



State of Ohio Environmental Protection Agency

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Columbus, OH 43216-1049

9/16/2009

Mrs. Maura LaGreca
Momentive Performance Materials Quartz, Inc.
611 O'Neill Drive
Hebron, OH 43025

Certified Mail
Facility ID: 0145000213
Permit Number: P0105071
County: Licking

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 EPA Weekly Review and the local newspaper, The Advocate. A copy of the public notice, the Statement of Basis, and the draft permit are enclosed. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page <http://www.epa.state.oh.us/dapc> in Microsoft Word and Adobe Acrobat format. Comments will be accepted as a marked-up copy of the permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
50 W. Town St., 7th Floor
Columbus, Ohio 43215

and Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on 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 Ohio EPADAPC, Central District Office at (614)728-3778.

Sincerely,

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

Cc: U.S. EPA Region 5 - *Via E-Mail Notification*
Ohio EPA-CDO

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

PUBLIC NOTICE
ISSUANCE OF DRAFT AIR POLLUTION Title V Permit
Momentive Performance Materials Quartz, Inc.

Issue Date: 9/16/2009

Permit Number: P0105071

Permit Type: Renewal

Permit Description: Nonmetallic mineral products

Facility ID: 0145000213

Facility Location: Momentive Performance Materials Quartz, Inc.
611 O'Neill Drive,
Hebron, OH 43025

Facility Description: Nonclay Refractory Manufacturing

Chris Korleski, Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio, has issued a draft action of an air pollution control Title V operating permit for the facility at the location identified above on the date indicated. Comments concerning this draft action, or a request for a public meeting, must be sent in writing no later than thirty (30) days from the date this notice is published. All comments, questions, requests for permit applications or other pertinent documentation, and correspondence concerning this action must be directed to Adam Novak at Ohio EPA DAPC, Central District Office, 50 West Town Street, 6th Floor P.O. Box 1049 or (614)728-3778. The permit, which includes a detailed description of the operations, and associated statement of basis for the permit requirements, can be downloaded from the Web page: www.epa.ohio.gov/dapc



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Title V Permit Statement of Basis
Permit Number: P0105071
Facility ID: 0145000213

Statement of Basis For Air Pollution Title V Permit

Facility ID:	0145000213
Facility Name:	Momentive Performance Materials Quartz, Inc.
Facility Description:	Nonmetallic mineral products
Facility Address:	611 O'Neill Drive, Hebron, OH 43025
Permit #:	P0105071, Renewal
This facility is subject to Title V because it is major for: <input type="checkbox"/> Lead <input type="checkbox"/> Sulfur Dioxide <input type="checkbox"/> Carbon Monoxide <input type="checkbox"/> Volatile Organic Compounds <input checked="" type="checkbox"/> Nitrogen Oxides <input type="checkbox"/> Particulate Matter ≤ 10 microns <input type="checkbox"/> Single Hazardous Air Pollutant <input type="checkbox"/> Combined Hazardous Air Pollutants <input type="checkbox"/> Maximum Available Control Technology Standard(s)	

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)?	Y
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.	
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



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B. Facility-Wide Terms and Conditions

Term and Condition (paragraph)	Basis		<u>Comments</u>
	SIP (3745-)	Other	
B.2.a).(1)	31-05(D)	N	Specifies a control efficiency for the control device as latest available control technology
B.2.a).(2)	17-07(A)	N	Particulate emissions limitation
B.2.a).(3)	N	3745- 114- 01	Ammonia emissions limitation
B.2.b).(1)-(11)	31-05(D)	N	CEM requirement to ensure SCR efficiency and NOx emission reads and recordkeeping from CEM
B.4.a)-c)	31-05(D)	N	CEM recordkeeping requirement
B.4.d)	31-05(D)	N	CEM malfunction recordkeeping
B.4.e)	17-07	N	Visible PE monitoring requirement
B.4.f)	N	3745- 114- 01	Air toxics modeling
B.5.a)	31-05(D)	N	Quarterly deviation reporting for synthetic minor limitation
B.5.b)-c)	31-05(D)	N	Data reporting for CEM malfunctions
B.5.d)	31-05(D)	N	Semi-annual reporting for synthetic minor limitation
B.6.a)-b)	31-05(D)	N	SCR unit stack testing requirement
B.6.c)	31-05(D)	N	CEMS certification requirement
B.7.a)	77-07(A)(13)	N	List of insignificant emissions units
B.7.b)	15-05	N	List of de minimis sources



