hour, based on the current configuration of the emission unit. Therefore no recordkeeping or reporting requirements except tracking operation of mist elimination system operation. ET- No stack testing required per EG#16, less than 25 tpy. CAM – not subject to CAM, emissions less than major source threshold.
	VOC – 4.69 tons per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis - federally enforceable restriction to limit emissions from emission unit when BAT will no longer be applicable per PTI P0109601 issued 6/13/2012 OR- mist elimination system operating any time emission unit in operation. M, R, & Rp- Represent the maximum potential emissions from this emissions unit of 100 pounds of glass fibers produced per hour multiplied by 8,760 hours per year and divided by 2,000 pounds per ton, based on the current configuration of the emission unit. Therefore no recordkeeping or reporting requirements except tracking operation of mist elimination system operation. ET- No stack testing required per EG#16, less than 25

													tpy. CAM – not subject to CAM, emissions less than major source threshold.
	PE – 0.551 pound per hour	17-11(B)	N	N	Y	Y	N	Y	Y	N	N	N	Limitation: Per Table I allowable emissions of 0.551 pounds per hour at hourly process weight of 0.05 ton per hour. Less stringent than 0.21 pound per hour from OAC rule 3745-31-05(A) BAT. But once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, this limit will be effective. OR- mist elimination system operating any time emission unit in operation. M, R, & Rp- PTE less than this emissions limit based on the current configuration of the emission unit. Therefore no recordkeeping or reporting requirements except tracking operation of mist elimination system operation. ET- No stack testing required per EG#16, less than 25 tpy. CAM – not subject to CAM, emissions less than major source threshold.
	20% opacity as a 6-minute average from any stack	17-07(A)	N	N	N	Y	N	Y	Y	N	N	N	M, R, & RP- compliance shall be determined through visible emission observations. ET - Method 9 of 40 CFR Part 60, Appendix A
P058	NO_x – 0.20 pound per hour, 0.88 ton per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR- Combustion of only natural gas in emission unit. M, R, & Rp- Represent the maximum emissions from a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET- No stack testing required per EG#16, less than 25 tpy.

													CAM – not subject to CAM, no control and emissions less than major source threshold.
	CO – 0.17 pound per hour, 0.75 ton per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then this limit will no longer apply. OR- Combustion of only natural gas in emission unit. M, R, & Rp- Represent the maximum emissions from a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET- No stack testing required per EG#16, less than 25 tpy. CAM – not subject to CAM, no control and emissions less than major source threshold.
	PE – 0.12 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then this limit will no longer apply. OR- fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor bag leak detector and throughput of glass fibers by formulation ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold.
	PM_{10} – 0.96 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then this limit will no longer apply. OR- fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance OR – restriction on PM_{10} emissions for a maximum of

													16.69 tons for a rolling, 12-month period for combined emission units P045, P058, P061-P064, P069, and P070. M, R, & Rp- monitor bag leak detector and throughput of glass fibers by formulation; rolling, 12-month calculation of PM_{10} emissions for combination of emission units P045, P058, P061-P064, P069, and P070. ET- no stack testing required per EG#16 due to low level of emissions; stack tests may be required to establish emission factor of specific formulation CAM – not subject to CAM, emissions less than major source threshold.
	VOC – 2.23 pounds per ton of glass dried	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. OR- combustion of only natural gas in this emissions unit OR – restriction on VOC emissions for a maximum of 50.10 tons for a rolling, 12-month period for combined emission units P045, P058, P061-P064, P069, and P070. M, R, & Rp- monitor throughput of glass fibers by formulation & monitoring exclusive use of natural gas; rolling, 12-month calculation of VOC emissions for combination of emission units P045, P058, P061-P064, P069, and P070 ET- no stack testing required per EG#16 due to low level of emissions; stack tests may be required to establish emission factor of specific formulation CAM – not subject to CAM, no control and emissions less than major source threshold.
	SO_2 – 0.01 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then this limit will no longer apply. OR- combustion of only natural gas in emission unit M, R, & Rp- Represent the maximum emissions from a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to

													determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET- no stack testing required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	PE – 0.53 ton per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. OR- throughput restriction on group production, combustion of only natural gas in emissions unit & fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance. M, R, & Rp- monitor throughput of glass fibers by formulation, monitor exclusive use of natural gas & monitor bag leak detector ET- Initial stack test established emission factors, no further testing required per EG#16 CAM – not subject to CAM, emissions less than major source threshold.
	PM_{10} – 4.21 tons per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. Also set group rolling, 12-month limit on P045, P058, P061-P064, P069, and P070 of 16.69 tons to avoid major increase. OR- throughput restriction on group production, combustion of only natural gas in emissions unit & fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor throughput of glass fibers by formulation, monitor exclusive use of natural gas & monitor bag leak detector ET- Initial stack test established emission factors, no further testing required per EG#16 CAM – not subject to CAM, emissions less than major source threshold.

	SO_2 shall not exceed 0.01 ton per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. Also set group rolling, 12-month limit on P045, P058, P061-P064, P069, and P070 of 16.69 tons to avoid major increase. OR- throughput restriction on group production, combustion of only natural gas in emissions unit M, R, & Rp- Represent the maximum emissions from a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET- no stack testing required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	Visible Emissions shall not exceed 20% opacity as a six minute average	17-07(A)(1)	N	N	N	Y	N	Y	Y	N	N	N	M, R, & RP- Operation of bag leak detection system shall act as surrogate for visible emissions. ET - Method 9 of 40 CFR Part 60, Appendix A
	PE – 4.64 pounds per hour	17-11(B)(1)	N	N	Y	Y	N	Y	Y	N	N	N	Less stringent than 0.12 pound per hour from OAC rule 3745-31-05(A) BAT. This limit will apply when U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05. Limitation: Per Table I allowable emissions of 4.64 pounds per hour at hourly process weight of 1.2 tons per hour. OR- fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor bag leak detector and throughput of glass fibers by formulation ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major

													source threshold.
	SO_2 – 33.90 pounds per hour	18-06(E)	N	N	Y	Y	N	Y	Y	N	N	N	AER = 33.90 pounds per hour per PTI P0112207 issued 3/21/2013. Less stringent than 0.01 pound per hour from OAC rule 3745-31-05(A) BAT. This limit will apply when U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05. OR- combustion of only natural gas in emission unit M, R, & Rp- Represent the maximum emissions from a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET- no stack testing required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
P061 & P063	VOC – 2.23 pounds per ton of glass dried	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is ORC 3704.03(T) per PTI P0112207 issued 3/21/2013. OR- combustion of only natural gas in this emissions unit OR – restriction on VOC emissions for a maximum of 50.10 tons for a rolling, 12-month period for combined emission units P045, P058, P061-P064, P069, and P070. M, R, & Rp- monitor throughput of glass fibers by formulation & monitoring exclusive use of natural gas; rolling, 12-month calculation of VOC emissions for combination of emission units P045, P058, P061-P064, P069, and P070 ET- no stack testing required per EG#16 due to low level of emissions; stack tests may be required to establish emission factor of specific formulation CAM – not subject to CAM, no control and emissions less than major source threshold.
	PE – 0.11 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then

													this limit will no longer apply. OR - combustion of only natural gas OR- fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor bag leak detector and throughput of glass fibers by formulation ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold.
	PM_{10} – 0.82 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then this limit will no longer apply. OR - combustion of only natural gas OR- fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor bag leak detector and throughput of glass fibers by formulation ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold.
	SO_2 – 0.01 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then this limit will no longer apply. OR – exclusive use of natural gas as fuel M, R, & Rp – monitor exclusive use of natural gas; emissions based PTE for 2 mmBTU per hour natural gas furnace ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.

	NO_x – 0.20 pound per hour and 0.88 ton per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – exclusive use of natural gas as fuel, M, R, & Rp – monitor exclusive use of natural gas; emissions based PTE for 2 mmBTU per hour natural gas furnace ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	CO – 0.17 pound per hour and 0.75 ton per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – exclusive use of natural gas as fuel, M, R, Rp – monitor exclusive use of natural gas; emissions based PTE for 2 mmBTU per hour natural gas furnace ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	Visible particulate emissions shall not exceed 10% opacity as a 6-minute average	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – bag house shall operate when emission unit in operation M, R, & RP- Bag leak detection system shall act as surrogate for emission reading. ET- bag leak detection system is continuous monitor on bag house, no stack test required
	Visible particulate	17-07(A)(1)	N	N	Y	Y	N	Y	Y	N	N	N	Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, this opacity limit will be

	emissions shall not exceed 20% opacity as a 6-minute average												effective. OR – bag house shall operate when emission unit in operation M, R, & RP- Bag leak detection system shall act as surrogate for emission reading. ET- bag leak detection system is continuous monitor on bag house, no stack test required
	PE – 4.17 pounds per hour	17-11(B)(1)	N	N	Y	Y	N	Y	Y	N	N	N	This emission limit will become effective when the USEPA approves the SIP revision for the December 1, 2006 version of OAC rule 3745-31-05 OR - combustion of only natural gas OR- fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor bag leak detector and throughput of glass fibers by formulation ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold. Based on Table I with a process weight of 1.025 tons per hour
	SO_2 – 30.51 pound per hour	18-06(E)	N	N	Y	Y	N	Y	Y	N	N	N	This emission limit will become effective when the USEPA approves the SIP revision for the December 1, 2006 version of OAC rule 3745-31-05 OR - combustion of only natural gas M, R, & Rp – monitor exclusive use of natural gas; emissions based PTE for 2 mmBTU per hour natural gas furnace ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold. AER = 30.51 based on process weight of 1.025 tons per hour
	SO_2 -0.01 tons per	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207

	rolling, 12-month period												issued 3/21/2013. OR-combustion of only natural gas in emissions unit M, R, & Rp- Represent the maximum emissions from a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET- no stack testing required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	PM_{10} – 3.60 tons per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. Also set group rolling, 12-month limit on P045, P058, P061-P064, P069, and P070 of 16.69 tons to avoid major increase. OR- throughput restriction on group production, combustion of only natural gas in emissions unit & fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor throughput of glass fibers by formulation, monitor exclusive use of natural gas & monitor bag leak detector ET- Initial stack test established emission factors, no further testing required per EG#16 CAM – not subject to CAM, emissions less than major source threshold.
	PE – 0.45 ton per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. OR- throughput restriction on group production, combustion of only natural gas in emissions unit & fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance. M, R, & Rp- monitor throughput of glass fibers by formulation, monitor exclusive use of natural gas & monitor bag leak detector

													ET- Initial stack test established emission factors, no further testing required per EG#16 CAM – not subject to CAM, emissions less than major source threshold.
P062 & P064	VOC – 1.40 pounds per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR - combustion of only natural gas in emission unit OR – restriction on VOC emissions for a maximum of 50.10 tons for a rolling, 12-month period for combined emission units P045, P058, P061-P064, P069, and P070. M, R, & Rp- monitor throughput of glass fibers by formulation & monitoring exclusive use of natural gas; rolling, 12-month calculation of VOC emissions for combination of emission units P045, P058, P061-P064, P069, and P070 ET- no stack testing required per EG#16 due to low level of emissions; stack tests may be required to establish emission factor of specific formulation CAM – not subject to CAM, no control and emissions less than major source threshold.
	PE – 0.07 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR - combustion of only natural gas OR- fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor bag leak detector and throughput of glass fibers by formulation ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold.

	PM_{10} – 0.50 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR - combustion of only natural gas OR- fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance OR – restriction on PM_{10} emissions for a maximum of 16.69 tons for a rolling, 12-month period for combined emission units P045, P058, P061-P064, P069, and P070. M, R, & Rp- monitor throughput of glass fibers by formulation, monitor bag leak detector & monitoring exclusive use of natural gas; rolling, 12-month calculation of PM_{10} emissions for combination of emission units P045, P058, P061-P064, P069, and P070 ET- no stack testing required per EG#16 due to low level of emissions; stack tests may be required to establish emission factor of specific formulation CAM – not subject to CAM, emissions less than major source threshold.
	SO_2 – 0.01 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – exclusive use of natural gas as fuel, M, R, & Rp – Represent the maximum emissions from a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	NO_x – 0.20 pound per	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI

	hour and 0.88 ton per year												P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – exclusive use of natural gas as fuel M, R, & Rp – Represent the maximum emissions from a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	CO – 0.17 pound per hour and 0.75 ton per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – exclusive use of natural gas as fuel M, R, Rp – Represent the maximum emissions from a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	Visible particulate emissions shall not exceed 10% opacity as a 6-minute average	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – bag house shall operate when emission unit in operation M, R, & RP- Bag leak detection system shall act as surrogate for emission reading. ET- bag leak detection system is continuous monitor on bag house, no stack test required

	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average	17-07(A)(1)	N	N	Y	Y	N	Y	Y	N	N	N	This emission limit will become effective when the USEPA approves the SIP revision for the December 1, 2006 version of OAC rule 3745-31-05 OR – bag house shall operate when emission unit in operation M, R, & RP- Bag leak detection system shall act as surrogate for emission reading. ET- bag leak detection system is continuous monitor on bag house, no stack test required
	PE – 3.00 pounds per hour	17-11(B)(1)	N	N	Y	Y	N	Y	Y	N	N	N	This emission limit will become effective when the USEPA approves the SIP revision for the December 1, 2006 version of OAC rule 3745-31-05 OR – bag house shall operate when emission unit in operation M,R, & Rp- bag leak detection system & reporting of any deviations ET – no stack test required per EG#16 Note: based on process weight rule with a process weight of 0.625 tons per hour, actual emissions will be lower CAM – not subject to CAM, emissions less than major source threshold.
	SO_2 – 22.53 pounds per hour	18-06 (E)	N	N	Y	Y	N	Y	Y	N	N	N	This emission limit will become effective when the USEPA approves the SIP revision for the December 1, 2006 version of OAC rule 3745-31-05 OR – exclusive use of natural gas as fuel, M, R, & Rp – based on AER with process weight of 0.625 ton per hour. Actual potential emissions based a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	PM_{10} – 2.19	31-05(D)	N	N	Y	Y	N	Y	Y	Y	N	N	Basis- federally enforceable limit to set annual limit for

	tons per rolling, 12-month period												emission unit to potential to emit per PTI P0112207 issued 3/21/2013. Also set group rolling, 12-month limit on P045, P058, P061-P064, P069, and P070 of 16.69 tons to avoid major increase. OR- throughput restriction on group production, combustion of only natural gas in emissions unit & fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor throughput of glass fibers by formulation, monitor exclusive use of natural gas & monitor bag leak detector ET- no stack testing required per EG#16 due to low level of emissions; stack tests may be required to establish emission factor of specific formulation CAM – not subject to CAM, emissions less than major source threshold.
	SO_2 - 0.01 ton as a rolling 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. OR-combustion of only natural gas in emissions unit M, R, & Rp- Represent the maximum emissions from a 2.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET- no stack testing required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	VOC – 6.11 tons per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	Y	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. Also set group rolling, 12-month limit on P045, P058, P061-P064, P069, and P070 of 16.69 tons to avoid major increase. OR- combustion of only natural gas in emissions unit M, R, & Rp- monitor throughput of glass fibers by formulation, monitor exclusive use of natural gas ET- no stack testing required per EG#16 due to low level

													of emissions; stack tests may be required to establish emission factor of specific formulation CAM – not subject to CAM, no control and emissions less than major source threshold.
	PE – 0.28 tons per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. OR- combustion of only natural gas in emissions unit & fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor throughput of glass fibers by formulation, monitor exclusive use of natural gas & monitor bag leak detector ET- no stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold.
P069 & P070	VOC – 2.23 pounds per ton of glass dried	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is ORC 3704.03(T) per PTI P0112207 issued 3/21/2013. OR- combustion of only natural gas in this emissions unit OR – restriction on VOC emissions for a maximum of 50.10 tons for a rolling, 12-month period for combined emission units P045, P058, P061-P064, P069, and P070. M, R, & Rp- monitor throughput of glass fibers by formulation & monitoring exclusive use of natural gas; rolling, 12-month calculation of VOC emissions for combination of emission units P045, P058, P061-P064, P069, and P070 ET- no stack testing required per EG#16 due to low level of emissions; stack tests may be required to establish emission factor of specific formulation CAM – not subject to CAM, no control and emissions less than major source threshold.
	PM_{10} – 0.88												Basis is OAC rule 3745-31-05(A)(3) BAT per PTI

	pound per hour												P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR - combustion of only natural gas OR- fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance OR – restriction on PM_{10} emissions for a maximum of 16.69 tons for a rolling, 12-month period for combined emission units P045, P058, P061-P064, P069, and P070. M, R, & Rp- monitor throughput of glass fibers by formulation, monitor bag leak detector & monitoring exclusive use of natural gas; rolling, 12-month calculation of PM_{10} emissions for combination of emission units P045, P058, P061-P064, P069, and P070 ET- no stack testing required per EG#16 due to low level of emissions; stack tests may be required to establish emission factor of specific formulation CAM – not subject to CAM, emissions less than major source threshold.
	PE – 0.11 pound per hour	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR - combustion of only natural gas OR- fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor bag leak detector and throughput of glass fibers by formulation; monitor for exclusive use of natural gas ET- no further stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold.
	SO_2 – 0.01 pound per	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves

	hour												the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – exclusive use of natural gas as fuel, M, R, & Rp – Represent the maximum emissions from a 3.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	NO_x – 0.30 pound per hour and 1.32 tons per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – exclusive use of natural gas as fuel M, R, & Rp – Represent the maximum emissions from a 3.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	CO – 0.25 pound per hour and 1.10 tons per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0112207 issued 3/21/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – exclusive use of natural gas as fuel M, R, Rp – Represent the maximum emissions from a 3.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance

													ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	PM_{10} – 3.86 tons per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. Also set group rolling, 12-month limit on P045, P058, P061-P064, P069, and P070 of 16.69 tons to avoid major increase. OR - combustion of only natural gas in emissions unit & fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor throughput of glass fibers by formulation, monitor exclusive use of natural gas & monitor bag leak detector ET- no stack testing required per EG#16 due to low level of emissions; stack tests may be required to establish emission factor of specific formulation CAM – not subject to CAM, emissions less than major source threshold.
	PE – 3.86 tons per rolling, 12-month period	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for emission unit to potential to emit per PTI P0112207 issued 3/21/2013. OR- combustion of only natural gas in emissions unit & fabric filter must operate whenever emission unit in operation; bag leak detection system shall monitor performance M, R, & Rp- monitor throughput of glass fibers by formulation, monitor exclusive use of natural gas & monitor bag leak detector ET- no stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold.
	SO_2 – 0.01 ton per rolling,	31-05(D)	N	N	Y	Y	N	Y	Y	N	N	N	Basis- federally enforceable limit to set annual limit for

	12-month period												emission unit to potential to emit per PTI P0112207 issued 3/21/2013. OR-combustion of only natural gas in emissions unit M, R, & Rp- Represent the maximum emissions from a 3.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET- no stack testing required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
	Visible particulate emissions shall not exceed 20% opacity as a 6-minute average	17-07(A)(1)	N	N	Y	Y	N	Y	Y	N	N	N	OR – bag house shall operate when emission unit in operation M, R, & RP- Bag leak detection system shall act as surrogate for emission reading. ET- bag leak detection system is continuous monitor on bag house, no stack test required
	PE – 4.38 pounds per hour	17-11(B)(1)	N	N	Y	Y	N	Y	Y	N	N	N	This emission limit will become effective when the USEPA approves the SIP revision for the December 1, 2006 version of OAC rule 3745-31-05 OR – bag house shall operate when emission unit in operation M,R, & Rp- monitor bag leak detection system & reporting of any deviations ET – no stack test required per EG#16 Note: based on process weight rule with a process weight of 1.10 tons per hour, actual emissions will be lower CAM – not subject to CAM, emissions less than major source threshold.
	SO_2 – 31.98 pounds per hour	18-06(E)	N	N	Y	Y	N	Y	Y	N	N	N	This emission limit will become effective when the USEPA approves the SIP revision for the December 1, 2006 version of OAC rule 3745-31-05 OR – exclusive use of natural gas as fuel,

													M, R, & Rp – based on AER with process weight of 1.10 tons per hour. Actual potential emissions based a 3.0 MMBtu burner combusting natural gas, therefore no record keeping or reporting requirements necessary to determine compliance. Monitoring of exclusive use of natural gas shall verify compliance ET – no stack test required per EG#16 CAM – not subject to CAM, no control and emissions less than major source threshold.
P071 – Pneumatic Railcar unloading with baghouse	PE – 0.75 pounds per hour and 3.3 tons per year	N	Y	N	Y	Y	N	Y	Y	N	N	N	Basis is OAC rule 3745-31-05(A)(3) BAT per PTI P0114209 issued 7/16/2013. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these limits will no longer apply. OR – fabric filter system operating at all times EU in operation M, R, & Rp – monitor visible emissions as indicator of problem with baghouse, monitor baghouse functioning while EU in operation. ET - no stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold.
	Visible particulate stack emissions shall not exceed 20% opacity as a 6-minute average	17-07(A)(1)	N	N	Y	Y	N	Y	Y	N	N	N	M, R, & Rp – monitor visible emissions as indicator of problem with baghouse. ET – 40 CFR Part 60 Appendix A, Method 9
	PE – 9.4 pounds per hour	17-11(B)	N	N	Y	Y	N	Y	Y	N	N	N	This emission limit will become effective when the USEPA approves the SIP revision for the December 1, 2006 version of OAC rule 3745-31-05 OR – fabric filter system operating at all times EU in operation M, R, & Rp – monitor visible emissions as indicator of

													problem with baghouse, monitor baghouse functioning while EU in operation. ET - no stack testing required per EG#16 due to low level of emissions CAM – not subject to CAM, emissions less than major source threshold. Note: based on process weight rule with uncontrolled emissions of 75 pounds per hour from figure II, Table I yielded 35.4 pounds per hour at a process weight of 25 tons per hour, therefore Figure II is the more stringent

DRAFT

Division of Air Pollution Control
Title V Permit
for
Johns Manville / Plant #01 - wtv1

Facility ID:	0448000012
Permit Number:	P0088006
Permit Type:	Renewal
Issued:	1/29/2014
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance

Division of Air Pollution Control
Title V Permit
for
Johns Manville / Plant #01 - wtv1

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Authorization

Facility ID:	0448000012
Facility Description:	Fiber Glass Manufacturer
Application Number(s):	A0019120, A0035761, A0038429, A0039874, A0044331, A0048955
Permit Number:	P0088006
Permit Description:	Renewal of TV Permit
Permit Type:	Renewal
Issue Date:	1/29/2014
Effective Date:	To be entered upon final issuance
Expiration Date:	To be entered upon final issuance
Superseded Permit Number:	P0088005

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

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

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

Craig W. Butler
Interim Director

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 recordingsfor 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 submittedscheduled 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 permitexcept 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

Officialthat, 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 intermittentconsistent 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, noemissions unit identified in this permit that has beencertified 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 RequirementsUnder 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 theToledo 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 RequirementsUnder 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 ofan 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.

B. Facility-Wide Terms and Conditions

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

   a) none

2. The following emission units contained in this permit are subject to 40 CFR Part 60, Subpart CC: P001 and P013. The complete NSPS requirements may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://www.ecfr.gov or by contacting the Toledo Division of Environmental Services.

3. The following emission units contained in this permit are subject to 40 CFR Part 63, Subpart HHHH: P015. The complete MACT requirements, including the MACT General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://www.ecfr.gov or by contacting the Toledo Division of Environmental Services.

4. The permittee shall comply with the applicable provisions of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, as promulgated by the United States Environmental Protection Agency under 40 CFR Part 63, Subpart DDDDD. The final rules found in 40 CFR Part 63, Subpart DDDDD establish national emission standards for hazardous air pollutants (NESHAP), operational limits, work practice standards, and compliance requirements for industrial, commercial, and institutional boilers located at a major source of hazardous air pollutants (HAP). The permittee shall comply with the requirements and limits of this NESHAP for the facility's new (commenced construction after 6/4/10) boilers by January 31, 2013, or upon startup, whichever is later; and the facility's existing boilers shall be in compliance with 40 CFR Part 63, Subpart DDDDD no later than January 31, 2016.

5. The terms in this permit identify the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) contained in 40 CFR Part 63, Subpart DDDDD and are meant to help the permittee maintain compliance with this NESHAP. The requirements of this Subpart apply to the facility's boilers and process heaters according to their applicable subcategory, as identified in 40 CFR 63.7499 and as defined in 40 CFR 63.7575.

6. The following boiler(s) is/are designed to only burn gas 1 fuels (subcategory) and therefore is/are not subject to the emission limits in Table 2 of the subpart or the operating limits in Table 4 to the subpart. However, the boiler(s) is/are subject to tune-ups requirements, conducted in accordance with 40 CFR 63.7540(a)(10)(i) through (vi) and Table 3 to the subpart; and the existing boilers must be included in the one-time energy assessment, performed in accordance with Table 3 #4 of the subpart:

   B005, B007, B009, B011, B014, B018, B019, and P026

7. The following insignificant emissions units located at this facility are exempt from permit requirements because they are not subject to any applicable requirements (as defined in OAC rule 3745-77-01(H)) or because they meet the "de minimis" criteria established in OAC rule 3745-15-05:

   B005 – boiler (Erie City, gas fired) - 2.23 mmBtu/hr boiler;
   B007 – boiler (Amesteam, gas fired) – 4.2 mmBtu/hr boiler;
   B009 – boiler (Cleaver Brooks) - 4.2 mmBtu/hr boiler;
   B011 – entrained combustion boiler (9F2-C) #7 boiler - 1.0 mmBtu/hr oven;
   B014 – WIC heat generator - 1.5 mmBtu/hr;

B018 – 0.5 mmBtu/hr natural gas burner used to heat Kolene salt bath;
B019 – 0.5 mmBtu/hr natural gas burner on water tower heater;
F002 – roadways and parking lots;
F010 – bad batch purge hopper;
P011 – mix tanks & raw material (sizing) storage; and
R001 - small maintenance paint booth.

8. The following insignificant emissions units at this facility must comply with all applicable State and federal regulations, as well as any emissions limitations and/or control requirements contained within the identified permit to install for the emissions unit. The insignificant emissions units listed below are subject to one or more applicable requirements contained in a permit-to-install or in the SIP approved versions of OAC Chapters 3745-17, 3745-18, and 3745-21, and/or 40 CFR Part 60 or 63:

   P016 – Kolene salt bath - caustic cleaning solution (PTI 04-00326);
   P018 – Tempstran bag opening station - unloading of tempstran for mats w/ baghouse (PTI 04-00377);
   P019 – batch oven #1 - 1.0 mmBtu/hr oven (PTI 04-01345);
   P020 – batch oven #2 - 1.0 mmBtu/hr oven (PTI 04-01345);
   P021 – batch oven #3 - 1.0 mmBtu/hr oven (PTI 04-01345);
   P022 – batch oven #4 - 1.0 mmBtu/hr oven (PTI 04-01345);
   P023 – batch oven #5 - 1.0 mmBtu/hr oven (PTI 04-01345);
   P024 – batch oven #6 - 1.0 mmBtu/hr oven (PTI 04-01345);
   P025 – 9212 generator - 750 hp emergency diesel generator (PBR);
   P027 – developmental pre-bake oven - 1.0 mmBtu/hr oven (PTI 04-00552);
   P028 – TP chop, fluidized bed dryer line 2 - 1.9 mmBtu/hr dryer (PTI 04-01345);
   P029 – pre-bake tunnel oven A - 8.0 mmBtu/hr oven (PTI 04-01345);
   P030 – pre-bake tunnel oven B - 8.0 mmBtu/hr oven (PTI 04-01345);
   P032 – BMC (PTI 04-01345);
   P033 – finishing dielectric oven - finishing dried cakes (PTI 04-01345);
   P053 – Batch Oven No. 7 (Forming Pre-bake curing oven) (PTI 04-01345); and
   P065 – 9211 generator - 950 HP Detroit emergency diesel generator (PBR).

9. Pursuant to 40 CFR Part 64, the permittee has submitted and the Ohio EPA has approved compliance assurance monitoring plan for the emissions units P001, P013 and P015 at this facility. The permittee shall comply with the provisions of the plan during any operation of the aforementioned emissions units.

C. Emissions Unit Terms and Conditions

1. F004, Railcar Unloading & Silos

Operations, Property and/or Equipment Description:

Rail car material unloading, material handling and transfer (screw conveyors and pneumatic transfer) and 13 raw material storage silos.

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
rail car unloading station (Rail 1) drop unloaded with sleeve and controlled by total building enclosure		
a.	OAC rule 3745-31-05(A)(3) (PTI 04-981 issued 8/21/1996)	1.95 pounds of filterable particulate emissions (PE) per hour
		8.56 tons of PE per year
		See b)(2)a. through b)(2)c.
b.	OAC rule 3745-17-07(B)(1)	See b)(2)e.
c.	OAC rule 3745-17-08(B)(3)	See b)(2)e.
d.	OAC rule 3745-17-07(A)(1)	See b)(2)e.
e.	OAC rule 3745-17-11(B)(1)	See b)(2)e.
rail car unloading station (Rail 2) pneumatically transferred, controlled by total building enclosure and fabric filtration at silo		
f.	OAC rule 3745-31-05(A)(3) (PTI 04-981 issued 8/21/1996)	1.95 pounds of PE per hour
		8.56 tons of PE per year
		See b)(2)a. through b)(2)d.
g.	OAC rule 3745-17-07(B)(1)	See b)(2)e.
h.	OAC rule 3745-17-08(B)(3)	See b)(2)e.
i.	OAC rule 3745-17-07(A)	See b)(2)e.
j.	OAC rule 3745-17-11(B)(1)	See b)(2)e.

(2) Additional Terms and Conditions

a. The annual emission limitations were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.

b. The permittee shall employ best available technology for control measures on all transfer, conveying and storage operations associated with the rail car unloading. Best available technology has been established through PTI 04-981 issued 8/21/1996 as an overall 90% by weight control efficiency. Minimum control requirements have been established as full enclosure for the Rail 1 unloading operation and pneumatic transfer to storage, with full enclosure and fabric filtration established for Rail 2. Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

c. The rail car unloading operations, transfer and conveying operations shall be adequately enclosed so as to eliminate at all times visible emissions of fugitive dust emanating from the enclosure.

d. The storage silos shall be adequately enclosed and vented to a fabric filter. The enclosure shall be sufficient so as to eliminate at all times visible emissions of fugitive dust at the points of capture. There shall be no visible emissions from the fabric filter.

e. 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 operate the fabric filter system whenever unloading rail station #2 or pneumatically transferring material to storage.

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

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when any fabric filter was not in service when the associated operation was in use.

[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 particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

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

[OAC rule 3745-77-07(A)(3) and OAC rule 3745-17-07(A) and (B)]

(3) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 04-981, issued on August 21, 1996: d)(1) and (d)(2). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

e) Reporting Requirements

(1) The permittee shall submit semiannual reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit;

b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and

c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.

[OAC rule 3745-77-07(A)(3)(c)]

(2) The permittee shall submit quarterly deviation (excursion) report detailing any time period when any fabric filter was not in service when the associated operation was in use.

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

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

[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.

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

(5) Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 04-981, issued on August 21, 1996: e)(1) and e)(2). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitation:

No visible emissions of fugitive dust.

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.

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

b. Emission Limitation:

No visible particulate emissions from the fabric filter.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Methods 22 of 40 CFR Part 60, Appendix A.

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

c. Emission Limitation:

1.95 pounds of PE per hour from Rail #1.

Applicable Compliance Method:

Compliance may be determined through a one-time calculation based on emission factors specified in RACM, Table 2.10-1 dated 9/1980, as follows: uncontrolled feed material receiving at 1.0 pounds of PE per ton of glass produced. Multiply this by a maximum of 16.4 tons of glass produced per hour. This amount is reduced by a sleeve at point of transfer and total building enclosure for a 90% reduction in emissions.

If required, compliance shall be determined through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other US EPA- approved test methods, with prior approval from the Ohio EPA.

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

d. Emission Limitation:

8.56 tons of PE per year from Rail #1.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable particulate emission limitation (1.95 pounds per hour) by the maximum annual hours of operation (8760 hours), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

e. Emission Limitation:

1.95 pound of PE per hour from Rail #2.

Applicable Compliance Method:

Compliance may be determined through a one-time calculation based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 11-12-2 dated 6/2006, as follows: pneumatic unloading to storage silo at 0.73 pounds of PE per ton of material transferred per hour. Multiply this by the maximum of 20.0 tons of material transferred per hour. This amount is reduced by a fabric filter and total building enclosure for a 90% reduction in emissions.

If required, compliance shall be determined through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other US EPA- approved test methods, with prior approval from the Ohio EPA.

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

f. Emission Limitation:

8.56 tons of PE per year from Rail #2.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable particulate emission limitation (1.95 pound per hour) by the maximum annual hours of operation (8760 hours), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

(2) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 04-981, issued on August 21, 1996: f)(1). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

g) Miscellaneous Requirements

(1) None.

2. F005, Truck Unloading

Operations, Property and/or Equipment Description:

Truck material unloading, material handling and transfer (pneumatic transfer) and 13 raw material storage silos.

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
Truck unloading with enclosure and fabric filter		
a.	OAC rule 3745-31-05(A)(3) (PTI 04-981 issued 8/21/1996)	1.78 pounds of filterable particulate emissions (PE) per hour
		7.91 tons of PE per year
		See b)(2)a. through b)(2)c.
b.	OAC rule 3745-17-07(B)(1)	See b)(2)d.
c.	OAC rule 3745-17-08(B)(3)	See b)(2)d.
d.	OAC rule 3745-17-07(A)(1)	See b)(2)d.
e.	OAC rule 3745-17-11(B)(1)	See b)(2)d.

(2) Additional Terms and Conditions

a. The permittee shall employ best available technology for control measures on all transfer, conveying and storage operations associated with truck unloading operations. Best available technology has been established through PTI 04-981 as an overall 90% by weight control efficiency. Minimum control requirements have been established as a full enclosure and fabric filtration for all operations. Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

b. The pneumatic system shall be adequately enclosed so as to eliminate at all times visible emissions of fugitive dust. Any visible emissions emanating from the delivery vehicle shall be cause for immediate halt of the unloading process and the refusal of the material load until the situation is corrected.

c. The storage silos shall be adequately enclosed and vented to a fabric filter. The enclosure shall be sufficient so as to eliminate at all times visible emissions of fugitive dust at the point of capture. There shall be no visible emissions from the fabric filter.

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 operate the fabric filter system whenever this emission unit is in operation.

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

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when a fabric filter was not in service when the associated operation was in use.

[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 particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

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

were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[OAC rule 3745-77-07(A)(3)]

(3) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 04-981, issued on August 21, 1996: d)(1) through (d)(2). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit;

b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and

c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.

[OAC rule 3745-77-07(A)(3)(c)]

(2) The permittee shall submit quarterly deviation (excursion) report detailing any time period when any fabric filter was not in service when the associated operation was in use.

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

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

[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.

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

(5) Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 04-981, issued on August 21, 1996: e)(1) through e)(2). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitation:

No visible emissions of fugitive dust.

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.

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

b. Emission Limitation:

No visible particulate emissions from the fabric filter.

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.

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

c. Emission Limitation:

1.78 pounds of PE per hour from truck unloading.

Applicable Compliance Method:

Compliance may be determined through a one-time calculation based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 11-12-2 dated 6/2006, as

follows: pneumatic unloading to storage silo at 0.73 pounds of PE per ton of material transferred per hour. Multiply this by the maximum of 15.0 tons of material transferred per hour. This amount is reduced by a fabric filter and total building enclosure for a 90% reduction in emissions.

If required, compliance shall be determined through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other US EPA-approved test methods, with prior approval from the Ohio EPA.

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

d. Emission Limitation:

7.91 tons of PE per year from truck unloading.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable particulate emission limitation (1.78 pounds per hour) by the maximum annual hours of operation (8760 hours per year), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

(2) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 04-981, issued on August 21, 1996: f)(1). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

g) Miscellaneous Requirements

(1) None.

3. F006, Daybins

Operations, Property and/or Equipment Description:

Raw Material Transfer and Temporary Storage -- 6 raw material scales, bad batch material hopper, 4 raw material day bins (2 per furnace), 3 abatement reagent silos for 9211/9212 furnaces.

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
batch weighing operations controlled by enclosure with fabric filtration		
a.	OAC rule 3745-31-05(A)(3) (PTI 04-981 issued 8/21/1996)	0.88 ton of filterable particulate emissions (PE) per year
		See b)(2)a through b)(2)c.
b.	OAC rule 3745-17-07(B)(1)	See b)(2)d.
c.	OAC rule 3745-17-08(B)(3)	See b)(2)d.
d.	OAC rule 3745-17-07(A)(1)	See b)(2)d.
e.	OAC rule 3745-17-11(B)(1)	See b)(2)d.
material mixing operations and material transfer to day bins, controlled by enclosure with fabric filtration		
f.	OAC rule 3745-31-05(A)(3) (PTI 04-981 issued 8/21/1996)	2.85 tons of PE per year
		See b)(2)a through b)(2)c.
g.	OAC rule 3745-17-07(B)(1)	See b)(2)d.
h.	OAC rule 3745-17-08(B)(3)	See b)(2)d.
i.	OAC rule 3745-17-07(A)(1)	See b)(2)d.
j.	OAC rule 3745-17-11(B)(1)	See b)(2)d.

(2) Additional Terms and Conditions

a. The permittee shall employ best available technology for control measures on all transfer, conveying and storage operations associated with these operations. Best available technology has been established through PTI 04-981 as an overall 90% by weight control efficiency. Minimum control requirements have been established as full enclosure and fabric filtration for all operations. Nothing in this

paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

b. The operations associated with this emissions unit shall be adequately enclosed so as to eliminate at all times visible emissions of fugitive dust emanating from the enclosure.

c. The day bins shall be adequately enclosed and vented to a fabric filter. The enclosure shall be sufficient so as to eliminate at all times the visible emissions of fugitive dust at the point of capture. There shall be no visible emissions from the fabric filter.

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 operate the fabric filter system whenever this emission unit is in operation.

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

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when any fabric filter was not in service when the associated operation was in use.

[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 particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

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

continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

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

(3) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install 04-981, issued on August 21, 1996: d)(1) through (d)(3). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit;

b. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and

c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack and/or visible emissions of fugitive dust.

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

(2) The permittee shall submit quarterly deviation (excursion) report detailing any time period when any fabric filter was not in service when the associated operation was in use.

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

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

[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.

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

(5) Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 04-981, issued on August 21, 1996: e)(1) through e)(2). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitation:

No visible emissions of fugitive dust.

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.

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

b. Emission Limitation:

No visible particulate emissions from any stack.

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.

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

c. Emission Limitation:

0.88 ton of PE per year

Applicable Compliance Method:

Compliance may be determined through a one-time calculation based on emission factors specified in RACM, Table 2.10-1 dated 9/1980, as follows: materials batch weighing of 0.02 pound PE per ton of glass produced with a maximum of 438,000 tons of glass produced per year divided by 2000 pounds per ton. This amount is reduced by a fabric filter and total enclosure for a 90% reduction in emissions.

If required, the calculations shall be validated by emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other US EPA-approved test method, with prior approval from the Ohio EPA. Compliance with the annual emission limitation shall be determined by multiplying the result of the emission test, in pounds per hour, by the maximum annual hours of operation (8760 hours per year), and then dividing by 2000 pounds per ton.

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

d. Emission Limitation:

2.85 tons of PE per year.

Applicable Compliance Method:

Compliance may be determined through a one-time calculation based on emission factors specified in RACM, Table 2.10-1 dated 9/1980, as follows*:* feed materials mixing of 0.04 pound PE per ton of glass produced with a maximum of 438,000 tons of glass produced per year divided by 2000 pounds per ton. This amount is reduced by a fabric filter and total enclosure for a 90% reduction in emissions.

If required, the calculation shall be validated by emission testing performed in accordance with Method 1 through 5 of 40 CFR Part 60, Appendix A, or other US EPA-approved test method, with prior approval from the Ohio EPA. Compliance with the annual emission limitation shall be determined by multiplying the result of the emission test, in pounds per hour, by the maximum annual hours of operation (8760 hours per day), and then dividing by 2000 pounds per ton.

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

(2) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 04-981, issued on August 21, 1996: f)(1). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

g) Miscellaneous Requirements

(1) None.

4. P001, Furnace 9211

Operations, Property and/or Equipment Description:

Direct Melt Furnace 9211 - Melter+Forehearth+Forming

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
8.0 ton/hr glass melting furnace with natural gas oxyfuel firing and electric boost, controlled by wet caustic scrubber and fabric filter		
a.	OAC rule 3745-31-05(A)(3) (PTI P0115109 issued 7/29/2013)	0.01 pound of carbon monoxide (CO) per ton of glass pull
		0.35 ton of CO per rolling, 12-month period
		1.71 pounds of nitrogen oxides (NO_x) per ton of glass pull
		60 tons of NO_x per rolling, 12-month period
		17.34 tons of filterable particulate emissions (PE) per year
		1.87 pounds of particulate matter less than or equal to 10 microns in diameter (PM_{10}) per ton of glass pull
		66 tons of PM_{10} per rolling, 12-month period
		2.02 pounds of sulfur dioxide (SO_2) per ton of glass pull
		71 tons of SO_2 per rolling, 12-month period
		0.04 pound of volatile organic compounds (VOC) per ton of glass pull
		1.4 tons per rolling, 12-month period of VOC
		0.36 pound of fluorides (F-) per ton of glass pull
		13 tons of F- per rolling, 12-month period

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)a. and b)(2)b.
b.	OAC rule 3745-17-07(A)(1)	See b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 60, Subpart CC.
d.	OAC rule 3745-18-06(E)(2)	See b)(2)c.
e.	OAC rule 3745-31-05(D)	See b)(2)d. and b)(2)e.
f.	OAC rule 3745-31-10 thru 20	See b)(2)f.
g.	40 CFR Part 60, Subpart CC (40 CFR 60.290 – 60.296) [In accordance with 40 CFR 60.292, this emission unit is a glass melting furnace fired with a gaseous fuel producing wool fiberglass modified on 5/20/2004 subject to the emission limitations specified in table CC-1, Column 2]	0.50 pound of PE per ton of glass produced. See b)(2)q.
h.	40 CFR Part 60, Subpart A (40 CFR 60.1 – 60.19)	40 CFR Part 60 subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60.
i.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM) (64.1 – 64.10) [In accordance with 40 CFR 64.2, this emission unit is a major source of PE/PM_{10} emissions controlled with a baghouse and is a major source of SO_2 controlled with a wet scrubber]	See c)(3), c)(4), d)(2) through d)(6), d)(9), and e(1) through e)(3).
Fiberglass forehearth area with natural gas over firing and no controls		
j.	OAC rule 3745-31-05(A)(3) (PTI P0115109 issued 7/29/2013)	1.8 pounds of CO per hour
		7.9 tons of CO per rolling, 12-month period
		2.1 pounds of NO_x per hour
		9.2 tons of NO_x per rolling, 12-month period
		0.20 pound of PE per hour
		0.88 ton of PE per year
		0.011 pound of PM_{10} per ton of glass pull
		0.39 ton of PM_{10} per rolling, 12-month period
		0.02 pound of SO_2 per hour

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		0.09 ton of SO_2 per rolling, 12-month period
		0.12 pound of VOC per hour
		0.53 ton of VOC per rolling, 12-month period
		0.038 pound of F- per ton of glass pull
		1.32 tons of F- per rolling, 12-month period
		See b)(2)g.
k.	OAC rule 3745-17-07(B)(1)	Visible particulate emissions from any fugitive dust source shall not exceed twenty per cent opacity as a three-minute average.
l.	OAC rule 3745-17-08(B)(3)	See b)(2)h.
m.	OAC rule 3745-18-06(A)	See b)(2)p.
n.	OAC rule 3745-31-05(D)	See b)(2)i. and b)(2)j.
o.	OAC rule 3745-31-10 thru 20	See b)(2)k.
Fiberglass forming area with rolled-on binder application and no controls		
p.	OAC rule 3745-31-05(A)(3) (PTI P0115109 issued 7/29/2013)	0.50 pound of PE per hour
		2.2 tons of PE per year
		0.20 pound of PM_{10} per ton of glass pull
		7.0 tons of PM_{10} per rolling, 12-month period
		0.09 pound of VOC per ton of glass pull
		3.2 tons of VOC per rolling, 12-month period
		0.021 pound of F- per ton of glass pull
		0.73 ton of F- per rolling, 12-month period
		See b)(2)o.
q.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the forming stacks serving this emissions unit shall not exceed 20% opacity as a 6-minute average.
r.	OAC rule 3745-17-08(B)	See b)(2)h.
s.	OAC rule 3745-31-05(D)	See b)(2)l. and b)(2)m.
t.	OAC rule 3745-31-10 thru 20	See b)(2)n.
u.	OAC rule 3745-17-11(B)(1)	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), 3745-31-10 thru 20, and 40 CFR Part 60, Subpart CC.

b. Visible particulate emissions from any stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average.