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B.7.c)	N	N	List of negative declarations
B.7.d)	25-03	N	Emission control action program
B.7.e)	N	40 CFR Part 83, Subpart F	40 CFR Part 82, Subpart F requirements

C. Emissions Unit Terms and Conditions

<p>Key:</p> <p>EU = emissions unit ID</p> <p>ND = negative declaration (i.e., term that indicates that a particular rule(s) is (are) not applicable to a specific emissions unit)</p> <p>OR = operational restriction</p> <p>M = monitoring requirements</p> <p>St = streamlining term used to replace a PTI monitoring, record keeping, or reporting requirement with an equivalent or more stringent requirement</p> <p>ENF = did noncompliance issues drive the monitoring requirements?</p> <p>R = record keeping requirements</p> <p>Rp = reporting requirements</p> <p>ET = emission testing requirements (not including compliance method terms)</p> <p>Misc = miscellaneous requirements</p>															
EU(s)	Limitation	Basis		ND	OR	M	St	ENF	R	St	Rp	St	ET	Misc	<u>Comments</u>
		SIP (3745-)	Other												
P010 P011 P012 P035	<p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D).</p> <p><u>For emission units P010 and P011:</u> Nitrogen oxides (NOx) emissions for each of these individual emissions</p>	31-05(A)(3)		N	Y	Y	N	N	Y	N	Y	N	Y	N	



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<p>units from the SCR unit stack shall not exceed 7.2 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 23.9 pounds per hour.</p> <p><u>For emission units P012 and P035:</u> Nitrogen oxides (NOx) emissions for each of these individual emissions units from the SCR unit stack shall not exceed 14.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 44.49 pounds per hour.</p> <p><u>For emission units P010 and P011:</u> Particulate emissions (PE) for each of these individual emissions unit alone from all stacks serving these emissions unit shall</p>													
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	<p>not exceed 7.0 tons per year.</p> <p><u>For emission units P012 and P035:</u> Particulate emissions (PE) for each of these individual emissions unit alone from all stacks serving these emissions unit shall not exceed 8.3 tons per year.</p>													
<p>P010 P011 P012 P035</p>	<p>Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions</p>	<p>31-05(D)</p>		<p>N</p>	<p>Y</p>	<p>Y</p>	<p>N</p>	<p>N</p>	<p>Y</p>	<p>N</p>	<p>Y</p>	<p>N</p>	<p>Y</p>	<p>N</p>



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<p>P010 P011 P012 P035</p>	<p><u>For emission units P010 and P011:</u> PE for these individual emissions units alone from all stacks serving these emissions unit shall not exceed 1.6 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.</p> <p><u>For emission units P012 and P035:</u> PE for these individual emissions units alone from all stacks serving these emissions unit shall not exceed 1.9 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.</p>	<p>17-11(B)(1)</p>		<p>N</p>	<p>Y</p>	<p>Y</p>	<p>N</p>	<p>N</p>	<p>Y</p>	<p>N</p>	<p>Y</p>	<p>N</p>	<p>Y</p>	<p>N</p>	
<p>P010 P011 P012 P035</p>	<p>Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.</p>	<p>17-07(B)</p>		<p>Y</p>										<p>ND: Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.</p>	



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P010 P011 P012 P035	Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.	17-08(B)		Y											ND: Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.
P009 P025	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). <u>For emission unit P009:</u> Nitrogen oxides (NOx) emissions shall not exceed 3.3 pounds per hour from the stack serving this emissions unit. <u>For emission unit P025:</u>	31-05(A)(3)		N	Y	Y	N	N	Y	N	Y	N	Y	N	OR: The maximum crucible production for emissions units P009 and P025, combined, shall not exceed 75,416 crucibles, based upon a rolling, 12-month summation of the crucible production figures. (1) The permittee has existing crucible production records and therefore this emissions unit does not need to be limited to a monthly production limitation during the first year after