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

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

e. The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 121.71 tons of NO_x, 142.77 tons of SO_2 and 2.85 tons of VOC per rolling, 12-month period.

f. The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 133.10 tons of PM_{10} and 25.62 tons of F- per rolling, 12-month period.

g. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.

h. The permittee shall install reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. Such measures shall meet the following requirements:

   i. the collection efficiency shall be sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and

   ii. the control equipment achieves an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there are no visible particulate emissions from the exhaust stack(s), whichever is less stringent.

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

j. The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 15.91 tons of NO_x, 0.10 ton of SO_2 and 0.87 ton of VOC per rolling, 12-month period.

k. The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.78 ton of PM_{10} and 2.70 tons of F- per rolling, 12-month period.

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

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

n. The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 14.24 tons of PM_{10} and 1.49 tons of F- per rolling, 12-month period.

o. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.

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

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

q. During routine maintenance of add-on pollution controls, an owner or operator of a glass melting furnace subject to the provisions of 40 CFR 60.292 (a) is exempt from the provisions of paragraph 60.292 (a) per paragraph 60.292(e) if:

   i. Routine maintenance in each calendar year does not exceed 6 days (144 hours);

   ii. Routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions; and

   iii. A report is submitted to the Administrator 10 days before the start of the routine maintenance (if 10 days cannot be provided, the report must be submitted as soon as practicable) and the report contain an explanation and schedule of the maintenance.

c) Operational Restrictions

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

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

(2) The rate of glass pull from this emissions unit shall not exceed 69,350 tons per rolling, 12-month period, based upon a rolling, 12-month summation of the average hourly pull rates.

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

(3) The fluorspar addition rate to the batch mixer, as a weight percent of the batch, shall not exceed the rate established during the most recent performance test that demonstrated compliance with the F- emissions limitations from the glass furnace, the forehearth, and the forming area.

[OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

(4) The permittee shall follow the written standard operating procedures (SOP) in order to maintain the emissions unit in compliance with the limitations contained in this permit and to minimize emissions during startup and shutdown of the unit. The SOP shall include, but shall not be limited to the following:

a. Startup and shutdown procedures, developed to consider and minimize emissions.

b. Procedures to determine, record, and report the cause of and remedy to a malfunction of any control device and any deviations from the compliant range of operating parameters being monitored and used to demonstrate compliance, including the date and time the malfunction/deviation began and ended.

c. A maintenance and calibration schedule for each control device and parameter monitor that is consistent with the manufacturer's instructions and recommendations, for routine and long-term maintenance.

d. The corrective actions or procedures to be taken in the event of a malfunction of a control device and/or a parameter monitor, and during any abnormal process modifications.

e. The SOP shall specify the corrective actions to be followed when a monitored parameter is outside the compliant range established during the most recent emissions tests that demonstrated compliance. Provisions shall be included for records to be maintained of the time, date, parameter's deviation data, the corrective actions conducted, and if standard operating procedures were followed. The SOP shall be implemented for the following occurrences:

i. The permittee shall initiate corrective actions within 1 hour following any 3-hour block of time in which the NaOH addition rate is less than the minimum addition rate established during the most recent emissions tests

that demonstrated compliance. Corrective actions shall be conducted in a timely manner according to the procedures defined in the SOP.

ii. The permittee shall initiate corrective action within 1 hour of an alarm from the bag leak detection system and complete corrective actions in a timely manner according to the procedures documented in this SOP. Examples of corrective actions that might be included in the SOP for the baghouse/fabric filter include:

(a) inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emission;

(b) sealing off defective bags or filter media;

(c) replacing defective bags or filter media, or otherwise repairing the control device;

(d) sealing off a defective baghouse compartment;

(e) cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and

(f) shutting down the process producing the particulate emissions.

iii. The permittee shall initiate corrective action within 1 hour following any discovery that the glass pull rate exceeds by more than 10% the maximum glass pull rate established during the most recent emissions tests that demonstrate the emissions unit to be in compliance. Corrective actions shall be conducted in a timely manner according to the procedures documented in the SOP.

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

[OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

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

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

(2) The permittee shall keep records of each startup, shutdown, and malfunction event, as well as, a record of any actions taken during a startup, shutdown, or malfunction that are not consistent with the procedures in the SOP, as described in c)(4) of this permit.

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

(3) The CAM plan for this emissions unit has been developed for SO_2 and F- emissions. A CAM performance indicator for SO_2 and F- emissions is the NaOH addition rate to the quench tower. The NaOH addition rate shall not be less than the minimum addition rate established during the most recent emissions test that demonstrated compliance. The permittee shall operate and maintain equipment to continuously monitor the NaOH addition rate to the spray tower while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The following hourly records shall be maintained from the data documented by this monitor:

a. the concentration of the NaOH solution pumped to the spray tower system (in % by volume);

b. the flow rate (in gallons) of the NaOH solution pumped to the spray tower system;

c. the addition rate of NaOH to the spray tower system, in gallons per hour, calculated as the concentration of the NaOH solution multiplied by the volume of the NaOH solution, i.e., a. x b.; and

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

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

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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

a. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection

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

b. The bag leak detection system shall be certified by the manufacturer to be capable of detecting particulate emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

c. The bag leak detection system sensor shall produce an output of relative particulate emissions.

d. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative particulate emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.

e. The bag leak detection system shall be installed downstream of the baghouse. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.

f. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

g. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm setpoints, or alarm delay time except as detailed in the operations, maintenance, and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operating condition.

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

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(5) The permittee shall monitor and record the glass pull rate on a daily basis. The following records shall be maintained from the data documented:

a. records of the daily glass pull rate;

b. the daily hours of operation;

c. the average hourly glass pull rate, a./b., in tons per hour; and

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

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

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(6) The permittee shall monitor and record daily the average fluorspar addition rate to the batch mixer, as a weight percent of the batch. The records shall include the date and time of each exceedance/deviation, when corrective actions were initiated, the cause of each exceedance, the corrective actions taken and if they were the same as those documented in the SOP, and when the cause of each exceedance/deviation was corrected.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(7) For purposes of determining the total annual emissions from this emissions unit:

a. the permittee shall maintain monthly records of the volume of natural gas burned in the forehearth, in millions of standard cubic feet; and

b. the permittee shall maintain monthly records of the volume of natural gas burned in the forehearth as a rolling, 12-month summation of the monthly records above, in millions of standard cubic feet per rolling, 12-month period.

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

(8) Each month the permittee shall calculate and maintain the following records:

a. A record of the glass pull rate as a rolling, 12-month summation of the average hourly glass pull rates, including a record of any month in which the pull rate exceeded the allowable, rolling, 12-month rate of glass pull;

b. the total emissions from P001 and P013, including the glass melting furnaces baghouse exhaust, all vents serving both forehearth areas and all exhaust stacks serving both forming areas, in tons of CO, tons of NO_x, tons of PM_{10}, tons of SO_2, tons of VOC, and tons of F-, calculated by multiplying the glass pull rate (in tons per month) by the emissions factor for each process (in pounds per ton of glass pull) as determined during the most recent stack test which demonstrated compliance with the applicable emissions limitation, dividing by 2000 pounds per ton, and then summing the emissions from all the processes; and

c. the total rolling, 12-month summation of the combined emissions from P001 and P013, including the glass melting furnace baghouse exhaust, all vents serving both forehearth areas and for all exhaust stacks serving both forming areas, in

tons of CO, tons of NO_x, tons of PM_{10}, tons of SO_2, tons of VOC, and tons of F- per rolling, 12-month period, calculated as a rolling 12-month summation of the monthly total emissions from P001 and P013 as calculated above.

d. The total hours of routine maintenance of add-on pollution controls

e. The total hours of routine maintenance of add-on pollution controls for the calendar year, calculated by adding the current month's hours of routine maintenance to the total hours of routine maintenance from previous months of the current calendar year.

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

(9) The permittee shall maintain a record of the following parameter values, that will be used to monitor continuous compliance (a record of these parameters shall be maintained following each required emissions compliance test):

a. the average glass pull rate recorded during the most recent emissions test demonstrating compliance;

b. the minimum and average NaOH addition rate recorded during the most recent emissions test demonstrating compliance (the average shall be calculated using each reading of the meter, as recorded during each of the three compliance test runs); and

c. the average fluorspar addition rate recorded during the most recent emissions test demonstrating compliance.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(10) 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 and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

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

The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

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

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

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

(12) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install P0115109, issued on July 29, 2013: d)(9), d)(10) and (d)(11). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

e) Reporting Requirements

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

a. identify any action(s) taken during a startup, shutdown, or malfunction and/or during operations, maintenance, or monitoring that were inconsistent with the procedures documented in the SOP as described in c)(4) of this permit;

b. all periods of time in which the bag leak detection alarm system was triggered;

c. identify each day when a fuel other than natural gas was burned in this emissions unit;

d. any month in which records documented an exceedance of the maximum allowable cumulative rolling, 12-month glass pull rate limitation of 69,350 tons;

e. all periods of time during which the NaOH addition rate to the spray tower was less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance;

f. each month during which the combined emissions from P001 and P013, as a rolling, 12-month summation, from the glass melting furnaces baghouse exhaust, from all vents serving both forehearth areas and from all exhaust stacks serving both forming areas, exceeded the applicable emission limitation in tons of CO, tons of NO_x tons of PM_{10}, tons of SO_2, tons of VOC, and/or tons of fluorides per rolling, 12-month period;

g. all periods of time during which the glass pull rate exceeded by more than 10% the maximum glass pull rate established during the most recent emissions tests that demonstrated compliance; and

h. all periods of time during which the fluorspar content as a weight percentage of the batch exceeded the content established during the most recent emissions tests that demonstrated compliance with the F^- emissions limitations for the glass furnace, the forehearth, and/or the forming area.

[OAC rule 3745-15-03(C)(4), OAC rule 3745-77-07(C)(1), and 40 CFR Part 64]

(2) the permittee shall submit quarterly deviation reports that identify the following:

a. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following any 3-hour block of time in which the NaOH addition rate is less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance;

b. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour of an alarm from the bag leak detection system;

c. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following discovery that the glass pull rate exceeded the average daily glass pull rate by more than 10% the rate established during the most recent emissions tests that demonstrated compliance; and

d. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following discovery that the fluorspar content as a weight percentage of the batch is greater than the content established during the most recent emissions tests that demonstrated compliance with the F^- emissions limitations for the glass furnace, the forehearth, and/or the forming area.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(3) If for any reason the daily glass pull rate exceeded by more than 10% the glass pull rate established during the most recent emissions tests that demonstrate compliance, the following information shall be reported within 5 business days after the exceedance:

a. the date of the exceedance;

b. the time interval over which the exceedance occurred;

c. the value of the exceedance;

d. the cause(s) of the exceedance;

e. the corrective action which has been or will be taken to prevent similar exceedances in the future; and

f. a copy of data and/or information which shows the exceedance.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(4) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit;

b. all days during which any visible particulate emissions were observed from the stack serving this emission unit; and

c. any corrective actions taken eliminate the visible emissions.

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

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

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

(6) Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install P0115109, issued on July 29, 2013: e)(3) and e)(4). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

(7) 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.

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

f) Testing Requirements

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

a. Emission Limitation:

20% opacity, as a 6-minute average from stacks serving this emissions unit

Applicable Compliance Method:

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

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

b. Emission Limitation:

0.01 pound of CO per ton of glass pull

Applicable Compliance Method:

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

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

Emission Limitation:

0.35 ton of CO per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable CO emission limitation (0.01 pound of CO per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

c. Emission Limitation:

1.71 pounds of NO_x per ton of glass pull

Applicable Compliance Method:

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

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

d. Emission Limitation:

60 tons of NO_x per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable NOx emission limitation (1.71 pounds of NO_x per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

e. Emission Limitation:

0.50 pound of PE per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 5 of 40 CFR Part 60, Appendix A using the methods and procedures specified in 40 CFR 60.296.

[OAC rule 3745-77-07(C)(1) and 40 CFR 60.296]

f. Emission Limitation:

17.34 tons of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PE emission limitation (0.50 pound of PE per ton of glass pull) by the maximum annual glass

pulled (69,350 tons per rolling, 12-month period), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

g. Emission Limitation:

1.87 pounds of PM_{10} per ton of glass pull

Applicable Compliance Method:

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

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

h. Emission Limitation:

66 tons of PM_{10} per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM_{10} emission limitation (1.87 pounds of PM_{10} per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

i. Emission Limitation:

2.02 pounds of SO_2 per ton of glass pull

Applicable Compliance Method:

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

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

j. Emission Limitation:

71 tons of SO_2 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable SO_2 emission limitation (2.02 pounds of SO_2 per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

k. Emission Limitation:

0.04 pound of VOC per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 18, 25 or 25A, as appropriate, of 40 CFR Part 60 Appendix A. Use of Method 18, 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.

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

l. Emission Limitation:

1.4 tons of VOC per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.04 pound of VOC per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

m. Emission Limitation:

0.36 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA

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

n. Emission Limitation:

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

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.36 pound of F- per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

Emission Limitation:

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

Applicable Compliance Method:

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

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

o. Emission Limitation:

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

Applicable Compliance Method:

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

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

p. Emission Limitation:

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

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling,12-month period) by the emission factor for NO_x (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the NO_x emission limitation, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

q. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 133.10 tons of PM_{10} per rolling, 12-month period.
Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling,12-month period) by the emission factor for PM_{10} (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM_{10} emission limitation, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

r. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 142.77 tons of SO_2 per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling,12-month period) by the emissions factor for SO_2 (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the SO_2 emission limitation, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

Emission Limitation:

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

Applicable Compliance Method:

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

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

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

a. Emission Limitation:

The controlled emissions from the stack shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases **or** there shall be no visible emissions from the exhaust stack.

Applicable Compliance Method:

Compliance with the requirement for no visible particulate emissions from the exhaust stack, identified in this permit, shall be determined in accordance with U.S. EPA Method 22. If opting to comply with the outlet particulate emissions rate, compliance with the 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases from the stack shall be determined in accordance with U.S. EPA Methods 1 through 5, as appropriate.

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

b. Emission Limitation:

20% opacity as a 3-minute average from any fugitive source in forehearth

Applicable Compliance Method:

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

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

Emission Limitation:

1.8 pounds of CO per hour

Applicable Compliance Method:

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

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

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

c. Emission Limitation:

7.9 tons CO per rolling, 12-month period

Applicable Compliance Method:

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

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

d. Emission Limitation:

2.1 pounds of NO_x per hour

Applicable Compliance Method:

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

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

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

e. Emission Limitation:

9.2 tons of NO_x per rolling, 12-month period
Applicable Compliance Method:

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

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

f. Emission Limitation:

0.20 pound of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other U.S. EPA approved test method, with prior approval from the Ohio EPA. Note: forehearth roof ventilators shall be point of capture.

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

g. Emission Limitation:

0.88 ton of PE per year

Applicable Compliance Method:

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

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

h. Emission Limitation:

0.011 pound of PM_{10} per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. Note: forehearth roof ventilators shall be point of capture.

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

i. Emission Limitation:

0.39 ton PM_{10} per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM_{10} emission limitation (0.011 pound of PM_{10} per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling, 12-month period, and then dividing by 2,000

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

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

j. Emission Limitation:

0.02 pound of SO_2 per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the emission factor of 0.6 pound of SO_2 emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.021 MMscf per hour.

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

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

k. Emission Limitation:

0.09 ton of SO_2 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable SO_2 emission limitation (0.02 pound of SO_2 per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

l. Emission Limitation:

0.12 pound of VOC per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of

Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the emission factor of 5.5 pounds of VOC emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.021 MMscf per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 18, 25 or 25A, as appropriate, of 40 CFR Part 60 Appendix A. Use of Method 18, 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.

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

m. Emission Limitation:

0.53 ton of VOC per rolling, 12-month period

Applicable Compliance Method:

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

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

n. Emission Limitation:

0.038 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. Note: forehearth roof ventilators shall be point of capture.

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

o. Emission Limitation:

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

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.038 pound of F- per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling, 12-month period, and then dividing by 2,000 pounds per

ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

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

p. Emission Limitation:

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

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: multiply the emission factor of 84 pounds of CO emissions per million standard cubic feet by the amount of natural gas used in the forehearths of P001 and P013 in millions of standard cubic feet during this time period.

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

q. Emission Limitation:

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

Applicable Compliance Method:

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

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

r. Emission Limitation:

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

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: multiply the emission factor of 100 pounds of NO_x emissions per million standard cubic feet by the amount of natural gas used in the forehearths of P001 and P013 in millions of cubic feet during the time period.

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

s. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.78 ton of PM_{10} per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling,12-month period) by the emission factor for PM_{10} (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM_{10} emission limitation, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation. Note: The forehearth roof ventilators shall be the point of capture.

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

t. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.10 ton of SO_2 per rolling, 12-month period.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the emission factor of 0.6 pound of SO_2 emissions per million standard cubic feet by the amount of natural gas used in the forehearths of P001 and P013 in millions of cubic feet during the time period.

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

u. Emission Limitation:

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

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the emission factor of 5.5 pounds of VOC emissions per million standard cubic feet by the amount of natural gas used in the forehearths of P001 and P013 in millions of cubic feet during the time period.

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

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

a. Emission Limitation:

The controlled emissions from the stack shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases **or** there shall be no visible emissions from the exhaust stack.

Applicable Compliance Method:

Compliance with the requirement for no visible particulate emissions from the exhaust stack, identified in this permit, shall be determined in accordance with U.S. EPA Method 22. If opting to comply with the outlet particulate emissions rate, compliance with the 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases from the stack shall be determined in accordance with U.S. EPA Methods 1 through 5, as appropriate.

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

b. Emission Limitation:

20% opacity as a 6-minute average from forming exhaust stack(s)

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60,

Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

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

c. Emission Limitation:

0.50 pound of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

d. Emission Limitation:

2.2 tons of PE per year

Applicable Compliance Method:

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

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

e. Emission Limitation:

0.20 pound of PM_{10} per ton of glass pull

Applicable Compliance Method:

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

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

f. Emission Limitation:

7.0 tons of PM_{10} per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM_{10} emission limitation (0.20 pound of PM_{10} per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

g. Emission Limitation:

0.09 pound of VOC per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 18, 25 or 25A, as appropriate, of 40 CFR Part 60 Appendix A. Use of Method 18, 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.

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

h. Emission Limitation:

3.2 tons of VOC per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.09 pound of VOC per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

i. Emission Limitation:

0.021 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

j. Emission Limitation:

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

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.021 pound of F- per ton of glass pull) by the maximum glass pull of 69,350 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

k. Emission Limitation:

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

Applicable Compliance Method:

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

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

l. Emission Limitation:

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

Applicable Compliance Method:

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

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

m. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 14.24 tons of PM_{10} per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling,12-month period) by the emission factor for PM_{10} (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM_{10} emission limitation, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitations and the glass pull restrictions, compliance shall also be shown with this combined annual emission limitation.

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

n. Emission Limitation:

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

Applicable Compliance Method:

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

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

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

a. The emissions testing shall be conducted within 6 months of permit expiration;

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for PM_{10}, SO_2, F-, and opacity.

c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

i. For PM_{10}, Methods 201 and 202 of 40 CFR Part 51, Appendix M;

ii. For SO_2, Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A, using the procedures specified in OAC rule 3745-18-04;

iii. For F-, Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A; and

iv. For opacity, Method 9 of 40 CFR Part 60, Appendix A.

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

d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Toledo Division of Environmental Services or the Ohio EPA Central Office.

e. If both melting furnaces P001 and P013 are to be tested simultaneously, they shall be operating at or near their maximum capacity and compliance shall be demonstrated with the combined total of the applicable emission limitations for each emissions unit. Each of the two units shall be tested, either together or separately as required in this section.

f. All monitoring systems and equipment shall be installed, operational, and calibrated prior to performance tests.

g. Unless a different frequency is specified in this section or proposed and agreed upon by the Ohio EPA, the permittee shall monitor and record process and/or add-on control device parameters, that will be used to demonstrate continuous compliance following testing, at least every 15 minutes during the performance tests. This shall include the NaOH addition rate to the spray tower and a check-off noting that the baghouse alarm has not been activated. The arithmetic average for each parameter (excluding the baghouse) shall be calculated using all of the recorded measurements collected during the compliance demonstration.

h. The permittee shall monitor and record the daily glass pull rate for each glass melting furnace during any performance test required. The permittee shall determine the hourly average of the recorded measurements.

i. The permittee shall monitor and record the daily fluorspar addition rate to the batch mixer, as a weight percent of the batch for each glass melting furnace during any performance test required.

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

Personnel of the Toledo Division of Environmental Services or the Ohio EPA Central Office shall be permitted to witness the tests, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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

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

(5) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install P0115109, issued on July 29, 2013: f)(1)(p) through f)(1)(u), f)(2)(p) through f)(2)(u) and f)(3)(j) through f)(3)(m). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

g) Miscellaneous Requirements

(1) None.

5. P013, Furnace 9212

Operations, Property and/or Equipment Description:

Direct Melt Furnace 9212 - Melter+Forehearth+Forming

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
8.4 ton/hr glass melting furnace with natural gas oxyfuel firing and electric boost, controlled by wet caustic scrubber and fabric filter		
a.	OAC rule 3745-31-05(A)(3) (PTI P0115109 issued 7/29/2013)	0.01 pound of carbon monoxide (CO) per ton of glass pull
		0.37 ton of CO per rolling, 12-month period
		1.71 pounds of nitrogen oxides (NO_x) per ton of glass pull
		63 tons of NO_x per rolling, 12-month period
		18.25 tons of filterable particulate emissions (PE) per year
		1.87 pounds of particulate matter less than or equal to 10 microns in diameter (PM_{10}) per ton of glass pull
		69 tons of PM_{10} per rolling, 12-month period
		2.02 pounds of sulfur dioxide (SO_2) per ton of glass pull
		75 tons of SO_2 per rolling, 12-month period
		0.04 pound of volatile organic compounds (VOC) per ton of glass pull
		1.5 tons of VOC per rolling, 12-month period
		0.36 pound of fluorides (F-) per ton of glass pull
		14 tons of F- per rolling, 12-month period

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)a.
b.	OAC rule 3745-17-07(A)(1)	See b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 60, Subpart CC.
d.	OAC rule 3745-18-06(E)(2)	See b)(2)c.
e.	OAC rule 3745-31-05(D)	See b)(2)d. and b)(2)e.
f.	OAC rule 3745-31-10 thru 20	See b)(2)f.
g.	40 CFR Part 60, Subpart CC (40 CFR 60.290 – 60.296) [In accordance with 40 CFR 60.292, this emission unit is a glass melting furnace fired with a gaseous fuel producing wool fiberglass modified on 5/20/2004 subject to the emission limitations specified in table CC-1, Column 2]	0.50 pound of PE per ton of glass produced. See b)(2)q.
h.	40 CFR Part 60, Subpart A (40 CFR 60.1 – 60.19)	40 CFR Part 60 subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60.
i.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM) (64.1 – 64.10) [In accordance with 40 CFR 64.2, this emission unit is a major source of PE/PM_{10} emissions controlled with a baghouse and is a major source of SO_2 controlled with a wet scrubber]	See c)(3), c)(4), d)(2) through d(6), d)(9), and e(1) through e)(3).
Fiberglass forehearth area with natural gas over firing and no controls		
j.	OAC rule 3745-31-05(A)(3) (PTI P0115109 issued 7/29/2013)	1.9 pounds of CO per hour
		8.3 tons of CO per rolling, 12-month period
		2.2 pounds of NO_x per hour
		9.6 tons of NO_x per rolling, 12-month period
		0.20 pound of PE per hour
		0.88 ton of PE per year
		0.011 pound of PM_{10} per ton of glass pull
		0.41 ton of PM_{10} per rolling, 12-month period
		0.02 pound of SO_2 per hour

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		0.09 ton of SO_2 per rolling, 12-month period
		0.13 pound of VOC per hour
		0.57 ton of VOC per rolling, 12-month period
		0.038 pound of F- per ton of glass pull
		1.39 tons of F- per rolling, 12-month period
		See b)(2)g.
k.	OAC rule 3745-17-07(B)(1)	Visible particulate of fugitive dust shall not exceed 20% opacity as a 3-minute average.
l.	OAC rule 3745-17-08(B)	See b)(2)h.
m.	OAC rule 3745-18-06(A)	See b)(2)p.
n.	OAC rule 3745-31-05(D)	See b)(2)i. and b)(2)j.
o.	OAC rule 3745-31-10 thru 20	See b)(2)k.
Fiberglass forming area with rolled-on binder application and no controls		
p.	OAC rule 3745-31-05(A)(3) (PTI P0115109 issued 7/29/2013)	0.50 pound of PE per hour
		2.2 tons of PE per year
		0.20 pound of PM_{10} per ton of glass pull
		7.3 tons of PM_{10} per rolling, 12-month period
		0.09 pound of VOC per ton of glass pull
		3.3 tons of VOC per rolling, 12-month period
		0.021 pound of F- per ton of glass pull
		0.77 ton of F- per rolling, 12-month period
		See b)(2)o.
q.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the forming stacks serving this emissions unit shall not exceed 20% opacity as a 6-minute average.
r.	OAC rule 3745-17-08(B)	See b)(2)h.
s.	OAC rule 3745-31-05(D)	See b)(2)l. and b)(2)m.
t.	OAC rule 3745-31-10 thru 20	See b)(2)n.
u.	OAC rule 3745-17-11(B)(1)	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), OAC rule 3745-17-11(B)(1), OAC rule 3745-18-06(E)(2), OAC rule 3745-31-05(D), 3745-31-10 thru 20, and 40 CFR Part 60, Subpart CC.

b. Visible particulate emissions from the furnace stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average.

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

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

e. The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 121.71 tons of NO_x, 142.77 tons of SO_2 and 2.85 tons of VOC per rolling, 12-month period.

f. The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 133.10 tons of PM_{10} and 25.62 tons of F- per rolling, 12-month period.

g. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(B)(1), OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.

h. The permittee shall install reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. Such measures shall meet the following requirements:

   i. the collection efficiency shall be sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and

   ii. the control equipment achieves an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there are no visible particulate emissions from the exhaust stack(s), whichever is less stringent.

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

j. The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 15.91 tons of NO_x, 0.10 ton of SO_2 and 0.87 ton of VOC per rolling, 12-month period.

k. The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.78 ton of PM_{10} and 2.70 tons of F- per rolling, 12-month period.

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

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

n. The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 14.24 tons of PM_{10} and 1.49 tons of F- per rolling, 12-month period.

o. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-31-05(D) and OAC rules 3745-31-10 thru 20.

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

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

q. During routine maintenance of add-on pollution controls, an owner or operator of a glass melting furnace subject to the provisions of 40 CFR 60.292(a) is exempt from the provisions of paragraph 60.292(a) per paragraph 60.292(e) if:

i. Routine maintenance in each calendar year does not exceed 6 days (144 hours);

ii. Routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions; and

iii. A report is submitted to the Administrator 10 days before the start of the routine maintenance (if 10 days cannot be provided, the report must be submitted as soon as practicable) and the report contain an explanation and schedule of the maintenance.

c) Operational Restrictions

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

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

(2) The rate of glass pull from this emissions unit shall not exceed 73,000 tons per rolling, 12-month period, based upon a rolling, 12-month summation of the average hourly pull rates.

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

(3) The fluorspar addition rate to the batch mixer, as a weight percent of the batch, shall not exceed the rate established during the most recent performance test that demonstrated compliance with the F- emissions limitations from the glass furnace, the forehearth, and the forming area.

[OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

(4) The permittee shall follow the written standard operating procedures (SOP) in order to maintain the emissions unit in compliance with the limitations contained in this permit and to minimize emissions during startup and shutdown of the unit. The SOP shall include, but shall not be limited to the following:

a. Startup and shutdown procedures, developed to consider and minimize emissions.

b. Procedures to determine, record, and report the cause of and remedy to a malfunction of any control device and any deviations from the compliant range of operating parameters being monitored and used to demonstrate compliance, including the date and time the malfunction/deviation began and ended.

c. A maintenance and calibration schedule for each control device and parameter monitor that is consistent with the manufacturer's instructions and recommendations, for routine and long-term maintenance.

d. The corrective actions or procedures to be taken in the event of a malfunction of a control device and/or a parameter monitor, and during any abnormal process modifications.

e. The SOP shall specify corrective actions to be followed when a monitored parameter is outside the compliant range established during the most recent emissions tests that demonstrated compliance. Provisions shall be included for records to be maintained of the time, date, parameter's deviation data, the corrective actions conducted, and if standard operating procedures were followed. The SOP shall be implemented for the following occurrences:

i. The permittee shall initiate corrective actions within 1 hour following any 3-hour block of time in which the NaOH addition rate is less than the minimum addition rate established during the most recent emissions tests

that demonstrated compliance. Corrective actions shall be conducted in a timely manner according to the procedures defined in the SOP.

ii. The permittee shall initiate corrective action within 1 hour of an alarm from the bag leak detection system and complete corrective actions in a timely manner according to the procedures documented in this SOP. Examples of corrective actions that might be included in the SOP for the baghouse/fabric filter include:

(a) inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emission;

(b) sealing off defective bags or filter media;

(c) replacing defective bags or filter media, or otherwise repairing the control device;

(d) sealing off a defective baghouse compartment;

(e) cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and

(f) shutting down the process producing the particulate emissions.

iii. The permittee shall initiate corrective action within 1 hour following any discovery that the glass pull rate exceeds by more than 10% the maximum glass pull rate established during the most recent emissions tests that demonstrate the emissions unit to be in compliance. Corrective actions shall be conducted in a timely manner according to the procedures documented in the SOP.

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

[OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

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

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

(2) The permittee shall keep records of each startup, shutdown, and malfunction event, as well as, a record of any actions taken during a startup, shutdown, or malfunction that are not consistent with the procedures in the SOP, as described in c)(4) of this permit.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(3) The CAM plan for this emissions unit has been developed for SO_2 and F- emissions. A CAM performance indicator for SO_2 and F- emissions is the NaOH addition rate to the quench tower. The NaOH addition rate shall not be less than the minimum addition rate established during the most recent emissions test that demonstrated compliance. The permittee shall operate and maintain equipment to continuously monitor the NaOH addition rate to the spray tower while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The following hourly records shall be maintained from the data documented by this monitor:

a. the concentration of the NaOH solution pumped to the spray tower system (in % by volume);

b. the flow rate (in gallons) of the NaOH solution pumped to the spray tower system;

c. the addition rate of NaOH to the spray tower system, in gallons per hour, calculated as the concentration of the NaOH solution multiplied by the volume of the NaOH solution, i.e., a.x b.; and

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

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

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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

a. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection

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

b. The bag leak detection system shall be certified by the manufacturer to be capable of detecting particulate emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

c. The bag leak detection system sensor shall produce an output of relative particulate emissions.

d. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative particulate emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.

e. The bag leak detection system shall be installed downstream of the baghouse. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.

f. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

g. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm setpoints, or alarm delay time except as detailed in the operations, maintenance, and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operating condition.

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

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(5) The permittee shall monitor and record the glass pull rate on a daily basis. The following records shall be maintained from the data documented by this monitor:

a. records of the daily glass pull rate;

b. the daily hours of operation;

c. the average hourly glass pull rate, a./b., in tons per hour; and

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

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

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(6) The permittee shall monitor and record daily the average fluorspar addition rate to the batch mixer, as a weight percent of the batch. The records shall include the date and time of each exceedance/deviation, when corrective actions were initiated, the cause of each exceedance, the corrective actions taken and if they were the same as those documented in the SOP, and when the cause of each exceedance/deviation was corrected.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(7) For purposes of determining the total annual emissions from this emissions unit:

a. the permittee shall maintain monthly records of the volume of natural gas burned in the forehearth, in millions of standard cubic feet; and

b. the permittee shall maintain monthly records of the volume of natural gas burned in the forehearth as a rolling, 12-month summation of the monthly records above, in millions of standard cubic feet per rolling, 12-month period.

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

(8) Each month the permittee shall calculate and maintain the following records:

a. a record of the glass pull rate as a rolling, 12-month summation of the average hourly glass pull rates, including a record of any month in which the pull rate exceeded the allowable, rolling, 12-month rate of glass pull;

b. the total emissions from P001 and P013, including the glass melting furnaces baghouse exhaust, all vents serving both forehearth areas and all exhaust stacks serving both forming areas, in tons of CO, tons of NO_x, tons of PM_{10}, tons of SO_2, tons of VOC, and tons of F-, calculated by multiplying the glass pull rate (in tons per month) by the emissions factor for each process (in pounds per ton of glass pull) as determined during the most recent stack test which demonstrated compliance with the applicable emissions limitation, dividing by 2000 pounds per ton, and then summing the emissions from all the processes; and

c. the total rolling, 12-month summation of the combined emissions from P001 and P013, including the glass melting furnace baghouse exhaust, all vents serving both forehearth areas and for all exhaust stacks serving both forming areas, in

tons of CO, tons of NO_x, tons of PM_{10}, tons of SO_2, tons of VOC, and tons of F- per rolling, 12-month period, calculated as a rolling 12-month summation of the monthly total emissions from P001 and P013 as calculated above.

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

(9) The permittee shall maintain a record of the following parameter values, that will be used to monitor continuous compliance (a record of these parameters shall be maintained following each required emissions compliance test):

a. the average glass pull rate recorded during the compliance tests;

b. the minimum and average NaOH addition rate recorded during the compliance tests (the average shall be calculated using each reading of the meter, as recorded during each of the three compliance test runs); and

c. the average fluorspar addition rate recorded during the compliance tests.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(10) 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 and for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

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

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

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

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

(12) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install P0115109, issued on July 29, 2013: d)(9), d)(10) and (d)(11). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

e) Reporting Requirements

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

a. identify any action(s) taken during a startup, shutdown, or malfunction and/or during operations, maintenance, or monitoring that were inconsistent with the procedures documented in the SOP as described in c)(4) of this permit;

b. all periods of time in which the bag leak detection alarm system was triggered.

c. Identify each day when a fuel other than natural gas was burned in this emissions unit;

d. Any month in which records documented an exceedance of the maximum allowable cumulative rolling, 12-month glass pull rate limitation of 73,000 tons;

e. All periods of time during which the NaOH addition rate to the spray tower was less than the minimum addition rate established during the most recent emission tests that demonstrated compliance;

f. Each month during which the combined emissions from P001 and P013, as a rolling, 12-month summation, from the glass melting furnaces baghouse exhaust, from all vents serving both the forehearth areas and from all exhaust stacks serving both forming areas, exceeded the applicable emission limitation in tons of CO, tons of NO_x, tons of PM_{10}, tons of SO_2, tons of VOC, and/or tons of fluorides per rolling, 12-month period;

g. All periods of time during which the glass pull rate exceeded by more than 10% the daily glass pull rate established during the most recent emissions tests that demonstrated compliance; and

h. All periods of time during which the fluorspar content as a weight percentage of the batch exceeded the content established during the most recent emissions tests that demonstrated compliance with the F^- emissions limitations for the glass furnace, the forehearth, and/or the forming area.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(2) The permittee shall submit quarterly deviation reports that identify the following:

a. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following any 3-hour block of time in which the NaOH addition rate is less than the minimum addition rate established during the most recent emissions tests that demonstrated compliance;

b. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour of an alarm from the bag leak detection system;

c. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following discovery that the glass pull rate exceeded the average glass pull rate by more than 10% the rate established during the most recent emissions tests that demonstrated compliance; and

d. any period of time (including the date) in which the permittee did not initiate corrective actions, as defined in the SOP, within 1 hour following the discovery that the fluorspar content as a weight percentage of the batch is greater than the content established during the most recent emissions tests that demonstrated compliance with the F^- emissions limitations for the glass furnace, the forehearth, and/or the forming area.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(3) If for any reason the glass pull rate exceeded the glass pull rate by more than 10% the glass pull rate established during the most recent emissions tests that demonstrate compliance, the following information shall be reported within 5 business days after the exceedance:

a. the date of the exceedance;

b. the time interval over which the exceedance occurred;

c. the value of the exceedance;

d. the cause(s) of the exceedance;

e. the corrective action which has been or will be taken to prevent similar exceedances in the future; and

f. a copy of data and/or information which shows the exceedance.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(4) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit;

b. all days during which any visible particulate emissions were observed from the stack serving this emission unit; and

c. any corrective actions taken eliminate the visible emissions.

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

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

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

(6) Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install P0115109, issued on July 29, 2013: e)(3) and e)(4). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

(7) 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.

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

f) Testing Requirements

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

a. Emission Limitation:

20% opacity, as a 6-minute average from stacks servicing this emissions unit

Applicable Compliance Method:

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

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

b. Emission Limitation:

0.01 pound of CO per ton of glass pull

Applicable Compliance Method:

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

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

c. Emission Limitation:

0.37 ton of CO per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable CO emission limitation (0.01 pound of CO per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

d. Emission Limitation:

1.71 pounds of NO_x per ton of glass pull

Applicable Compliance Method:

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

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

e. Emission Limitation:

63 tons of NO_x per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable NO_x emission limitation (1.71 pounds of NO_x per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

f. Emission Limitation:

0.50 pound of PE per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in Methods 1 through 5 of 40 CFR Part 60, Appendix A using the methods and procedures specified in 40 CFR 60.296.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 60 Subpart CC]

g. Emission Limitation:

18.25 tons of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PE emission limitation (0.50 pound of PE per ton of glass pull) by the maximum glass pulled of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

h. Emission Limitation:

1.87 pounds of PM_{10} per ton of glass pull

Applicable Compliance Method:

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

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

i. Emission Limitation:

69 tons of PM_{10} per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM_{10} emission limitation (1.87 pounds of PM_{10} per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

j. Emission Limitation:

2.02 pounds of SO_2 per ton of glass pull

Applicable Compliance Method:

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

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

k. Emission Limitation:

75 tons of SO_2 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable SO_2 emission limitation (2.02 pounds of SO_2 per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000

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

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

l. Emission Limitation:

0.04 pound of VOC per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 18, 25 or 25A, as appropriate, of 40 CFR Part 60 Appendix A. Use of Method 18, 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.

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

m. Emission Limitation:

1.5 tons of VOC per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.04 pound of VOC per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

n. Emission Limitation:

0.36 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

o. Emission Limitation:

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

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.36 pound of F- per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

p. Emission Limitation:

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

Applicable Compliance Method:

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

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

q. Emission Limitation:

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

Applicable Compliance Method:

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

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

r. Emission Limitation:

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

Applicable Compliance Method:

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

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

s. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 133.10 tons of PM_{10} per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling,12-month period) by the emission factor for PM_{10} (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM_{10} emission limitation, and then dividing by 2,000 pounds per ton.

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

t. Emission Limitation:

The combined emissions from P001 and P013, measured at the glass melting furnace baghouse exhaust, shall not exceed 142.77 tons of SO_2 per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling,12-month period) by the emission factor for SO_2 (in pounds per ton of glass pulled) determined during the most recent emissions

testing which demonstrated compliance with the SO_2 emission limitation, and then dividing by 2,000 pounds per ton.

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

u. Emission Limitation:

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

Applicable Compliance Method:

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

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

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

a. Emission Limitation:

The controlled emissions from the stack shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases **or** there shall be no visible emissions from the exhaust stack.

Applicable Compliance Method:

Compliance with the requirement for no visible particulate emissions from the exhaust stack, identified in this permit, shall be determined in accordance with U.S. EPA Method 22. If opting to comply with the outlet particulate emissions rate, compliance with the 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases from the stack shall be determined in accordance with U.S. EPA Methods 1 through 5, as appropriate.

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

b. Emission Limitation:

20% opacity as a 3-minute average from any fugitive source in forehearth

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60,

Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(1); or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

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

c. Emission Limitation:

1.9 pounds of CO per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: multiply the emission factor of 84 pounds of CO emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.022 MMscf per hour.

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

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

d. Emission Limitation:

8.3 tons of CO per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable CO emission limitation (1.9 pounds per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

e. Emission Limitation:

2.2 pounds of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: multiply the

emission factor of 100 pounds of NO_x emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.022 MMscf per hour.

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

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

f. Emission Limitation:

9.6 tons of NO_x per rolling, 12-month period

Applicable Compliance Method:

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

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

g. Emission Limitation:

0.20 pound of PE per hour

Applicable Compliance Method:

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

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

h. Emission Limitation:

0.88 ton of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PE emission limitation (0.20 pound per hour) by the number of hours in a year (8760 hours),

and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

i. Emission Limitation:

0.011 pound of PM_{10} per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. Note: The forehearth roof ventilators shall be the point of capture.

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

j. Emission Limitation:

0.41 ton of PM_{10} per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM_{10} emission limitation (0.011 pound of PM_{10} per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

k. Emission Limitation:

0.02 pound of SO_2 per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the emission factor of 0.6 pound of SO_2 emissions per million standard cubic feet by the maximum volumetric fuel input capacity of 0.022 MMscf per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 6 of 40 CFR Part 60 Appendix A, using the methods and

procedures specified in OAC rule 3745-18-04, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. Note: The forehearth roof ventilators shall be the point of capture.

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

l. Emission Limitation:

0.09 ton of SO_2 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable SO_2 emission limitation (0.02 pound of SO_2 per hour) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

m. Emission Limitation:

0.13 pound of VOC per hour

Applicable Compliance Method:

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

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 18, 25 or 25A, as appropriate, of 40 CFR Part 60 Appendix A. Use of Method 18, 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. Note: The forehearth roof ventilators shall be the point of capture.

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

n. Emission Limitation:

0.57 ton of VOC per rolling, 12-month period

Applicable Compliance Method:

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

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

o. Emission Limitation:

0.038 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. Note: The forehearth roof ventilators shall be the point of capture.

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

p. Emission Limitation:

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

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.038 pound of F- per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

q. Emission Limitation:

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

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: multiply the

emission factor of 84 pounds of CO emissions per million standard cubic feet by the amount of natural gas used in the forehearths of P001 and P013 in millions of standard cubic feet during this time period.

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

r. Emission Limitation:

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

Applicable Compliance Method:

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

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

s. Emission Limitation:

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

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: multiply the emission factor of 100 pounds of NO_x emissions per million standard cubic feet by the amount of natural gas used in the forehearths of P001 and P013 in millions of standard cubic feet during this time period.

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

t. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.78 ton of PM_{10} per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling,12-month period) by the emission factor for PM_{10} (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM_{10} emission limitation, and then dividing by 2,000 pounds per ton. Note: the forehearth roof ventilators are the point of capture.

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

u. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all vents serving both forehearth areas, shall not exceed 0.10 ton of SO_2 per rolling, 12-month period.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the emission factor of 0.6 pound of SO_2 emissions per million standard cubic feet by the amount of natural gas used in the forehearths of P001 and P013 in millions of standard cubic feet during this time period.

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

v. Emission Limitation:

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

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: multiply the emission factor of 5.5 pounds of VOC emissions per million standard cubic feet by the amount of natural gas used in the forehearths of P001 and P013 in millions of standard cubic feet during this time period.

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

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

a. Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

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

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

b. Emission Limitation:

The controlled emissions from the stack shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases **or** there shall be no visible emissions from the exhaust stack.

Applicable Compliance Method:

Compliance with the requirement for no visible particulate emissions from the exhaust stack, identified in this permit, shall be determined in accordance with U.S. EPA Method 22. If opting to comply with the outlet particulate emissions rate, compliance with the 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases from the stack shall be determined in accordance with U.S. EPA Methods 1 through 5, as appropriate.

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

c. Emission Limitation:

0.50 pound of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

d. Emission Limitation:

2.2 tons of PE per year

Applicable Compliance Method:

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

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

e. Emission Limitation:

0.20 pound of PM_{10} per ton of glass pull

Applicable Compliance Method:

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

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

f. Emission Limitation:

7.3 tons of PM_{10} per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PM_{10} emission limitation (0.20 pound of PM_{10} per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

g. Emission Limitation:

0.09 pound of VOC per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 18, 25 or 25A, as appropriate, of 40 CFR Part 60 Appendix A.

Use of Method 18, 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.