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	<p>Nitrogen oxides (NOx) emissions shall not exceed 4.13 pounds per hour from the stack serving this emissions unit.</p> <p><u>For emission unit P009:</u> Particulate emissions (PE) shall not exceed 3.25 tons per year from the stack serving this emissions unit.</p> <p><u>For emission unit P025:</u> Particulate emissions (PE) shall not exceed 4.6 tons per year from the stack serving this emissions unit.</p>													<p>issuance of this permit.</p>
<p>P009 P025</p>	<p>Total NOx emissions shall not exceed 18.1 tons per year, from the two high purity crucible machine stacks, for emissions units P009 and P025, combined, as a rolling, 12-month summation of the NOx emissions.</p>	<p>31-05(D)</p>		<p>N</p>	<p>Y</p>	<p>Y</p>	<p>N</p>	<p>N</p>	<p>Y</p>	<p>N</p>	<p>Y</p>	<p>N</p>	<p>Y</p>	<p>N</p> <p>OR: The maximum crucible production for emissions units P009 and P025, combined, shall not exceed 75,416 crucibles, based upon a rolling, 12-month summation of the crucible production figures.</p> <p>(2) The permittee has existing crucible production records and</p>



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																therefore this emissions unit does not need to be limited to a monthly production limitation during the first year after issuance of this permit.
P009 P025	Visible PE from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.	17-07(A)		N	Y	Y	N	N	Y	N	Y	N	Y	N		OR: The maximum crucible production for emissions units P009 and P025, combined, shall not exceed 75,416 crucibles, based upon a rolling, 12-month summation of the crucible production figures. (3) The permittee has existing crucible production records and therefore this emissions unit does not need to be limited to a monthly production limitation during the first year after issuance of this permit.
P009 P025	<u>For emission unit P009:</u> PE from the stack serving this emissions unit shall not exceed 0.74 pound per hour based on Table I which is more	17-11(B)(1)		N	Y	Y	N	N	Y	N	Y	N	Y	N		OR: The maximum crucible production for emissions units P009 and P025, combined, shall not exceed 75,416 crucibles, based upon a rolling, 12-month summation of the crucible production



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	<p>stringent than the allowable PE rate from Figure II.</p> <p><u>For emission unit P025:</u> PE from the stack serving this emissions unit shall not exceed 1.042 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.</p>															<p>figures.</p> <p>(4) The permittee has existing crucible production records and therefore this emissions unit does not need to be limited to a monthly production limitation during the first year after issuance of this permit.</p>
P017	<p>Particulate emissions shall not exceed 0.020 gr/dscf (equivalent to 1.23 pounds per hour at maximum flow rate) in the exhaust stream or there shall be no visible particulate emissions from the stack, whichever is less stringent.</p> <p>Total particulate emissions from this emissions unit shall not exceed 5.4 tons per year.</p>	31-05(A)(3)		N	Y	Y	N	N	Y	N	Y	N	Y	N		<p>OR: The pressure drop across the baghouse shall be maintained within the range of 1-8 inches of water while the emissions unit is in operation.</p> <p>The operation of the control equipment outside the range specified above may or may not indicate a mass emission and/or visible emission violation. If required by the Ohio EPA and/or U.S. EPA, compliance with the mass emission limitation and visible emission limitations shall be determined by performing concurrent</p>



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															mass emission tests and visible emissions readings, using USEPA-approved methods and procedures. The results of any required emission tests and visible emission readings shall be used in determining whether or not the operation of the control equipment outside the range specified above is indicative of a possible violation of the mass emission limitation and/or visible emission limitations.
P017	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).	17-07(A)		N	Y	Y	N	N	Y	N	Y	N	Y	N	<p>Particulate emissions shall not exceed 0.020 gr/dscf (equivalent to 1.23 pounds per hour at maximum flow rate) in the exhaust stream or there shall be no visible particulate emissions from the stack, whichever is less stringent.</p> <p>Total particulate emissions from this emissions unit shall not exceed 5.4 tons per year.</p> <p>The visible particulate emission limitations specified by this rule are</p>



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																less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3), which are listed above.
P017	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).	17-11(B)		N	Y	Y	N	N	Y	N	Y	N	Y	N		<p>Particulate emissions shall not exceed 0.020 gr/dscf (equivalent to 1.23 pounds per hour at maximum flow rate) in the exhaust stream or there shall be no visible particulate emissions from the stack, whichever is less stringent.</p> <p>Total particulate emissions from this emissions unit shall not exceed 5.4 tons per year.</p> <p>The particulate emission limitation specified by this rule is less stringent than the particulate emission limitations established pursuant to OAC rule 3745-31-05 (A)(3), which are listed above.</p>
P020	Particulate emissions (PE) from the exhaust stream shall not exceed 0.62 pound per hour and there shall be no visible particulate	31-05(A)(3)		N	Y	Y	N	N	Y	N	Y	N	Y	N		OR: The pressure drop across the baghouse shall be maintained within the range of 1 to 6 inches of water while the emissions unit is in



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	<p>emissions.</p> <p>Particulate emissions shall not exceed 2.72 tons per year from the stack serving this emissions unit.</p>												<p>operation.</p> <p>The operation of the control equipment outside the range specified above may or may not indicate a mass emission and/or visible emission violation. If required by the Ohio EPA and/or U.S. EPA, compliance with the mass emission limitation and visible emission limitations shall be determined by performing concurrent mass emission tests and visible emissions readings, using USEPA-approved methods and procedures. The results of any required emission tests and visible emission readings shall be used in determining whether or not the operation of the control equipment outside the range specified above is indicative of a possible violation of the mass emission limitation and/or visible emission limitations.</p>
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P020		17-07(B)		Y												ND: Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.
P020		17-08(B)		Y												ND: Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.
P020	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the requirement specified in OAC rule 3745-31-05(A)(3).	17-07(A)		N	Y	Y	N	N	Y	N	Y	N	Y	N		<p>Particulate emissions (PE) from the exhaust stream shall not exceed 0.62 pound per hour and there shall be no visible particulate emissions.</p> <p>Particulate emissions shall not exceed 2.72 tons per year from the stack serving this emissions unit.</p> <p>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the requirement specified in OAC rule 3745-31-05(A)(3), listed above.</p>



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P020	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the requirement specified in OAC rule 3745-31-05(A)(3).	17-11(B)		N	Y	Y	N	N	Y	N	Y	N	Y	N	Particulate emissions (PE) from the exhaust stream shall not exceed 0.62 pound per hour and there shall be no visible particulate emissions. Particulate emissions shall not exceed 2.72 tons per year from the stack serving this emissions unit. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the requirement specified in OAC rule 3745-31-05(A)(3), listed above.
P033	Particulate emissions (PE) from the exhaust stream shall not exceed 0.3 pound per hour and there shall be no visible particulate emissions. Particulate emissions shall not exceed 1.31 tons per year from the stack serving this emissions unit.	31-05(A)(3)		N	Y	Y	N	N	Y	N	Y	N	Y	N	OR: The permittee shall vent the PE to the baghouse at all times when the emissions unit is in operation. The pressure drop across the baghouse shall be maintained within the range of 1 to 6 inches of water while the emissions unit is in operation. The operation of the control equipment outside the range specified above may or



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P033		17-08(B)		Y												Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.
P033	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the requirement specified in OAC rule 3745-31-05(A)(3).	17-07(A)		N	Y	Y	N	N	Y	N	Y	N	Y	N		<p>Particulate emissions (PE) from the exhaust stream shall not exceed 0.3 pound per hour and there shall be no visible particulate emissions.</p> <p>Particulate emissions shall not exceed 1.31 tons per year from the stack serving this emissions unit.</p> <p>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the requirement specified in OAC rule 3745-31-05(A)(3), listed above.</p>
P033	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the requirement specified in OAC rule	17-11(B)		N	Y	Y	N	N	Y	N	Y	N	Y	N		<p>Particulate emissions (PE) from the exhaust stream shall not exceed 0.3 pound per hour and there shall be no visible particulate emissions.</p> <p>Particulate emissions</p>



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	3745-31-05(A)(3).														shall not exceed 1.31 tons per year from the stack serving this emissions unit. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the requirement specified in OAC rule 3745-31-05(A)(3), listed above.
P037	<p>Hydrogen fluoride emissions from the wet caustic scrubber stack shall not exceed 0.15 pound per hour.</p> <p>Hydrogen fluoride emissions shall not exceed 0.66 ton per year.</p> <p>The permittee shall vent the emissions from this emissions unit to a wet caustic scrubber and operate the wet caustic scrubber while operating this emissions unit.</p> <p>The emission limitations of 0.15 pound hydrogen fluoride emissions</p>	31-05(A)(3)		N	Y	Y	N	N	Y	N	Y	N	Y	N	<p>OR: The permittee shall maintain the wet caustic scrubber liquid recirculation flow rate at not less than 100 gallons per minute (gpm) while operating this emissions unit.</p> <p>The permittee shall continuously maintain the scrubber liquid pH at a value of not less than 7 at all times while the emissions unit is in operation.</p> <p>The operation of the control equipment outside the range specified above may or may not indicate a mass emission and/or visible emission violation. If required by the Ohio EPA and/or U.S. EPA,</p>