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

h. Emission Limitation:

3.3 tons of VOC per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.09 pound of VOC per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

i. Emission Limitation:

0.021 pound of F- per ton of glass pull

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

j. Emission Limitation:

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

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable F- emission limitation (0.021 pound of F- per ton of glass pull) by the maximum glass pull of 73,000 tons per rolling, 12-month period, and then dividing by 2,000 pounds per ton. Therefore, if compliance is shown with the short-term allowable emission limitation and the glass pull restriction, compliance shall also be shown with the annual emission limitation.

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

k. Emission Limitation:

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

Applicable Compliance Method:

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

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

l. Emission Limitation:

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

Applicable Compliance Method:

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

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

m. Emission Limitation:

The combined emissions from P001 and P013, measured as a summation of the emissions for all exhaust stacks serving both forming areas, shall not exceed 14.24 tons of PM_{10} per rolling, 12-month period.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum allowed throughput of P001 and P013 combined (142,350 tons per rolling,12-month period) by the emission factor for PM_{10} (in pounds per ton of glass pulled) determined during the most recent emissions testing which demonstrated compliance with the PM_{10} emission limitation, and then dividing by 2,000 pounds per ton.

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

n. Emission Limitation:

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

Applicable Compliance Method:

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

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

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

a. The emissions testing shall be conducted within 6 months of permit expiration;

b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for PM_{10}, SO_2, F-, and opacity.

c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

i. For PM_{10}, Methods 201 and 202 of 40 CFR Part 51, Appendix M;

ii. For SO_2, Methods 1 through 4 and 6 of 40 CFR Part 60, Appendix A, using the procedures specified in OAC rule 3745-18-04;

iii. For F-, Methods 1 through 4 and 13B of 40 CFR Part 60 Appendix A; and

iv. For opacity, Method 9 of 40 CFR Part 60, Appendix A.

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

d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Toledo Division of Environmental Services or the Ohio EPA Central Office.

e. If both melting furnaces P001 and P013 are to be tested simultaneously, they shall be operating at or near their maximum capacity and compliance shall be demonstrated with the combined total of the applicable emission limitations for each emission unit. Each of the two units shall be tested, either together or separately as required in this section.

f. All monitoring systems and equipment shall be installed, operational, and calibrated prior to the performance tests.

g. Unless a different frequency is specified in this section or proposed and agreed upon by the Ohio EPA, the permittee shall monitor and record process and/or add-on control device parameters, that will be used to demonstrate continuous compliance following testing, at least every 15 minutes during the performance tests. This shall include the NaOH addition rate to the spray tower and a check-off noting that the baghouse alarm has not been activated. The arithmetic average of each parameter (excluding the baghouse) shall be calculated using all of the recorded measurements collected during the compliance demonstration.

h. The permittee shall monitor and record the daily glass pull rate for each glass melting furnace during any performance test required. The permittee shall determine the hourly average of the recorded measurements.

i. The permittee shall monitor and record the daily fluorspar addition rate to the batch mixer, as a weight percent of the batch for each glass melting furnace during each performance test required.

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

Personnel from the Toledo Division of Environmental Services or the Ohio EPA Central Office shall be permitted ot witness the tests, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions from the emissions unit and/or the performance of the control equipment.

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

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

(5) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install P0115109, issued on July 29, 2013: f)(1)(p) through f)(1)(u), f)(2)(p) through f)(2)(u) and f)(3)(j) through f)(3)(m). The testing requirements contained in the above-referenced

Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

g) Miscellaneous Requirements

(1) None.

6. P015, Wet Process Fiberglass Mat Line with thermal oxidizer

Operations, Property and/or Equipment Description:

Fiber blend mat line - produces bonded non-woven fibrous mat using a curing oven for the 9214 and edge trim with removal.

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
curing oven for the 9214 mat line controlled by a regenerative thermal oxidizer (RTO)		
a.	OAC rule 3745-31-05(A)(3) (PTI P0115149 issued 11/13/2013)	2.35 pounds per hour of filterable particulate emissions (PE) when All Glass Facer (AGF) mat is processed
		10.29 tons of PE per year when AGF mat is processed
		See b)(2)a.
b.	OAC rule 3745-17-07(A)(1)	See b)(2)b.
c.	OAC rule 3745-17-11(B)(1)	13.0 pounds per hour when not processing AGF mat.
d.	OAC rule 3745-18-06(E)	82.2 pounds of sulfur dioxide (SO_2) per hour
		See b)(2)d.
e.	OAC rule 3745-21-07(M)(2)	See b)(2)e.
f.	40 CFR Part 63, Subpart HHHH (40 CFR 63.2980 – 63.3005) [In accordance with 40 CFR 63.2983(a), this emissions unit is a curing oven at an existing wet-formed fiberglass mat production facility that is a major source of hazardous air pollutants (HAP) subject to the emissions limitations/control measures specified in this section.]	Comply with either limit at all times, except during periods of startup, shutdown or malfunction: 0.03 kilogram formaldehyde per megagram (0.05 pounds per ton); or reduce uncontrolled formaldehyde emissions by 96 percent or more. [40 CFR 63.2983(a)]
g	40 CFR Part 63, Subpart A	Table 2 to Subpart HHHH of 40 CFR Part

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	(40 CFR 63.1 – 15)	63 – Applicability of General Provisions to Subpart HHHH (63.3001) shows which parts of the General Provisions apply to this subpart.
h.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM) (64.1 – 64.10) [In accordance with 40 CFR 64.2 this emissions unit is subject to CAM for OC emissions controlled with a thermal oxidizer and PE emissions controlled with fabric filter baghouse.]	See b)(2)e., c)(2), c)(3), d)(2) through d)(6), d)(8), d)(9), e)(1), e)(2), and e)(4).
Fiberglass mat edge trimming/removal for the 9214 mat line controlled by a fabric filter		
i.	OAC rule 3745-31-05(A)(3) (PTI P0115149 issued 11/13/2013)	0.88 pound of PE per hour
		3.86 tons of PE per rolling, 12-month period.
		See b)(2)f.
j.	OAC rule 3745-17-07(A)(1)	See b)(2)b.
k.	OAC rule 3745-17-11(B)(1)	See b)(2)c.

(2) Additional Terms and Conditions

a. When AGF mat is not being processed, the permittee shall comply with requirements of OAC rule 3745-17-11(B)(1).

b. Visible particulate emissions from any stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

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

d. The actual SO_2 emissions are the result of the combustion of natural gas, and are negligible.

e. This emission unit shall be equipped with a control system (i.e. capture and control equipment) that reduces the organic compound emissions from the emission unit by an overall control efficiency of at least eighty-five per cent, by weight. If the reductions are achieved by incineration, ninety percent or more of the carbon in the organic material being incinerated shall be oxidized to carbon dioxide.

f. The emissions from the fiberglass mat edge trim and removal shall be vented to the baghouse at all times the emissions unit is in operation.

c) Operational Restrictions

(1) The permittee shall burn only natural gas as fuel in the curing oven for the 9214 mat line..

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

(2) The emissions from the fiberglass edge trimmer and removal shall be vented to the baghouse at all times the emissions unit is in operation.

[OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

(3) The permittee shall maintain and operate an OC capture and control system with a regenerative thermal oxidizer (RTO) for the curing oven.

[OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

(4) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart HHHH, including the following sections:

63.2986(a)	Install, maintain, and operate a thermal oxidizer or other control device or implement a process modification that reduces formaldehyde emissions from each drying and curing oven.
63.2984(a)(1)	Operate the thermal oxidizer so that the average operating temperature in any 3-hour block period does not fall below the temperature established during your performance test and specified in your OMM plan.
63.2984(a)(2)	Free-formaldehyde content restriction
63.2984(a)(3)	Wet-formed fiberglass mat production process urea formaldehyde resin solids application rate restriction
63.2984(b)	Operating parameter deviation corrective action required within 1-hour
63.2984(c)	Maintain and inspect control devices according to OMM plan
63.2984(d)	Develop and operate according to OMM at all times. Include operating parameters specified in 63.2984(a)(1) through (a)(3) in OMM plan

63.2984(e)	Formaldehyde emission capture and conveying requirements
63.2986(g)(2)	Operate and maintain affected source, including air pollution control and monitoring equipment, according to 63.6(e)(1)

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63 Subpart HHHH]

d) Monitoring and/or Recordkeeping Requirements

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

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

(2) The permittee shall maintain daily records that document any time periods when the baghouse was not in service when the fiberglass mat edge trim and removal was in operation.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(3) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 2 to 6 inches of water.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(4) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

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

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

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

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

i. the total period of time (in minutes) during which there was a deviation;

j. the pressure drop readings immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

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

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(5) The permittee shall properly operate and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

a. all 3-hour blocks of time, when the emissions unit(s) controlled by the thermal oxidizer was/were in operation, during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and

b. a log or record of the operating time for the capture (collection) system, thermal oxidizer, monitoring equipment, and the associated emissions unit(s).

These records shall be maintained at the facility for a period of three years.

[OAC rule 3745-77-07(C)(1)] and 40 CFR Part 64]

(6) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

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

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

i. the total period of time (in minutes) during which there was a deviation;

j. the temperature readings immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

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

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

[OAC rule 3745-77-07(C)(1)] and 40 CFR Part 64]

(7) The permittee shall comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 63, Subpart HHHH, including the following sections:

63.2986(g)(3)	Develop written startup, shutdown, and malfunction plan (SSMP) according to 63.6(e)(3)
63.2987(a) – (d)	Operation, maintenance, and monitoring (OMM) plan requirements and record keeping
63.2989(a) – (c)	Revising OMM plan
63.2996 and 63.2997(a)	Monitor the parameters specified in Table 1 of this subpart
63.2998(a) – (g)	Maintain required records
63.2999(a) – (b)	Form and duration of records

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 63 Subpart HHHH]

(8) 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 baghouse and uncontrolled stacks 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 location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

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

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(9) 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.

[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 period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;

b. any period of time (start time and date, and end time and date) when the fiberglass mat edge trim and removal was in operation and the process emissions were not vented to the baghouse;

c. each incident of deviation described in “a” (above) where a prompt investigation was not conducted;

d. each incident of deviation described in “a” where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

e. each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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

a. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;

b. any period of time (start time and date, and end time and date) when the oven(s) was/were in operation and the process emissions were not vented to the thermal oxidizer;

c. each incident of deviation described in “a” or ”b” (above) where a prompt investigation was not conducted;

d. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the emissions unit(s) into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken; and

e. each incident of deviation described in “a” or “b” where proper records were not maintained for the investigation and/or the corrective action(s).

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(3) The permittee shall submit semiannual reports and other such notifications and reports through the Ohio EPA’s eBusiness Center: Air Services online web portal as are required pursuant to 40 CFR Part 63, Subpart HHHH, per the following sections:

63.3000(a)	Submit notifications and reports specified in Table 2 of this subpart
63.3000(b)	Notification of compliance status report
63.3000(c)	Semi-annual reporting requirements
63.3000(d)	Performance test reporting requirements
63.3000(e)	Startup, shutdown, malfunction reports

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 63 Subpart HHHH]

(4) The permittee shall submit semiannual reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving the baghouse; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions from the stack.

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.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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

[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.

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

f) Testing Requirements

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

a. Emission Limitation:

20% opacity as a 6-minute average

Applicable Compliance Method:

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

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

b. Emission Limitation:

2.35 pounds of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

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

c. Emission Limitation:

10.29 tons of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable particulate emission limitation (2.35 pounds per hour) by the maximum annual hours of operation (8760 hours), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

d. Emission Limitation:

0.88 pound of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

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

e. Emission Limitation:

3.86 tons of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable particulate emission limitation (0.88 pound per hour) by the maximum annual hours of operation (8760 hours), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

f. Emission Limitation:

13 pounds of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

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

g. Emission Limitation:

82.2 pounds of SO_2 per hour

Applicable Compliance Method:

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

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

h. Emission Limitation:

overall emissions of OC are reduced by at least 85%.

Applicable Compliance Method:

If required, the capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

If required, the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in Methods 1 through 4 and Method 25 or 25A of 40 CFR Part 60, Appendix A. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases." Alternative U.S.

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

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

i. Emission Limitation:

maintain the OC destruction efficiency of the RTO such that 90% or more of the carbon in the organic material being incinerated is oxidized to carbon dioxide.

Applicable Compliance Method:

If required, the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in Methods 1 through 4 and Method 25 or 25A of 40 CFR Part 60, Appendix A. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases." Alternative U.S. EPA-approved test methods may be used with prior written approval from the Ohio EPA.

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

j. Emission Limitation:

uncontrolled formaldehyde emissions from the mat oven reduced by at least 96%

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the emission testing requirements specified in 40 CFR 63.2993.

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

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

a. The emission testing shall be conducted within 6 months prior to permit expiration.

b. The emission testing shall be conducted for the curing oven to demonstrate compliance with the 85% overall OC control efficiency requirement, and compliance with the 90% OC destruction efficiency requirement for the thermal oxidizer.

c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

i. Methods 1 through 4 and Method 25 or 25A of 40 CFR Part 60, Appendix A. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitation for VOC are specified below. Alternative U.S. EPA-approved test methods may be used with prior written approval from the Ohio EPA.

ii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

iii. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

iv. Alternate, USEPA-approved testing methods may be used with prior written approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the TES. 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 TES's refusal to accept the results of the emission test(s).

e. Using the regenerative thermal oxidizer temperature chart recorder data obtained during emission testing, the permittee shall determine the 3-hour average temperature within the regenerative thermal oxidizer and include this temperature value in the written test report. A copy of the temperature chart reader data recorded during emission testing shall also be included in the written test report.

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

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

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(3) The Permittee shall conduct or have conducted a performance test for each drying and curing oven subject to 40 CFR Part 63, Subpart HHHH according to the following provisions:

a. The permittee shall conduct, or have conducted, a performance test as specified in 40 CFR 63.2991.

b. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates for formaldehyde: the methods and procedures specified in 40 CFR 63.2992, 63.2993, 63.2994, and 63.2995.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 63 Subpart HHHH]

(4) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following testing requirements are as stringent as or more stringent than the testing requirements contained in Permit to Install 04-306, issued on April 22, 1987: f)(1) through f)(3). The testing requirements contained in the above-referenced Permit to Install are subsumed into the testing requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying testing requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

g) Miscellaneous Requirements

(1) None

7. P017, Recycling Oven Shredder and Dryer

Operations, Property and/or Equipment Description:

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

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI P0115109 issued 7/29/2013)	0.23 pound of carbon monoxide (CO) per hour
		0.27 pound of nitrogen oxides (NO_x) per hour
		1.5 pounds of filterable particulate emissions (PE) per hour
		4.35 tons of PE per year
		0.002 pound of sulfur dioxide (SO_2) per hour
		0.01 pound of volatile organic compounds (VOC) per hour
		See b)(2)a., b)(2)b., and b)(2)d.
b.	OAC rule 3745-17-07(A)(1)	See b)(2)c.
c.	OAC rule 3745-17-11(B)(1)	See b)(2)c.
d.	OAC rule 3745-18-06(E)	See b)(2)c.
e.	OAC rule 3745-31-05(D)	0.67 ton of CO per year.
		0.79 ton of NO_x per year.
		0.006 ton of SO_2 per year.
		0.04 ton of VOC per year.
f.	OAC rule 3745-31-10 through 20	1.11 pounds of particulate matter less than or equal to 10 microns in diameter (PM_{10}) per hour
		4.85 tons of PM_{10} per year

(2) Additional Terms and Conditions

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

b. The hourly emission limitations for the products of combustion were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

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

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

c) Operational Restrictions

(1) The permittee shall burn only natural gas as a fuel in this emissions unit.

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

(2) The pressure drop across the baghouse shall be maintained within the range of 2 to 6 inches of water while the emissions unit is in operation.

[OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

(3) The emissions unit shall operate for no more than 5,800 hours per rolling, 12-month period.

[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, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

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

(2) The permittee shall maintain daily records that document any time periods when the fabric filter was not in service when the emissions unit was in operation.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in

accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

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

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

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

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

i. the total period of time (in minutes) during which there was a deviation;

j. the pressure drop readings immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

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

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate

emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(4) The permittee shall maintain records, on a monthly basis, of the total number of hours of operation for this emissions unit, as a rolling, 12-month summation.

[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 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 location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

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

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(6) 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.

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

(7) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install P0115109, issued on July 29, 2013: d)(2), d)(3), d)(5) and d)(6). The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.

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

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

a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;

b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;

c. each incident of deviation described in “a” (above) where a prompt investigation was not conducted;

d. each incident of deviation described in “a” where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

e. each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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

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

(4) The permittee shall submit semiannual reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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

[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.

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

(7) Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install P0115109, issued on July 29, 2013: e)(2) and e)(4). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

f) Testing Requirements

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

a. Emission Limitation:

10% opacity as a 6-minute average

Applicable Compliance Method:

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

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

b. Emission Limitation:

0.23 pound of CO per hour

Applicable Compliance Method:

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

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

c. Emission Limitation:

0.67 tons of CO per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable CO emission limitation (0.23 pound per hour) by the maximum allowable hours of operation per year (5,800 hours), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the short term emission limit and the production hours restriction (see c)(3)), compliance is also shown with the annual emissions limitation.

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

d. Emission Limitation:

0.27 pound of NO_x per hour

Applicable Compliance Method:

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

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

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

e. Emission Limitation:

0.79 ton of NO_x per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable NO_x emission limitation (0.27 pound per hour) by the maximum allowable hours of operation per year (5,800 hours), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the short term emission limit and the production hours restriction (see c)(3)), compliance shall also be shown with the annual emission limitation.

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

f. Emission Limitation:

1.5 pounds per hour of PE

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

g. Emission Limitation:

4.35 tons per year of PE

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable PE emission limitation (1.5 pounds per hour) by the maximum hours of operation per year (5,800 hours), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the short term emission limit and the production hours restriction (see c)(3)), compliance shall also be shown with the annual emission limitation.

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

h. Emission Limitation:

1.11 pounds of PM_{10} per hour

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon emission testing performed in accordance with Methods 1 through 4 of 40 CFR part 60, Appendix

A and 201 and 202 of 40 CFR Part 51, Appendix M, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

i. Emission Limitation:

4.85 tons of PM_{10} per year

Applicable Compliance Method:

This emissions limitation was calculated by multiplying the allowable PM_{10} emission limitation (1.11 pounds per hour) by the maximum hours of operation per year (8,760 hours), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the short term emission limit, compliance shall also be shown with the annual emissions limitation.

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

j. Emission Limitation:

0.002 pound of SO_2 per hour

Applicable Compliance Method:

Compliance may be determined thought calculations based on emission factors specified in U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO_2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.7 mmBtu per hour.

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

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

k. Emission Limitation:

0.006 ton of SO_2 per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable SO_2 emission limitation (0.002 pound per hour) by the maximum allowable hours of operation per year (5,800 hours), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the short term emission limit and the

production hour restriction (see c)(3)), compliance shall also be shown with the annual emission limitation.

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

l. Emission Limitation:

0.01 pound of VOC per hour

Applicable Compliance Method:

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

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

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

m. Emission Limiation:

0.04 ton of VOC per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable VOC emission limitation (0.01 pound per hour) by the maximum allowable hours of operation per year (5,800 hours), and then dividing by 2000 pound per ton. Therefore, if compliance is shown with the short term emission limit and the production hours restriction (see c)(3)), compliance shall also be shown with the annual emission limitation.

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

g) Miscellaneous Requirements

(1) None.

8. P026, Chop Dryer #1

Operations, Property and/or Equipment Description:

TP Chop - 1.5 mmBtu/hr Chopped Fiber Dryer #1/2

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
chopper process (stack 90), controlled by a fabric filter		
a.	OAC rule 3745-31-05(A)(3) (PTI 04-01345 issued 6/13/2006)	0.88 pound of filterable particulate emissions (PE) per hour
		3.9 tons of PE per year
		0.038 pound of particulate matter less than or equal to 10 microns in diameter (PM_{10}) per hour
		0.17 ton of PM_{10} per year
		0.24 pound of volatile organic compounds (VOC) per hour
		1.1 tons of VOC per year
		See b)(2)a. and b)(2)b.
		See b)(2)c. for VOC.
b.	OAC rule 3745-17-07(A)(1)	See b)(2)d.
c.	OAC rule 3745-17-11(B)(1)	See b)(2)d.
1.5 mmBtu per hour, indirect fired, natural gas dryer oven (stacks 68 & 70), with no control		
d.	OAC rule 3745-31-05(A)(3) (PTI 04-01345 issued 6/13/2006)	0.124 pound of carbon monoxide (CO) per hour
		0.55 ton of CO per year
		0.149 pound of nitrogen oxides (NO_x) per hour
		0.66 ton of NO_x per year
		0.003 pound of PE per hour
		0.014 ton of PE per year
		0.011 pound of PM_{10} per hour
		0.049 ton of PM_{10} per year
		0.0009 pound of sulfur dioxide (SO_2) per

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		hour
		0.004 ton of SO_2 per year
		0.009 pound of VOC per hour
		0.04 ton of VOC per year
		See b)(2)a through b)(2)c.
e.	40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-63.7575) [In accordance with 40 CFR 63.7500(a)(1), this emissions unit is an existing indirect fixed process dryer designed to burn natural gas located at a major source of hazardous air pollutants and subject to the work practice standard specified in this section.]	This rule does not establish an emission limitation or control measure. The rule requires work practice standards that are specified in Table 3 of this subpart. See b)(2)i. and b)(2)j.
f.	40 CFR Part 63, Subpart A (40 CFR 63.1-16)	Table 10 (63.7565) to Subpart DDDDD of 40 CFR Part 63 – Applicability of General Provisions to Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1-15 apply.
g.	OAC rule 3745-17-07(A)(1)	See b)(2)d.
h	OAC rule 3745-17-10(B)(1)	See b)(2)d.
i.	OAC rule 3745-18-06(E)	See b)(2)h.
j.	OAC rule 3745-31-05(D)	See b)(2)e. and b)(2)f.
k.	OAC rules 3745-31-10 thru 20	See b)(2)g.

(2) Additional Terms and Conditions

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

b. Visible particulate emissions from any stack serving this emissions unit (stacks 68, 70 and 90) shall not exceed 10% opacity as a 6-minute average.

c. The hourly and annual emission limitations were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

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

e. The combined emissions of P026 and P028 (stacks 68-71) per rolling, 12-month period shall not exceed 0.1207 ton of CO.

f. The combined emissions of P026 and P028 (stacks 68-71) per rolling, 12-month period shall not exceed 0.1437 ton of NO_x, 0.0009 ton of SO_2 or 0.4275 ton of VOC.

g. The combined emissions of P026 and P028 (stacks 68-71) per rolling, 12-month period shall not exceed 0.0484 ton of PM_{10}.

h. Exempt, burner capacity is less than 10 mmBtu.

i. Following the initial compliance date, tune-ups must be conducted for each boiler within the applicable annual, biennial, or 5-year schedule as specified in 40 CFR 63.7500(c), (d), and (e), 40 CFR 63.7540(a)(10) through (13), and Table 3 to the subpart. An initial tune-up must be completed for an existing boiler no later than 1/31/16; unless the boiler in not in operation at this time, where a tune-up must be completed within 30 days after the re-start of the boiler.

j. For each existing boiler a one-time energy assessment must be performed by a qualified energy assessor no later than 1/31/16. The one-time energy assessment for existing units must include the following:

i. a visual inspection of the boiler system;

ii. an evaluation of operating characteristics of the boiler systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints;

iii. an inventory of major energy use systems consuming energy from affected boilers, which are under the control of the boiler operator;

iv. a review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage;

v. a review of the facility's energy management practices and recommendations for improvements consistent with the definition of energy management practices, if identified;

vi. a list of cost-effective energy conservation measures that are within the permittee's control;

vii. a list of the energy savings potential of the energy conservation measures identified; and

viii. a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping these investments.

c) Operational Restrictions

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

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

(2) The combined volume of natural gas combusted in emissions units P026 and P028 shall not exceed 2.874 MMscf per rolling, 12-month period.

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

(3) The combined amount of glass dried in P026 and P028 shall not exceed 1250 tons per rolling, 12-month period.

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

(4) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart DDDDD, including the following sections:

63.7500(a)(3)	operate in a manner consistent with good air pollution control practice

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 63, Subpart DDDDD]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the fabric filter was not in service when the emissions unit was in operation.

[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 particulate emissions from the fabric filter (stack 90). The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item d. above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that

no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

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

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

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

(4) The permittee shall maintain monthly records of the combined volume of natural gas combusted in emissions units P026 and P028 as a rolling, 12-month summation.

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

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

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

(6) The permittee shall maintain monthly records of the combined glass dried, in tons, in emissions units P026 and P028 as a rolling, 12-month summation.

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

(7) The permittee shall comply with the applicable monitoring and record keeping requirements required under 40 CFR Part 63, Subpart DDDDD, including the following sections:

63.7500(a)(1)	Table 3 requires an biennial tune-up and one-time energy assessment
63.7515(e)	when biennial tune-up is required
63.7540(a)(11), (a)(12)	biennial tune-up requirements
63.7555(a)	record keeping requirements
63.7560(a), (b) and (c)	records retention

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii) and 40 CFR Part 63, Subpart DDDDD]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.

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

(2) The permittee shall submit quarterly deviation reports that identify any exceedance of the rolling, 12-month summation for the amount of fuel burned and/or glass dried for P026 and P028 combined.

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

(3) The permittee shall submit quarterly written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack (Stack 90) serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31, April 30, July 31, and October 31 of each year and shall cover the previous 3-month period.

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

(4) The permittee shall submit quarterly deviation (excursion) reports that identify any time periods when the fabric filter was not in service when the emissions unit was in operation.

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

(5) The permittee shall submit semiannual reports and such other notifications and reports via the Air Services component of the Ohio EPA's eBusiness Center as are required pursuant to 40 CFR Part 63 Subpart DDDDD, per the following sections:

63.7495(d)	meet the notification requirements in 63.7545 and Subpart A
63.7530(d)	include tune-up report in Notification of Compliance Status
63.7530(e)	include energy audit certification with Notification of Compliance Status
63.7545(a)	general Provisions notifications
63.7545(b)	initial Notification

63.7550(a), (b)	compliance report
63.7550(c)(1) - (3) and (12)	compliance report content
63.7550(f)	semi-annual deviation report

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 63 Subpart DDDDD]

(6) Pursuant to OAC rule 3745-77-07(A)(3)(a)(ii), the following reporting requirements are as stringent as or more stringent than the reporting requirements contained in Permit to Install 04-01345, issued on August 21, 1996: e)(2) through e)(5). The reporting requirements contained in the above-referenced Permit to Install are subsumed into the reporting requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying reporting requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

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

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

(8) 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.

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

f) Testing Requirements

(1) Compliance with the allowable emission limitation(s) in b)(1) from chopper process baghouse (stack 90) shall be determined according to the following methods:

a. Emission Limitation;

10% opacity, as a 6-minute average

Applicable Compliance Method;

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

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

b. Emission Limitation:

0.88 pound of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

c. Emission Limitation:

3.9 tons of PE per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.88 pound of PE per hour) by the maximum annual hours of operation (8760 hours), and then dividing by 2000 pounds per ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

d. Emission Limitation:

0.038 pound of PM_{10} per hour

Applicable Compliance Method:

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

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

e. Emission Limitation:

0.17 ton of PM_{10} per year

Applicable Compliance Method:

Compliance with this emission limitation can be shown by multiplying the hourly allowable emission limitation (0.038 pound of PM_{10} per hour) by the maximum

annual hours of operation (8760 hours), and then dividing by 2000 pounds per ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

f. Emission Limitation:

0.24 pound of VOC per hour

Applicable Compliance Method:

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

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

g. Emission Limitation:

1.1 tons of VOC per year

Applicable Compliance Method:

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

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

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

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

a. Emission Limitation:

10% opacity, as a 6-minute average

Applicable Compliance Method:

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

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

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

b. Emission Limitation:

0.124 pound of CO per hour

Applicable Compliance Method:

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

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

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

c. Emission Limitation:

0.55 ton of CO per year

Applicable Compliance Method:

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

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

d. Emission Limitation:

0.149 pound of NO_x per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NO_x emissions per MMscf by a heating value of

1,020 Btu per standard cubic foot and multiply the result by the maximum heat input capacity of 1.5 MMBtu per hour.

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

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

e. Emission Limitation:

0.66 ton of NO_x per year

Applicable Compliance Method:

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

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

f. Emission Limitation:

0.011 pound of PM_{10} per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PM_{10} per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1.5 MMBtu per hour.

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

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

g. Emission Limitation:

0.049 ton of PM_{10} per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.011 pound per hour of particulate matter as PM_{10}) by the maximum annual hours of operation (8760 hours), and then dividing by 2000 pounds per ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

h. Emission Limitation:

0.003 pound of PE per hour

Applicable Compliance Method:

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

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

i. Emission Limitation:

0.014 ton of PE per year

Applicable Compliance Method:

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

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

j. Emission Limitation:

0.0009 pound of SO_2 per hour

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO_2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 1.5 MMBtu per hour.

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

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

k. Emission Limitation:

0.004 ton of SO_2 per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.0009 pound of SO_2 per hour) by the maximum annual hours of operation (8760 hours), and then dividing by 2000 pounds per ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

l. Emission Limitation:

0.009 pound of VOC per hour

Applicable Compliance Method:

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

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

through 4 and 25 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-21-10, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

m. Emission Limitation:

0.04 ton of VOC per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable emission limitation (0.009 pound of VOC per hour) by the maximum annual hours of operation (8760 hours), and then dividing by 2000 pounds per ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

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

a. Emission Limitation:

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

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98 (84 pounds of CO emissions per million standard cubic feet (MMscf)) by the maximum allowable MMscf of gas combusted (2.874 MMscf per rolling, 12-month period) and divide by 2000 pounds per ton.

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

b. Emission Limitation:

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

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98 (100 pounds of NO_xemissions

per million standard cubic feet (MMscf)) by the maximum allowable MMscf of gas combusted (2.874 MMscf per rolling, 12-month period) and divide by 2000 pounds per ton.

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

c. Emission Limitation:

Combined emissions from P026 and P028 shall not exceed 0.0484 ton of PM_{10} per rolling, 12-month period

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98 (7.6 pounds of PM_{10} emissions per million standard cubic feet (MMscf)) by the maximum allowable MMscf of gas combusted (2.874 MMscf per rolling, 12-month period) and divide by 2000 pounds per ton. To this, add the product of the actual tons throughput of glass per rolling 12-month period (1250 tons per rolling, 12-months) by the emission factor of 0.06 pounds of PM_{10} per ton of glass throughput divided by 2000 pounds per ton.

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

d. Emission Limitation:

Combined emissions from P026 and P028 shall not exceed 0.0009 ton SO_2 per rolling, 12-month period

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98 (0.6 pound of SO_2 emissions per million standard cubic feet (MMscf)) by the maximum allowable MMscf of gas combusted (2.874 MMscf per rolling, 12-month period) and divide by 2000 pounds per ton.

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

e. Emission Limitation:

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

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98 (5.5 pounds of VOC emissions per million standard cubic feet (MMscf)) by the actual gas combusted (2.874 MMscf per rolling, 12-month period). To this add the product of the combined pounds of actual glass dried (1250 tons per rolling, 12-month period) and the emission factor of 0.67 pounds of VOC per ton of glass dried. Divide the result by 2000 pounds per ton.

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

g) Miscellaneous Requirements

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

9. P045, Gypsum Line Oven with wet scrubber

Operations, Property and/or Equipment Description:

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

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T) (established PTI P0115303 issued 9/23/2013)	Volatile organic compound (VOC) emissions shall not exceed 2.23 pounds per ton of glass dried.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Filterable particulate emissions (PE) shall not exceed 0.11 pounds per hour.
		Particulate matter less than or equal to 10 microns in diameter (PM_{10}) shall not exceed 0.82 pound per hour.
		Sulfur dioxide (SO_2) emissions shall not exceed 0.01 pound per hour.
		Carbon monoxide (CO) shall not exceed 0.17 pound per hour and 0.75 ton per year.
		Nitrogen oxides (NO_x) shall not exceed 0.20 pound per hour and 0.88 ton per year.
		See b)(2)a. through b)(2)d.
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions (VE) shall not exceed 20% opacity as a 6-minute average.
d.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 4.17 pounds per hour.
e.	OAC rule 3745-18-06(E)	SO_2 emissions shall not exceed 30.51 pounds per hour.
f.	OAC rule 3745-31-05(D) (established P0107133 issued 1/6/2011)	PE shall not exceed 0.45 ton per rolling, 12-month period.
		PM_{10} shall not exceed 3.60 tons per

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		rolling, 12-month period.
		SO_2 emissions shall not exceed 0.01 ton per rolling, 12-month period. See b)(2)c.
		See b)(2)e.
g.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)f. and b)(2g.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements to satisfy BAT still exist as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

b. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).

c. These emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

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

e. The maximum glass dried in the combination of emissions units P045, P058, P061 – P064, P069, and P070 shall be limited by either of the following formulas, calculated as a rolling, 12-month summation:

$$16.69 \text{ tons PM10} \geq \sum_{i=1}^{n} (Q_i)(EF(PM10)_i) \div 2000 \text{ pounds/ton})$$

$$50.10 \text{ tons VOC} \geq \sum_{i=1}^{n} (Q_i)(EF(VOC)_i) \div 2000 \text{ pounds/ton})$$

Where:

Q_i = total amount of glass for a specific formulation dried in emissions units P045, P058, P061 – P064, P069, and P070 for the current month and the previous 11 months I, tons.

$EF(PM10)_I$ = control specific emission factor derived from stack test that matches formuation of glass dried *i*, pounds of PM10 per ton of glass dried.

$EF(VOC)_I$ = control specific emission factor derived from stack test that matches formuation of glass dried *i*, pounds VOC per ton of glass dried.

n = number of formuations of glass dried in emissions units P045, P058, P061 – P064, P069, and P070.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO_x, SO_2 and CO emissions from this air contaminant source since the uncontrolled potential to emit for NO_x, SO_2 and CO is less than 10 tons per year.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE and PM_{10} emissions from this air contaminant source since the calculated annual emission rate for PE and PM_{10} is each less than ten tons per year, taking into account the wet scrubber required by the operational restriction.

c) Operational Restrictions

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

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

(2) The permittee shall employ the wet scrubber whenever this emissions unit is in operation.

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

(3) The pressure drop across the scrubber shall be continuously maintained at a value not less than the pressure drop established during the last emission test demonstrating compliance, while the emissions unit is in operation.

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

(4) The scrubber water flow rate shall be continuously maintained at a value not less than the value established during the last emission test demonstrating compliance, while the emissions unit is in operation.

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

(5) The testing of trial formulations shall not exceed 3% of the throughput of glass dried in emission units P045, P058, P061 – P064, P069 and P070, combined, on a rolling, 12-month basis.

[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, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

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

(2) The permittee shall properly operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

(3) The permittee shall collect and record the following information a minimum of once during each 8-hour shift:

a. the pressure drip across the scrubber, in inches of water;

b. the scrubber water flow rate, in gallons per minute; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and this emissions unit.

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

(4) The permittee shall maintain records, on a monthly basis, of the throughput of glass dried for each formulation, in tons, for this emissions unit as a rolling, 12-month summation.

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

(5) The permittee shall maintain records, on a monthly basis, of the PM_{10} and VOC emissions (in tons) for the combined emissions units P045, P058, P061 – P064, P069, and P070 as a rolling, 12-month summation per the formula in b)(2)e. of this emissions unit.

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

(6) The permittee shall maintain records, on a monthly basis, for testing of new formulations, as follows:

a. Throughput of glass dried for the trial runs of new formulation in emission units P045, P058, P061 – P064, P069, and P070, in tons, combined;

b. throughput of glass dried for all formulations in emission units P045, P058, P061 – P064, P069, and P070, in tons, combined;

c. the rolling, 12-month totals of a. and b. above, in tons; and

d. a percentage based on the rolling, 12-month total of glass dried for trial runs for new formulations, as calculated in c. above, divided by the rolling, 12-month total of the throughput of all formulations of glass dried, as calculated in c. above, multiplied by 100%.

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

(7) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. 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 operations;

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

operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

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

e) Reporting Requirements

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

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

(2) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling, 12-month summation for the PM_{10} or VOC emissions limits for the combined emissions units P045, P058, P061 – P064, P069, and P070.

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

(3) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the 3% throughput of glass dried allowed for trial runs of products as calculated in d)(6)d. of this emission unit.

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

(4) The permittee shall submit quarterly deviation (excursion) reports that identify any periods of time during which the scrubber was not operating when the emissions unit was operating, as well as, any deviations from the operating parameters as defined in c)(3) and c)(4). The report shall include date, time of outage and deviation, the amount of deviation, and what was done to correct the problem.

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

(5) The permittee shall submit semiannual deviation (excursion) reports that identify:

a. All days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. Any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

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

(6) If no exceedance occurred during the quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that period.

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

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

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

(8) 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.

[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:

10% opacity as a 6-minute average

20% opacity as a 6-minute average

Applicable Compliance Method:

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

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

b. Emission Limitation:

0.17 pound of CO per hour

Applicable Compliance Method:

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

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

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

c. Emission Limitation:

0.75 ton of CO per year

Applicable Compliance Method:

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

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

d. Emission Limitation:

0.20 pound of NO_x per hour

Applicable Compliance Method:

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

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

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

e. Emission Limitation:

0.88 ton of NO_x per year

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly NOx emission limitation by the maximum annual hours of operation (8760 hours per

year), and then dividing by 2000 pounds per ton. Therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

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

f. Emission Limitation:

0.45 ton of PE per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by multiplying the emission factor for the worst case product determined during the most recent stack test which demonstrated compliance with this emission limitation (0.10 pound PE per ton of glass dried per stack test of similar unit dated December 8, 2006) by the maximum potential throughput of glass fibers for this emissions unit (8979 tons per year) then divided by 2000 pounds per ton.

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

g. Emission Limitation:

3.60 tons of PM_{10} per rolling, 12-month period

Applicable Compliance Method:

The emission limitation was developed by multiplying the emission factor for the worst case product determined during the most recent stack test which demonstrated compliance with this emission limitation for PM_{10} (0.80 pound PM_{10} per ton of glass dried per stack test of similar unit dated December 8, 2006) by the maximum throughput of glass fibers for this emissions unit (8979 tons per year) then dividing by 2000 pounds per ton.

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

h. Emission Limitation:

0.01 ton of SO_2 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed by the US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO2 emissions per million standard cubic feet by a heating value

of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

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

i. Emission Limitation:

2.23 pounds of VOC per ton of glass dried

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 18, 25 or 25A, as appropriate, of 40 CFR Part 60 Appendix A. Use of Method 18, 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.

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

j. Emission Limitation:

0.11 pound of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

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

k. Emission Limitation:

4.17 pounds of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 1 through 5 of 40 CFR Part 60 Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA.

l. Emission Limitation:

0.82 pound of PM_{10} per hour

Applicable Compliance Method:

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

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

m. Emission Limitation:

0.01 pound of SO_2 per hour

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed by the US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour.

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

n. Emission Limitation:

30.51 pounds of SO_2 per hour

Applicable Compliance Method:

The facility shall demonstrate compliance with a one-time calculation of the potential to emit. The calculation was based on emissions factors developed by the US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO_2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour.

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

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

a. The emission testing shall be conducted to establish an emission factor for each formulation of glass dried for which emission testing has not been previously conducted to establish an emission factor for PM_{10} and VOC or when required by the Toledo Division of Environmental Services or Ohio EPA Central Office.

Emission testing shall not be required for trial runs of new formulations. The facility shall calculate emissions for these trials using the worst case emission factor established for this emission unit type.

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

b. Testing shall take place within 120 days of employing a formulation of glass for which an emission factor has not been established, except as provided in f)(2)a.

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

c. The emission testing shall be conducted to demonstrate compliance with the PM_{10}& VOC emission limitation. The testing shall be used to establish a pressure drop range and scrubber water flow rate for normal operating conditions of the wet scrubber, assuming compliance is demonstrated.

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

d. The following test method(s) shall be employed to demonstrate compliance with the allowable mass rate(s): For PM_{10}, Methods 201 and 202 of 40 CFR Part 51, Appendix M. For VOC, Methods 1 through 4 and 18, 25 or 25A, as appropriate, based on the results of pre-survey stack sampling and US EPA guidance documents. Alternative US EPA approved test methods may be used with prior approval from the Ohio EPA.

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

e. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

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

f. The 3-hour average process weight rate, in tons of glass dried per hour, shall be determined during the stack testing to allow a determination of an emission factor in pounds of regulated pollutant per ton of glass dried.

g. The permittee shall record pressure drop across the scrubber and the scrubber water flow rate during each test run.

h. The test report shall include a description of the glass formulation that was being produced during the test.

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

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

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

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

g) Miscellaneous Requirements

(1) None.

10. P058, Finishing Gypsum Dryer – 1 with baghouse control

Operations, Property and/or Equipment Description:

2.0 MMBtu per hour Finishing Gypsum Dryer-1 with baghouse 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
	ORC 3704.03(T) (established PTI P0115303 issued 9/23/2013)	Volatile organic compound (VOC) emissions shall not exceed 2.23 pounds per ton of glass dried.
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Particulate emissions (PE) shall not exceed 0.12 pound per hour.
		Particulate matter emission of less than or equal to 10 microns in diameter (PM_{10}) shall not exceed 0.96 pound per hour.
		Sulfur dioxide (SO_2) emissions shall not exceed 0.01 pound per hour.
		Nitrogen oxides (NO_x) shall not exceed 0.20 pound per hour and 0.88 ton per year.
		Carbon monoxide (CO) shall not exceed 0.17 pound per hour and 0.75 ton per year.
		See b)(2)a. and b)(2)b., and b)(2)f.
b.	OAC rule 3745-31-05(D) (established P0107133 issued 1/6/2011)	PE shall not exceed 0.53 ton per rolling, 12-month period.
		PM_{10} shall not exceed 4.21 tons per rolling, 12-month period.
		SO_2 emissions shall not exceed 0.01 ton per rolling, 12-month period. See b)(2)a.
		See b)(2)c. and b)(2)g.
c.	OAC rule 3745-17-07(A)(1)	Visible PE from this emissions unit shall not exceed 20% opacity as a six minute average unless otherwise specified by the rules.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 4.64 pounds per hour.
e.	OAC rule 3745-18-06(E)	SO_2 shall not exceed 33.90 pounds per hour.
f.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)d. and b)(2)e.

(2) Additional Terms and Conditions

a. These emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

b. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-31-05(D).

c. The permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system.

i. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems including, but not limited to, devices using light scattering and other effects, shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

ii. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PE emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

iii. The bag leak detection system sensor shall produce an output of relative particulate emissions loading, and the permittee shall continuously monitor and record the output signal from the sensor.

iv. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PE emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.

v. The bag leak detection system shall be installed downstream of the bag house. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.

vi. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

vii. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm set points, or alarm delay time except as detailed in the operations, maintenance and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the bag house has been inspected and found to be in good operating condition.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO_x, SO_2 and CO emissions from this air contaminant source since the uncontrolled potential to emit for NO_x, SO_2 and CO is each less than 10 tons/year.

e. This rule paragraph applies once the US EPA approves the December 1, 2006 version of the OAC rule 3745-31-05 as part of the SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE and PM_{10} emissions from this air contaminant source since the calculated annual emission rate for PE and PM_{10} is each less than ten tons per year, taking into account the bag house required by the operational restriction.

f. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

g. The maximum glass dried in the combination of emission units P045, P058, P061-P064, P069, and P070 shall be limited by either of the following formulas, calculated as a rolling, 12-month summation:

$$16.69 \text{ tons PM10} \geq \sum_{i=1}^{n} (Q_i)(EF(PM10)_i) \div 2000 \text{ pounds/ton})$$

$$50.10 \text{ tons VOC} \geq \sum_{i=1}^{n} (Q_i)(EF(VOC)_i) \div 2000 \text{ pounds/ton})$$

Where:

Q_i = total amount of glass for a specific formulation dried in emission units P045, P058, P061-P064, P069, and P070 for the current month and the previous 11 months i, tons
$EF(PM10)_i$ = control specific emission factor derived from stack test that matches formulation of glass dried *i*, pounds PM_{10} per ton of glass dried.
$EF(VOC)_i$ = control specific emission factor derived from stack test that matches formulation of glass dried *i*, pounds VOC per ton of glass dried.
n = number of formulations of glass dried in emission units P045, P058, P061-P064, P069, and P070.

c) Operational Restrictions

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

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

(2) The permittee shall operate the bag house whenever this emissions unit is in operation.