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	<p>per hour and 0.66 ton hydrogen fluoride emissions per year were established for PTI purposes to reflect the potential to emit for this emissions unit after being vented to a wet caustic scrubber. Therefore, the parametric monitoring of the wet caustic scrubber as established in the following terms and conditions will ensure compliance with these emission limitations.</p>													<p>compliance with the mass emission limitation and visible emission limitations shall be determined by performing concurrent mass emission tests and visible emissions readings, using USEPA-approved methods and procedures. The results of any required emission tests and visible emission readings shall be used in determining whether or not the operation of the control equipment outside the range specified above is indicative of a possible violation of the mass emission limitation and/or visible emission limitations.</p>
<p>B001 B002 B003 B004 B005 B006 B023 B024 B025 B026 B027 B028</p>	<p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D). <u>For emission units B001 – B006:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not</p>	<p>31-05(A)(3)</p>		<p>N</p>	<p>N</p>	<p>Y</p>	<p>N</p>	<p>N</p>	<p>Y</p>	<p>N</p>	<p>Y</p>	<p>N</p>	<p>Y</p>	<p>N</p>



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<p>B029 B030 B031 B032 B033 P014 P015 P021 P032 P036</p>	<p>exceed 14.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 45.6 pounds per hour.</p> <p><u>For emission units B023 – B029 and B031 - B033:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 12.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 39.2 pounds per hour.</p> <p><u>For emission unit B030:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 15.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the</p>													
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State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Title V Permit Statement of Basis
Permit Number: P0105071
Facility ID: 0145000213

<p>emissions from the unit shall not exceed 49.0 pounds per hour.</p> <p><u>For emission units P014 and P015:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 17.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 55.0 pounds per hour.</p> <p><u>For emission units P021:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 2.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 6.60 pounds per hour.</p> <p><u>For emission units</u></p>													
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 Permit Number: P0105071
 Facility ID: 0145000213

	<p><u>P036:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 3.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 7.50 pounds per hour.</p> <p><u>For emission units B001-B006, B023-B033, P014, P015, P021, and P036:</u> Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.</p>													
B001 B002 B003 B004 B005 B006 B023 B024 B025	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010,	31-05(D)		N	N	Y	N	N	Y	N	Y	N	Y	N



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B026 B027 B028 B029 B030 B031 B032 B033 P014 P015 P021 P032 P036	P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.													
B001 B002 B003 B004 B005 B006 B023 B024 B025 B026 B027 B028 B029 B030 B031 B032 B033 P014 P015	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6- minute average, except as provided by rule.	17-07(A)		N	N	Y	N	N	Y	N	Y	N	Y	N



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P021 P032 P036															
B001 B002 B003 B004 B005 B006 B023 B024 B025 B026 B027 B028 B029 B030 B031 B032 B033 P014 P015 P021 P032 P036	<u>For emission units B001-B006, B023-B033, P014, P015, P021, and P036:</u> PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.	17-11(B)(1)		N	N	Y	N	N	Y	N	Y	N	Y	N	
P038 P039 P040 P041 P042	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1)	31-05(A)(3)	<input type="checkbox"/>	N	N	N	N	N	N	N	N	N	Y	N	M, R, Rp: The PE, CO, and NOx pounds per hour and tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this



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P043	<p>and 3745-31-05(C).</p> <p>Nitrogen oxides (NOx) emissions from this emissions unit shall not exceed 1.28 pounds per hour and 5.6 tons per year.</p> <p>Carbon Monoxide (CO) emissions from this emissions unit shall not exceed 1.62 pounds per hour and 7.10 tons per year.</p> <p>Particulate emissions (PE) for this emissions unit shall not exceed 2.41 tons per year.</p>															emissions unit. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.
P038 P039 P040 P041 P042 P043	Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.	17-07(A)		N	N	Y	N	N	Y	N	Y	N	Y	N		
P038 P039 P040 P041 P042 P043	PE shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.	17-11(B)(1)		N	N	Y	N	N	Y	N	Y	N	Y	N		



State of Ohio Environmental Protection Agency
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DRAFT

Air Pollution Title V Permit
for
Momentive Performance Materials Quartz, Inc.