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

(3) The permittee shall initiate corrective action within one hour of an alarm from the bag leak detection system and complete corrective actions in a timely manner. Example corrective actions may include:

a. inspecting the bag house for air leaks, torn or broken bags or filter media, or another conditions that may cause an increase in emission,

b. sealing off defective bags or filter media,

c. replacing defective bags or filter media, or otherwise repairing the control device,

d. sealing off a defective bag house compartment,

e. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system, and

f. shutting down the process producing the particulate emissions.

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

(4) The testing of trial formulations shall not exceed 3% of the throughput of glass dried in emission units P045, P058, P061 – P064, P069 and P070, combined, on a rolling, 12-month basis.

[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, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

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

(2) The permittee shall maintain daily records that document any time periods when the bag house was not in service when the emissions unit was in operation.

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

(3) The permittee shall maintain records, on a monthly basis, of the throughput of glass dried for each formulation, in tons, for this emissions unit as a rolling, 12-month summation.

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

(4) The permittee shall maintain records, on a monthly basis, of the PM_{10} and VOC emissions (in tons) for the combined emissions units P045, P058, P061-P064, P069, and P070 as a rolling, 12-month summation per the formulas in b)(2)g. of the emissions unit.

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

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

(6) The permittee shall maintain records, on a monthly basis, for testing of new formulations, as follows:

a. Throughput of glass dried for the trial runs of new formulation in emission units P045, P058, P061 – P064, P069, and P070, in tons, combined;

b. throughput of glass dried for all formulations in emission units P045, P058, P061 – P064, P069, and P070, in tons, combined;

c. the rolling, 12-month totals of a. and b. above, in tons; and

d. a percentage based on the rolling, 12-month total of glass dried for trial runs for new formulations, as calculated in c. above, divided by the rolling, 12-month total of the throughput of all formulations of glass dried, as calculated in c. above, multiplied by 100%.

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

e) Reporting Requirements

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

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

(2) The permittee shall submit quarterly deviation (excursion) reports that identify each day that the bag house was not in service when the emissions unit was in operation.

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

(3) The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which any bag leak detection system alarms were sounded. The reports shall include a summary of the date and time of the alarm(s), when corrective actions were initiated, the cause of the alarm(s), the explanation of the corrective actions taken, and when the cause of the alarm(s) was corrected.

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

(4) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling, 12-month summation of the PM_{10} or VOC emissions limit for the combined emissions units P045, P058, P061-P064, P069, and P070.

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

(5) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the 3% throughput of glass dried allowed for trial runs of products as calculated in d)(6)d. of this emission unit.

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

(6) If no exceedance occurred during the quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that period.

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

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

(8) 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.

[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:

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

Applicable Compliance Method:

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

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

b. Emission Limitation:

0.20 pound of NO_x per hour

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed by US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of NO_x emissions per million standard cubic feet (MMscf) by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour.

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

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

c. Emission Limitation:

0.88 ton of NO_x per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated by multiplying the short term emissions rate of 0.20 pound of NO_x per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

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

d. Emission Limitation:

0.17 pound of CO per hour

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed by US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet (MMscf) by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour.

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

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

e. Emission Limitation:

0.12 pound of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other U.S. EPA-approved test method, with prior approval from the Ohio EPA. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

f. Emission Limitation:

4.64 pounds of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other U.S. EPA approved test method, with prior approval from the Ohio EPA. Alternative U. S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

g. Emissions Limitation:

0.96 pound of PM_{10} per hour

Applicable Compliance Method:

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

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

h. Emission Limitation:

0.01 pound of SO_2 per hour

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emission factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour.

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

i. Emission Limitation

33.90 pound of SO_2 per hour

Applicable Compliance Method:

The facility shall demonstrate compliance with this emission limitation with a one-time calculation of the potential to emit. The calculation was based on emission factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour.

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

j. Emission Limitation:

0.75 ton 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 by multiplying the short term emissions rate of 0.17 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

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

k. Emission Limitation:

0.53 ton of PE per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was established to reflect the maximum allowable emissions for this emissions unit. Compliance may be demonstrated by multiplying the short term emissions rate of 0.10 pound of PE per ton of glass dried (as determined in stack test dated December 8, 2006) by maximum amount of glass dried per year (10,512 tons per year) and divide by 2,000 pounds per ton.

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

l. Emission Limitation:

4.21 ton of PM_{10} per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was established to reflect the maximum allowable emissions for this emissions unit. Compliance may be demonstrated by multiplying the short term emissions rate of 0.80 pound of PM10 per ton of glass dried (as determined in stack test dated December 8, 2006) by maximum amount of glass dried per year (10,512 tons per year) and divide by 2,000 pounds per ton.

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

m. Emission Limitation:

2.23 pounds of VOC per ton of glass dried

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 18, 25 or 25A, as appropriate, of 40 CFR Part 60 Appendix A. Use of Method 18, 25 or 25A is to be selected based on the results of pre-survey

stack sampling and U.S. EPA guidance documents. Alternate U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

n. Emission Limitation:

0.01 ton of SO_2 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO_2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

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

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

a. The emission testing shall be conducted to establish an emission factor for each formulation of glass dried for which emission testing has not been previously conducted to establish an emission factor for PM_{10} and VOC or when required by the Toledo Division of Environmental Services or Ohio EPA Central Office.

Emission testing shall not be required for trial runs of new formulations. The facility shall calculate emissions for these trials using the worst case emission factor established for this emission unit type.

b. Testing shall take place within 120 days of employing a formulation of glass for which an emission factor has not been established, except as provided in f)(2)a.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass rate(s): For PM_{10}, Methods 201 and 202 of 40 CFR Part 51, Appendix M. For VOC, Methods 1 through 4 and 18, 25 and 25A, as appropriate, of 40 CFR Part 60, Appendix A. Use of Method 18, 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.

d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum

material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

e. The 3-hour average process weight rate, in tons of glass dried per hour, shall be determined during the stack testing to allow a determination of an emission factor in pounds of regulated pollutant per ton of glass dried.

f. The test report shall include a description of the glass formulation that was being produced during the test.

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

h. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

i. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

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

g) Miscellaneous Requirements

(1) None.

11. P071, Pneumatic rail car unloading with baghouse

Operations, Property and/or Equipment Description:

Rail car material unloading performed within enclosure and pneumatic transfer to storage silo equipped with baghouse

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific 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), as effective 11/30/2001	Filterable particulate emissions (PE) shall not exceed 0.75 pound per hour and 3.3 tons per year.
		See b)(2)a. through b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	Visible PE from any stack shall not exceed 20% opacity as a 6-minute average unless otherwise specified by the rule.
c.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 9.4 pounds per hour
d.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)d.

(2) Additional Terms and Conditions

a. These emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit while adequately controlled. Therefore, it is not necessary to develop record keeping and/or reporting requirements beyond the operation of the baghouse to ensure compliance with this limitation.

b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the

December 1, 2006 version of 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

c. The permittee shall employ best available technology for control measures on all transfer, conveying and storage operations associated with the rail car unloading. Minimum control requirements have been established as full enclosure for the unloading operation and pneumatic transfer to storage with baghouse control. Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE emissions from this air contaminant source since the calculated annual emission rate for PE is less than ten tons per year, taking into account the bag house required by the operational restriction and the total enclosure of the rail unloading volunteered by the facility in the PTI application.

c) Operational Restrictions

(1) The permittee shall operate the baghouse whenever unloading a rail car or pneumatically transferring material to storage.

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

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when any fabric filter was not in service when the associated operation was in use.

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

a. the color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

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

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

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) report detailing any time period when any fabric filter was not in service when the associated operation was in use.

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

(2) The permittee shall submit semiannual reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

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

[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.

[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:

(2)

a. Emission Limitation:

0.75 pound of PE per hour

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emission factors developed by U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 11.13-2 dated 1/95, as follows: multiply the emission factor of 3.0 pounds of PE per ton of material processed by the maximum throughput of 25.0 tons per hour and 99% control efficiency based on the total enclosure of the unloading site and a baghouse on the pneumatic transfer. ((3.0 pounds of PE per ton material processed)(25.0 tons material processed per hour)(1-0.99)).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

b. Emission Limitation:

9.4 pounds of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

c. Emission Limitation:

3.3 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 by multiplying the short term emissions rate of 0.75 pound of PE per hour by 8760 hours per year and divide by 2000 pounds per ton.

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

d. Emission Limitation:

Visible Emissions from any stack shall not exceed 20%, as a 6-minute average.

Applicable Compliance Method:

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

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

g) Miscellaneous Requirements

(1) None.

12. Emissions Unit Group – T-Glass Units: P046, P047, P048, P049, P050, P051, P052, P066.

EU ID	Operations, Property and/or Equipment Description
P046	T-glass electric glass marble melting unit #1 w/ particulate and VOC control using a mist elimination system
P047	T-glass electric glass marble melting unit #2 w/ particulate and VOC control using a mist elimination system
P048	T-glass electric glass marble melting unit #3 w/ particulate and VOC control using a mist elimination system
P049	T-glass electric glass marble melting unit #4 w/ particulate and VOC control using a mist elimination system
P050	T-glass electric glass marble melting unit #5 w/ particulate and VOC control using a mist elimination system
P051	T-glass electric glass marble melting unit #6 w/ particulate and VOC control using a mist elimination system
P052	T-glass electric glass marble melting unit #7 w/ particulate and VOC control using a mist elimination system
P066	T-glass electric glass marble melting unit #8 w/ particulate and VOC control using a mist elimination system

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) d)(3).

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Particulate emissions (PE) shall not exceed 0.21 pound per hour
		Volatile Organic Compound (VOC) emissions shall not exceed 1.07 pounds per hour.
		See b)(2)a. and c)(1).
b.	OAC rule 3745-31-05(D) (P0109601 issued 6/13/2012)	PE shall not exceed 0.92 ton per rolling, 12-month period.
		VOC emissions shall not exceed 4.69 tons per rolling, 12-month period

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-07(A)(1)	Visible PE from this emissions unit shall not exceed 20% opacity as a six-minute average unless otherwise specified by the rules.
d.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 0.551 pound per hour.
e.	OAC rule 3745-31-05(A)(3)(b), as effective 12/1/2006	See b)(2)b.
f.	OAC rule 3745-114-01(A)	See d)(3).

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05 (A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirements to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE and VOC emissions from this air contaminant source since the calculated annual emission rate for PE and VOC is each less than 10 tons per year, taking into account the mist elimination system required by the operational restriction.

c) Operational Restrictions

(1) The permittee shall operate a mist elimination system whenever this emissions unit is in operation to minimize the particulate and VOC emissions.

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

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 emissions incident; and

e. Any corrective actions taken to minimize or eliminate the visible emissions.

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

[OAC rule 3745-77-07(A)(3)]

(2) The permittee shall maintain daily records that document the time period when the mist elimination system was not in service when the emissions unit was in use.

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

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

[ORC 3704.03(F)(3)(c) and F(4)]

e) Reporting Requirements

(1) The permittee shall submit semiannual reports that identify:

a. All days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. Any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

[OAC rule 3745-77-07(A)(3)(c)]

(2) The permittee shall submit a quarterly deviation (excursion) report detailing any time period when the mist elimination system was not in service when the emissions unit was in use.

[OAC rule 3745-15-03(B)(1)(a)], [OAC rule 3745-15-03(C)], and [OAC rule 3745-77-07(A)(3)(c)]

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

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

f) Testing Requirements

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

a. Emission Limitation:

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

Applicable Compliance Method:

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

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

b. Emission Limitation:

PE shall not exceed 0.21 pound per hour.

Applicable Compliance Method:

This emission limitation was developed based on the emission factor derived from emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60 Appendix A (0.00195 pound of PE per pound of glass processed; tested on December 10, 2003). This emission factor was multiplied by the maximum throughput capacity of 100 pounds per hour and allowing for a 10% safety factor.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

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

c. Emission Limitation:

PE shall not exceed 0.92 ton per rolling, 12-month period.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated by multiplying a short term emissions rate of 0.21 pound of PE per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

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

d. Emission Limitation:

VOC shall not exceed 1.07 pounds per hour.

This emission limitation was developed based on the emission factor derived from emission testing performed in accordance with Methods 1 through 4 and 25A of 40 CFR Part 60 Appendix A (0.00974 pound VOC per pound of glass processed; tested on March 31, 2006). This emission factor was multiplied by the maximum throughput capacity of 100 pounds of glass processed per hour and allowing for a 10% safety factor.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 18, 25 or 25A, as appropriate of 40 CFR Part 60 Appendix A, and the methods and procedures specified in OAC rule 3745-21-10. Use of Method 18, 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 the Ohio EPA.

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

e. Emission Limitation:

VOC shall not exceed 4.69 tons per rolling, 12-month period.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated by multiplying the short term emissions rate of 1.07 pounds of VOC per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

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

f. Emission Limitation:

PE shall not exceed 0.551 pound per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A, or other U.S. EPA approved test method, with prior approval from the Ohio EPA.

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

g) Miscellaneous Requirements

(1) None.

13. Emissions Unit Group - Direct Chop Ovens and Classifiers #1 & #3 with baghouse: P061, P063.

EU ID	Operations, Property and/or Equipment Description
P061	Direct Chop Oven & Classifier #1 with baghouse
P063	Direct Chop Oven & Classifier #3 with baghouse

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T) (established PTI P0112207 issued 3/21/2013)	Volatile organic compound (VOC) emissions shall not exceed 2.23 pounds per ton of glass dried.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)g. and b)(2)h.
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001 (established PTI P0112207 issued 3/21/2013)	Filterable particulate emissions (PE) shall not exceed 0.11 pound per hour.
		Particulate matter emissions of less than or equal to 10 microns in diameter (PM_{10}) shall not exceed 0.82 pound per hour.
		Sulfur dioxide (SO_2) emissions shall not exceed 0.01 pound per hour.
		Nitrogen oxides (NO_x) shall not exceed 0.20 pound per hour and 0.88 ton per year.
		Carbon monoxide (CO) shall not exceed 0.17 pound per hour and 0.75 ton per year.
		See b)(2)a. through b)(2)d.
d.	OAC rule 3745-17-07(A)(1)	Visible PE shall not exceed 20% opacity as a 6-minute average unless otherwise specified by the rules. See b)(2)i.
e.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 4.17 pounds per hour.
f.	OAC rule 3745-18-06(E)	SO_2 emissions shall not exceed 30.51 pounds per hour.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
g.	OAC rules 3745-31-05(D) (established P0107133 issued 1/6/2011)	PE shall not exceed 0.45 ton per rolling, 12-month period.
		PM_{10} shall not exceed 3.60 tons per rolling, 12-month period.
		SO_2 emissions shall not exceed 0.01 ton per rolling, 12-month period. See b)(2)a.
		See b)(2)e. and b)(2)f.

(2) Additional Terms and Conditions

a. These emission limitations established for PTI purposes to reflect the potential to emit for this emissions units. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

c. Visible PE from the stacks serving this emissions unit shall not exceed 10% opacity, as a 6-minute average. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, this emission limits will no longer apply.

d. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-31-05(D).

e. The permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system.

i. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems including, but not limited to, devices using light scattering and other effects, shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

ii. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PE emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

iii. The bag leak detection system sensor shall produce an output of relative particulate emissions loading, and the permittee shall continuously monitor and record the output signal from the sensor.

iv. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PE emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.

v. The bag leak detection system shall be installed downstream of the bag house. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.

vi. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

vii. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm set points, or alarm delay time except as detailed in the operations, maintenance and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased by more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operating condition.

f. The maximum glass dried in the combination of emissions units P045, P058, P061-P064, P069, and P070 shall be limited by either of the following formulas, calculated as a rolling, 12-month summation:

$$16.69 \text{ tons PM10} \geq \sum_{i=1}^{n} (Q_i)(EF(PM10)_i) \div 2000 \text{ pounds/ton})$$

$$50.10 \text{ tons VOC} \geq \sum_{i=1}^{n} (Q_i)(EF(VOC)_i) \div 2000 \text{ pounds/ton})$$

Where:

Q_i = total amount of glass for a specific formulation dried in emission units P045, P058, P061-P064, P069, and P070 for the current month and the previous 11 months i, tons
$EF(PM10)_i$ = control specific emission factor derived from stack test that matches formulation of glass dried *i*, pounds PM_{10} per ton of glass dried.

$EF(VOC)_i$ = control specific emission factor derived from stack test that matches formulation of glass dried *i*, pounds VOC per ton of glass dried.
n = number of formulations of glass dried in emission units P045, P058, P061-P064, P069, and P070

g. This rule paragraph applies once the U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation plan (SIP).

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO, NO_x, and SO_2 emissions from this air contaminant source since the uncontrolled potential to emit for CO, NO_x and SO_2 is each less than ten tons per year.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE and PM_{10} emissions from this air contaminant source since the calculated annual emission rate for PE and PM_{10} is each less than 10 tons per year, taking into account the baghouse required by the operational restriction.

i. This emission limitation is less stringent that BAT. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05 and BAT is no longer applicable, this emission limitation will apply.

c) Operational Restrictions

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

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

(2) The permittee shall operate the bag house whenever the emissions unit is in operation.

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

(3) The permittee shall initiate corrective action within 1 hour of an alarm from a bag leak detection system and complete corrective actions in a timely manner. Example corrective actions may include:

a. inspecting the bag house for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emissions;

b. sealing off defective bags or filter media;

c. replacing defective bags or filter media, or otherwise repairing the control device;

d. sealing off a defective bag house compartment;

e. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and

f. shutting down the process producing the particulate emissions.

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

(4) The testing of trial formulations shall not exceed 3% of the throughput of glass dried in emission units P045, P058, P061 – P064, P069 and P070, combined, on a rolling, 12-month basis.

[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, the permittee shall maintain a record of the type and quantity of fuel burned in the emissions unit.

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

(2) The permittee shall maintain daily records that document any time periods when the bag house was not in service when the emissions unit was in operation.

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

(3) The permittee shall maintain records, on a monthly basis, of the throughput of glass fibers for each formulation, in tons, for this emission unit as a rolling, 12-month summation.

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

(4) The permittee shall maintain records, on a monthly basis, of the PM_{10} and VOC emissions (in tons) for the combined emissions units P045, P058, P061-P064, P069, and P070 as a rolling, 12-month summation per the formula in b)(2)f. of this emissions unit.

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

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

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

(6) The permittee shall maintain records, on a monthly basis, for testing of new formulations, as follows:

a. Throughput of glass dried for the trial runs of new formulation in emission units P045, P058, P061 – P064, P069, and P070, in tons, combined;

b. throughput of glass dried for all formulations in emission units P045, P058, P061 – P064, P069, and P070, in tons, combined;

c. the rolling, 12-month totals of a. and b. above, in tons; and

d. a percentage based on the rolling, 12-month total of glass dried for trial runs for new formulations, as calculated in c. above, divided by the rolling, 12-month total of the throughput of all formulations of glass dried, as calculated in c. above, multiplied by 100%.

[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 was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

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

(2) The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which any bag leak detection system alarms were sounded. The reports shall include a summary of the date and time of the alarm(s), when corrective actions were initiated, the cause of the alarm(s), an explanation of the corrective actions taken, and when the cause of the alarm(s) was corrected.

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

(3) The permittee shall submit quarterly deviation (excursion) reports that identify each day that the bag house was not in service when the emissions unit was in operation.

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

(4) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling, 12-month summation of the PM_{10} or VOC emissions limit for the combined emission units P045, P058, P061-P064, P069, and P070.

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

(5) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the 3% throughput of glass dried allowed for trial runs of products as calculated in d)(6)d. of this emission unit.

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

(6) If no exceedances occurred during the quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that period.

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

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

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

(8) 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.

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

f) Testing Requirements

(1) Compliance with the allowable emission limitation(s) in b)(1) in this permit shall be determined according to the following methods:

a. Emission Limitation:

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

Applicable Compliance Method;

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

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

b. Emission Limitation:

Visible PE shall not exceed 10% opacity, as a 6-minute average

Applicable Compliance Method:

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

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

c. Emission Limitation:

3.60 tons of PM_{10} per rolling, 12-month period

Applicable Compliance Method:

This emissions limit was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short emission rate of 0.80 pound of PM_{10} per tons of glass (as determined in stack test dated December 8, 2006) by the maximum amount of glass processed per year (8979 tons per year) and divide by

2,000 pounds per ton.

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

d. Emission Limitation:

2.23 pounds of VOC per ton of glass dried

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 18, 25 or 25A, as appropriate, of 40 CFR Part 60 Appendix A. Use of method 18, 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.

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

e. Emission Limitation:

0.45 ton of PE per rolling, 12-month period

Applicable Compliance Method:

This emissions limit was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short emission rate of 0.10 pound of PE per tons of glass (as determined in stack test dated December 8, 2006) by the maximum amount of glass dried per year (8979 tons per year) and divide by 2,000 pounds per ton.

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

f. Emission Limitation:

0.01 ton of SO_2 per rolling, 12-month period

Applicable Compliance Method:

The emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98. As follows: divide the emission factor of 0.6 pound of SO_2 emission per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

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

g. Emission Limitation:

0.11 pound of PE per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

h. Emission Limitation:

4.17 pounds per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

i. Emission Limitation:

0.82 pound of PM_{10} per hour

Applicable Compliance Method:

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

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

j. Emission Limitation:

0.01 pound of SO_2 per hour

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emission factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO_2 emissions per million standard cubic feet by a heating value of

1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour.

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

k. Emission Limitation:

30.51 pounds of SO_2 per hour

Applicable Compliance Method:

This facility will demonstrate compliance with this emission limitation with a one-time calculation of the potential to emit. The calculation is based on emission factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour.

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

l. Emission Limitation:

0.20 pound of NO_x per hour

Applicable Compliance Method:

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

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

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

m. Emission Limitation:

0.88 ton of NO_x 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 0.20 pound of NO_x per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

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

n. Emission Limitation:

0.17 pound of CO per hour

Applicable Compliance Method:

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

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

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

o. Emission Limitation:

0.75 ton of CO per year

Applicable Compliance Method:

The 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 0.17 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

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

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

a. The emission testing shall be conducted to establish an emission factor for each formulation of glass dried for which emission testing has not been previously conducted to establish an emission factor for PM_{10} and VOC or when required by the Toledo Division of Environmental Services or Ohio EPA Central Office.

Emission testing shall not be required for trial runs of new formulations. The facility shall calculate emissions for these trials using the worst case emission factor established for this emission unit type.

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

b. Testing shall take place within 120 days of employing a formulation of glass for which an emission factor has not been established, except as provided in f)(2)a.

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

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): For PM_{10}, Methods 201 and 202 of 40 CFR Part 51, Appendix M. For VOC, Methods 1 through 4 and 18, 25 or 25A, as appropriate, of 40 CFR Part 60 Appendix A. Use of Method 18, 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 the Ohio EPA.

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

d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

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

e. The 3-hr average process weight rate, in tons of glass dried per hour, shall be determined during the stack testing to allow a determination of an emission factor in pounds of the regulated pollutant per ton of glass dried.

f. The test report shall include a description of the glass formulation that was being produced during the test.

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

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

i. 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 or the Ohio EPA Central Office.

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

g) Miscellaneous Requirements

(1) None.

14. Emissions Unit Group - Direct Chop Ovens and Classifiers #2 & #4: P062, P064.

EU ID	Operations, Property and/or Equipment Description
P062	Direct Chop Oven & Classifier #2 with baghouse
P064	Direct Chop Oven & Classifier #4 with baghouse

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001 (established PTI P0112207 issued 3/21/2013)	Filterable particulate emissions (PE) shall not exceed 0.07 pound per hour.
		Particulate matter emissions of less than or equal to 10 microns in diameter (PM_{10}) shall not exceed 0.50 pound per hour.
		Volatile organic compound (VOC) emissions shall not exceed 1.40 pounds per hour.
		Sulfur dioxide (SO_2) emissions shall not exceed 0.01 pound per hour.
		Nitrogen oxides (NO_x) shall not exceed 0.20 pound per hour and 0.88 ton per year.
		Carbon monoxide (CO) shall not exceed 0.17 pound per hour and 0.75 ton per year.
		See b)(2)a. through b)(2)d.
b.	OAC rule 3745-17-07(A)(1)	Visible PE shall not exceed 20% opacity as a 6-minute average unless otherwise specified by the rule. See b)(2)i.
c.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 3.00 pounds per hour.
d.	OAC rule 3745-18-06(E)	SO_2 emissions shall not exceed 22.53 pounds per hour.
e.	OAC rule 3745-31-05(D) (established P0107133 issued	PE shall not exceed 0.28 ton per rolling, 12-month period.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	1/6/2011)	PM_{10} shall not exceed 2.19 tons per rolling, 12-month period.
		VOC emissions shall not exceed 6.11 tons per rolling, 12-month period.
		SO_2 emissions shall not exceed 0.01 ton per rolling, 12-month period. See b)(2)a.
		See b)(2)e. and b)(2)f.
f.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)g. and b)(2)h.

(2) Additional Terms and Conditions

a. These emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limitations.

b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

c. Visible PE from the stack serving this emissions unit shall not exceed 10% opacity, as a 6-minute average. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, this emission limits will no longer apply.

d. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and OAC rule 3745-31-05(D).

e. The permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system.

i. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems including, but not limited to, devices using light scattering and other effects, shall be installed, operated, adjusted, and

maintained in a manner consistent with the manufacturer's written specifications and recommendations.

ii. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PE emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grain per actual cubic foot) or less.

iii. The bag leak detection system sensor shall produce an output of relative particulate emissions loading, and the permittee shall continuously monitor and record the output signal from the sensor.

iv. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PE emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.

v. The bag leak detection system shall be installed downstream of the bag house. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.

vi. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

vii. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm set points, or alarm delay time. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the bag house has been inspected and found to be in good operating condition.

f. The maximum glass dried in the combination of emissions units P045, P058, P061-P064, P069, and P070 shall be limited by either of the following formulas, calculated as a rolling, 12-month summation:

$$16.69 \text{ tons PM10} \geq \sum_{i=1}^{n} (Q_i)(EF(PM10)_i) \div 2000 \text{ pounds/ton})$$

$$50.10 \text{ tons VOC} \geq \sum_{i=1}^{n} (Q_i)(EF(VOC)_i) \div 2000 \text{ pounds/ton})$$

Where:

Q_i = total amount of glass for a specific formulation dried in emission units P045, P058, P061-P064, P069, and P070 for the current month and the previous 11 months i, tons

$EF(PM10)_i$ = control specific emission factor derived from stack test that matches formulation of glass dried *i*, pounds PM_{10} per ton of glass dried.

$EF(VOC)_i$ = control specific emission factor derived from stack test that matches formulation of glass dried *i*, pounds VOC per ton of glass dried.

n = number of formulations of glass dried in emission units P045, P058, P061-P064, P069, and P070

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO, NO_x, and SO_2 emissions from this air contaminant source since the uncontrolled potential to emit for CO, NO_x, and SO_2 is each less than ten tons per year.

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

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE and PM_{10} emissions from this air contaminant source since the calculated annual emission rate for PE and PM_{10} is each less than ten tons per year, taking into account the bag house required by the operational restriction.

i. This emission limitation is less stringent that BAT. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05 and BAT is no longer applicable, this emission limitation will apply.

c) Operational Restrictions

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

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

(2) The permittee shall operate the bag house whenever the emissions unit is in operation.

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

(3) The permittee shall initiate corrective action within 1 hour of an alarm from a bag leak detection system and complete corrective actions in a timely manner. Example corrective actions may include:

a. inspecting the bag house for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emissions;

b. sealing off defective bags or filter media;

c. replacing defective bags or filter media, or otherwise repairing the control device;

d. sealing off a defective baghouse compartment;

e. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and

f. shutting down the process producing the particulate emissions.

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

(4) The testing of trial formulations shall not exceed 3% of the throughput of glass dried in emission units P045, P058, P061 – P064, P069 and P070, combined, on a rolling, 12-month basis.

[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, the permittee shall maintain a record of the type and quantity of fuel burned in the emissions unit.

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

(2) The permittee shall maintain daily records that document any time periods when the baghouse was not in service when the emissions unit was in operation.

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

(3) The permittee shall maintain records, on a monthly basis, of the throughput of glass fibers for each formulation, in tons, for this emissions unit as a rolling, 12-month summation.

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

(4) The permittee shall maintain records, on a monthly basis, of the PM_{10} and VOC emissions (in tons) for the combined emissions units P045, P058, P061-P064, P069, and P070 as a rolling, 12-month summation for the formula in b)(2)f. of this emissions unit.

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

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

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

(6) The permittee shall maintain records, on a monthly basis, for testing of new formulations, as follows:

a. Throughput of glass dried for the trial runs of new formulation in emission units P045, P058, P061 – P064, P069, and P070, in tons, combined;

b. throughput of glass dried for all formulations in emission units P045, P058, P061 – P064, P069, and P070, in tons, combined;

c. the rolling, 12-month totals of a. and b. above, in tons; and

d. a percentage based on the rolling, 12-month total of glass dried for trial runs for new formulations, as calculated in c. above, divided by the rolling, 12-month total of the throughput of all formulations of glass dried, as calculated in c. above, multiplied by 100%.

[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 was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

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

(2) The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which any bag leak detection system alarms were sounded. The reports shall include a summary of the date and time of the alarm(s), when corrective actions were initiated, the cause of the alarm(s), an explanation of the corrective actions taken, and when the cause of the alarm(s) was corrected.

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

(3) The permittee shall submit quarterly deviation (excursion) reports that identify each day that the bag house was not in service when the emissions unit was in operation.

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

(4) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling, 12-month summation for the PM_{10} or VOC emissions limits for the combined emissions units P045, P058, P061-P064, P069, and P070.

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

(5) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the 3% throughput of glass dried allowed for trial runs of products as calculated in d)(6)d. of this emission unit.

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

(6) If no exceedances occurred during the quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that period.

[OAC rule 3745-77-07(A)(3)(a)]

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

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

(8) 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.

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

f) Testing Requirements

(1) Compliance with the Emission 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:

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

Applicable Compliance Method;

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

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

b. Emission Limitation:

Visible emissions shall not exceed 10% opacity, as a 6-minute average

Applicable Compliance Method:

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

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

c. Emission Limitation:

2.19 tons of PM_{10} per rolling, 12-month period

Applicable Compliance Method:

This emissions limit was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short emission rate of 0.80 pound of PM_{10} per tons of glass (as determined in stack test dated December 8, 2006) by the maximum amount of glass dried per year (5475 tons per year) and divide by 2,000 pounds per ton.

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

d. Emission Limitation:

6.11 tons of VOC per rolling, 12-month period

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 2.23 pounds of VOC per ton of glass (as determined in stack test dated December 8, 2006) by the maximum amount of glass dried per year (5475 tons per year) and divide by 2,000 pounds per ton.

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

e. Emission Limitation:

0.28 ton of PE per rolling, 12-month period

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 emissions rate of 0.10 pound of PE per ton of glass dried (as determined in stack test dated December 8, 2006) by the maximum amount of glass dried per year (5475 tons per year) and divide by 2,000 pounds per ton.

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

f. Emission Limitation:

0.01 ton of SO_2 per rolling, 12-month period

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution

Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO_2 emission per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour and then multiply by 8,760 hours per year and divide by 2000 pounds per ton.

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

g. Emission Limitation:

0.07 pound of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

h. Emission Limitation:

3.00 pound of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

i. Emission Limitation:

0.50 pound of PM_{10} per hour

Applicable Compliance Method:

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

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

j. Emission Limitation:

1.40 pounds of VOC per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A. Use of Method 18, 25, or 25A is to be selected based on the results of a 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.

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

k. Emission Limitation:

0.01 pound of SO_2 per hour

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO_2 emission per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour.

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

l. Emission Limitation:

22.53 pounds of SO_2 per hour

Applicable Compliance Method:

This facility shall show compliance with this emission limitation with a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO2 emission per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 2.0 MMBtu per hour.

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

m. Emission Limitation:

0.20 pound of NO_x per hour

Applicable Compliance Method:

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

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

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

n. Emission Limitation:

0.88 ton of NO_x 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 0.20 pound of NO_x per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

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

o. Emission Limitation:

0.17 pound of CO per hour

Applicable Compliance Method:

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

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

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

p. Emission Limitation:

0.75 ton of CO per year

Applicable Compliance Method:

The 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 0.17 pound of CO per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

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

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

a. The emission testing shall be conducted to establish an emission factor for each formulation of glass dried for which emission testing has not been previously conducted to establish an emission factor for PM_{10} and VOC or when required by the Toledo Division of Environmental Services or Ohio EPA Central Office.

Emission testing shall not be required for trial runs of new formulations. The facility shall calculate emissions for these trials using the worst case emission factor established for this emission unit type.

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

b. Testing shall take place within 120 days of employing a formulation of glass for which an emission factor has not been established, except as provided in f)(2)a.

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

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): For PM_{10}, Methods 201 and 202 of 40 CFR Part 51, Appendix M. For VOC, Methods 1 through 4 and 18, 25 and 25A, as appropriate, of 40 CFR Part 60 Appendix A. Use of Method 18, 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 the Ohio EPA.

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

d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these

conditions is justification for not accepting the test results as a demonstration of compliance.

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

e. The 3-hr average process weight rate, in tons of glass dried per hour, shall be determined during the stack testing to allow a determination of an emission factor in pounds of the regulated pollutant per ton of glass dried.

f. The test report shall include a description of the glass formulation that was being produced during the test.

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

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

i. 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 or the Ohio EPA Central Office.

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

g) Miscellaneous Requirements

(1) None.

15. Emissions Unit Group - Direct Chop Ovens and Classifiers #5 & #6: P069, P070.

EU ID	Operations, Property and/or Equipment Description
P069	Direct Chop Oven & Classifier #5 with baghouse
P070	Direct Chop Oven & Classifier #6 with baghouse

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T) (established PTI P0112207 issued 3/21/2013)	Volatile organic compound (VOC) emissions shall not exceed 2.23 pounds per ton of glass dried.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Particulate matter emissions of less than or equal to 10 microns in diameter (PM_{10}) shall not exceed 0.88 pound per hour.
		Filterable particulate emissions (PE) shall not exceed 0.11 pound per hour.
		Sulfur dioxide (SO_2) emissions shall not exceed 0.01 pound per hour.
		Nitrogen oxides (NO_x) shall not exceed 0.30 pound per hour and 1.32 tons per year.
		Carbon monoxide (CO) shall not exceed 0.25 pound per hour and 1.10 tons per year.
		See b)(2)a. through b)(2)c.
c.	OAC rule 3745-31-05(D) (PTI P0112207 issued 3/21/2013)	PM_{10} shall not exceed 3.86 tons per rolling, 12-month period.
		PE shall not exceed 0.49 ton per rolling, 12-month period.
		SO_2 emissions shall not exceed 0.01 ton per rolling, 12-month period. See b)(2)a.
		See b)(2)e. and b)(2)f.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-07(A)(1)	Visible PE shall not exceed 20% opacity as a 6-minute average unless otherwise specified by the rule. See b)(2)i.
e.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 4.38 pounds per hour.
f.	OAC rule 3745-18-06(E)	SO_2 emissions shall not exceed 31.98 pounds per hour.
g.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/1/2006	See b)(2)g. and b)(2)h.

(2) Additional Terms and Conditions

a. These emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limitation.

b. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-31-05(D).

c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

d. Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, this emission limits will no longer apply.

e. The permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system.

i. A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance, "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems including, but not limited to, devices using light

scattering and other effects, shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

ii. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PE emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

iii. The bag leak detection system sensor shall produce an output of relative particulate emissions loading, and the permittee shall continuously monitor and record the output signal from the sensor.

iv. The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PE emissions over a preset level is detected and the alarm shall be located such that it can be heard by the appropriate plant personnel.

v. The bag leak detection system shall be installed downstream of the bag house. Where multiple bag leak detection systems are required, the system instrumentation and alarm may be shared among the monitors.

vi. Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

vii. Following the initial adjustment, the permittee shall not adjust the range, averaging period, alarm set points, or alarm delay time except as detailed in the operations, maintenance and monitoring plan. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official certifies, by written report, that the baghouse has been inspected and found to be in good operation condition.

f. The maximum glass dried in the combination of emissions units P045, P058, P061-P064, P069, and P070 shall be limited by either of the following formulas, calculated as a rolling, 12-month summation:

$$16.69 \text{ tons PM10} \geq \sum_{i=1}^{n} (Q_i)(EF(PM10)_i) \div 2000 \text{ pounds/ton})$$

$$50.10 \text{ tons VOC} \geq \sum_{i=1}^{n} (Q_i)(EF(VOC)_i) \div 2000 \text{ pounds/ton})$$

Where:

Q_i = total amount of glass for a specific formulation dried in emission units P045, P058, P061-P064, P069, and P070 for the current month and the previous 11 months i, tons

$EF(PM10)_i$ = control specific emission factor derived from stack test that matches formulation of glass dried *i*, pounds PM_{10} per ton of glass dried.

$EF(VOC)_i$ = control specific emission factor derived from stack test that matches formulation of glass dried *i*, pounds VOC per ton of glass dried.

n = number of formulations of glass dried in emission units P045, P058, P061-P064, P069, and P070

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to NO_x, SO_2 and CO emission from this air contaminant source since the uncontrolled potential to emit for NO_x, SO_2 and CO is each less than 10 tons per year.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PE and PM_{10} emissions from this air contaminant source since the calculated annual emission rate for PE and PM_{10} is each less than ten tons per year, taking into account the bag house required by the operational restriction.

i. This emission limitation is less stringent that BAT. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05 and BAT is no longer applicable, this emission limitation will apply.

c) Operational Restrictions

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

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

(2) The permittee shall operate the bag house whenever the emissions unit is in operation.

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

(3) The permittee shall initiate corrective action within one hour of an alarm from the bag leak detection system and complete corrective actions in a timely manner. Example corrective actions may include:

a. inspecting the bag house for air leaks, torn or broken bags or filter media, or other conditions that may cause an increase in emissions;

b. sealing off defective bags or filter media;

c. replacing defective bags or filter media;

d. sealing off a defective bag house compartment;

e. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system, and;

f. shutting down the process producing the particulate emissions.

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

(4) The testing of trial formulations shall not exceed 3% of the throughput of glass dried in emission units P045, P058, P061 – P064, P069 and P070, combined, on a rolling, 12-month basis.

[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, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

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

(2) The permittee shall maintain daily records that document any time periods when the bag house was not in service when the emissions nit was in operation.

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

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

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

(4) The permittee shall maintain records, on a monthly basis, of the throughput of glass dried for each formulation, in tons, for this emissions unit as rolling, 12-month summation.

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

(5) The permittee shall maintain records, on a monthly basis, of the PM_{10} and VOC emissions (in tons) for the combined emissions units P045, P058, P061-P064, P069 and P070 as a rolling, 12-month summation per the formula in b)(2)f. of this emissions unit.

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

(6) The permittee shall maintain records, on a monthly basis, for testing of new formulations, as follows:

a. Throughput of glass dried for the trial runs of new formulation in emission units P045, P058, P061 – P064, P069, and P070, in tons, combined;

b. throughput of glass dried for all formulations in emission units P045, P058, P061 – P064, P069, and P070, in tons, combined;

c. the rolling, 12-month totals of a. and b. above, in tons; and

d. a percentage based on the rolling, 12-month total of glass dried for trial runs for new formulations, as calculated in c. above, divided by the rolling, 12-month total of the throughput of all formulations of glass dried, as calculated in c. above, multiplied by 100%.

[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 was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

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

(2) The permittee shall submit quarterly deviation (excursion) reports that identify each day that the bag house was not in service when the emissions unit was in operation.

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

(3) The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which any bag leak detection system alarms were sounded. The reports shall include a summary of the date and time of the alarm(s), when corrective actions were initiated, the cause of the alarm(s), the explanation of the corrective actions taken, and when the cause of the alarm(s) were corrected.

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

(4) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the rolling, 12-month summation for the PM_{10} and VOC emissions limit for the combined emissions units P045, P058, P061-P064, P069 and P070.

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

(5) The permittee shall submit quarterly deviation (excursion) reports that identify any exceedance of the 3% throughput of glass dried allowed for trial runs of products as calculated in d)(6)d. of this emission unit.

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

(6) If no exceedance occurred during the quarter, the permittee shall submit a quarterly report, which states that no deviation occurred during that period.

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

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

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

(8) 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.

[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:

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

Applicable Compliance Method:

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

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

b. Emission Limitation:

Visible Emissions shall not exceed 10%, as a 6-minute average.

Applicable Compliance Method:

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

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

c. Emission Limitation:

2.23 pounds of VOC per ton of glass dried.

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 18, 25, or 25A, as appropriate of 40 CFR Part 60, Appendix A. Use of Method 18, 25, or 25A is to be selected based on the results of pre-survey stack sampling and the U.S. EPA guidance documents. Alternate U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

d. Emission Limitation:

0.11 pound of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

e. Emission Limitation:

4.38 pounds of PE per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

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

f. Emission Limitation:

0.88 pound of PM_{10} per hour

Applicable Compliance Method:

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

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

g. Emission Limitation:

0.01 pound of SO_2 per hour

Applicable Compliance Method:

The emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emissions factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO_2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3.0 MMBtu per hour.

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

h. Emission Limitation:

31.98 pounds of SO_2 per hour

Applicable Compliance Method:

This facility will demonstrate compliance with this emission limitation with a one-time calculation of the potential to emit. The calculation is based on emission factors developed from US EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3.0 MMBtu per hour.

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

i. Emission Limitation:

0.30 pound of NO_x per hour

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emission factors developed by U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 100 pounds of No_x emissions per million standard cubic feet (MMscf) by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3.0 MMBtu per hour.

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

j. Emission Limitation:

1.32 tons of NO_x per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated by multiplying the short term emissions rate of 0.30 pound of NO_x per hour by 8760 hours per year and divide by 2000 pounds per ton.

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

k. Emission Limitation:

0.25 pound of CO per hour

Applicable Compliance Method:

This emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on the emission factors developed by U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pound of CO emission per million standard cubic feet (MMscf) by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3.0 MMBtu per hour.

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

l. Emission Limitation:

1.10 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 by multiplying the short term emissions rate of 0.25 pound of CO per hour by 8760 hours per year and divide by 2000 pounds per ton.

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

m. Emission Limitation:

3.86 tons of PM_{10} per rolling, 12-month period.

Applicable Compliance Method:

This emission limitation was established to reflect the maximum allowable emissions for this emissions unit. Compliance may be demonstrated by multiplying the short term emissions rate of 0.8 pound of PM_{10} per ton of glass dried (as determined in stack test dated December 8, 2006) by a maximum

amount of glass dried per hour (2200 pounds per hour divided by 2000 pounds per ton) divided by 2000 pounds per ton by 8760 hours per year and dividing by 2000 pounds per ton.

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

n. Emission Limitation:

0.49 ton of PE per rolling, 12-month period.

Applicable Compliance Method:

This emission limitation was established to reflect the maximum allowable emissions for this emissions unit. Compliance may be demonstrated by multiplying the short term emissions rate of 0.10 pound of PE per ton of glass dried (as determined in stack test dated December 8, 2006) by a maximum amount of glass dried per hour (2200 pounds per hour divided by 2000 pounds per ton) by 8760 hours per year and dividing by 2000 pounds per ton.

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

o. Emission Limitation:

0.01 ton of SO2 per rolling, 12-month period

Applicable Compliance Method:

The emission limitation was developed by a one-time calculation of the potential to emit. The calculation was based on emission factors developed by U.S. EPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 0.6 pound of SO2 emissions per million standard cubic feet by a heating value of 1020 Btu per standard cubic foot and multiply by the maximum heat input capacity of 3.0 MMBtu per hour and then multiply by 8760 hours per year and divide by 2000 pounds per ton.

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

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

a. The emission testing shall be conducted to establish an emission factor for each formulation of glass dried for which emission testing has not been previously conducted to establish an emission factor for PM_{10} and VOC or when required by the Toledo Division of Environmental Services or Ohio EPA Central Office.

Emission testing shall not be required for trial runs of new formulations. The facility shall calculate emissions for these trials using the worst case emission factor established for this emission unit type.

b. Testing shall take place within 120 days of employing a formulation of glass for which an emission factor has not been established, except as provided in f)(2)a.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass rate(s): For PM10, Methods 201 and 202 of 40 CFR Part 51, Appendix M. For VOC, Methods 1 through 4 and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A. Use of Method 18, 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.

d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

e. The 3-hour average process weight rate, in tons of glass dried per hour, shall be determined during the stack testing to allow a determination of an emission factor in pounds of the regulated pollutant per ton of glass dried.

f. The test report shall include a description of the glass formulation that was being produced during the test.

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

h. Personnel from the Toledo Division of Environmental Services or Ohio EPA Central Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedure provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

i. A comprehensive written report of 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 or Ohio EPA Central Office.

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

g) Miscellaneous Requirements

(1) None.