Facility ID: 0145000213
Permit Number: P0105071
Permit Type: Renewal
Issued: 9/16/2009
Effective: To be entered upon final issuance
Expiration: To be entered upon final issuance



State of Ohio Environmental Protection Agency
 Division of Air Pollution Control

Air Pollution Title V Permit
 for
 Momentive Performance Materials Quartz, Inc.

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Division of Air Pollution Control

Draft Title V Permit

Permit Number: P0105071

Facility ID: 0145000213

Effective Date: To be entered upon final issuance

Authorization

Facility ID: 0145000213
Facility Description: Nonmetallic mineral products
Application Number(s): A0037385
Permit Number: P0105071
Permit Description: Nonmetallic mineral products
Permit Type: Renewal
Issue Date: 9/16/2009
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Superseded Permit Number:

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

Momentive Performance Materials Quartz, Inc.
611 O'Neill Drive
Hebron, OH 43025

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

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

The above named entity is hereby granted a 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 Ohio EPA DAPC, Central District Office. 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 (540 days) and no later than 6 months (180 days) prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Draft Title V Permit

Permit Number: P0105071

Facility ID: 0145000213

Effective Date: To be entered upon final issuance

A. Standard Terms and Conditions



1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
 - (1) Standard Term and Condition A. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions
 - (2) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions
 - (3) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting
 - (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
(Authority for term: ORC 3704.036(A))

2. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) The operating conditions existing at the time of sampling or measurement.
(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))
- c) The permittee shall submit required reports in the following manner:
 - (1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:



Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted (i.e., postmarked) 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) constitutes a violation of an emission limitation (or control requirement) and, therefore, 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 scheduled maintenance, 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 promptly made to the appropriate Ohio EPA District Office or local air agency. Except as provided below, the written reports shall be submitted (i.e., postmarked) 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 (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency 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."

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

- (5) Reports of any required monitoring and/or record keeping information shall be submitted to Ohio EPA DAPC, Central District Office.

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

3. 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) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with Standard Term and Condition A.11 below. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.
- f) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when:
 - (1) the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or
 - (2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or



(3) a combination of (1) and (2) above.

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

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

8. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.

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

9. Marketable Permit Programs

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

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

10. Reasonably Anticipated Operating Scenarios

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

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

11. Reopening for Cause

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

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



statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

- d) The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.
(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

12. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.
(Authority for term: OAC rule 3745-77-07(B))

13. Compliance Requirements

- a) Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
- (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c) The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency) 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 (i.e., postmarked) on or before April 30th of each year during the permit term.

(2) Compliance certifications shall include the following:

(a) An identification of each term or condition of this permit that is the basis of the certification.

(b) The permittee's current compliance status.

(c) Whether compliance was continuous or intermittent.

(d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.

(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 appropriate Ohio EPA District Office or local air agency 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 appropriate District Office of the Ohio EPA or local air agency 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 Fed. Reg. 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 has 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.

No emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.
(Authority for term: OAC rule 3745-77-01)

23. Title VI Provisions

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



- a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.
- b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.
- c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.
(Authority for term: OAC rule 3745-77-01(H)(11))

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

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- 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 appropriate Ohio EPA District Office or local air agency. 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 (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

25. Records Retention Requirements Under State Law Only

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

26. Inspections and Information Requests

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



EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

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

27. Scheduled Maintenance/Malfunction Reporting

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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency 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

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 (i.e., postmarked) 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 potentials to emit; or
- c) where the company's responsible official has certified that an emissions unit has been permanently shut down.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Draft Title V Permit

Permit Number: P0105071

Facility ID: 0145000213

Effective Date: To be entered upon final issuance

B. Facility-Wide Terms and Conditions



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) 2.b)(3), 4.f), 6.a)(3) and (4), 6.b), 7.b)
2. Applicable Emissions Limitations and/or Control Requirements
 - a) Emission Limitations
 - (1) Pursuant to OAC rule 3745-31-05(D), total nitrogen oxides (NO_x) emissions from the selective catalytic reduction (SCR) unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NO_x emissions.
 - (2) Pursuant to OAC rule 3745-17-07(A), visible particulate emissions (PE) from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
 - (3) Pursuant to ORC 3704.03(F)(4)(c) ammonia emissions from the SCR unit stack shall not exceed 71.6 pounds per hour and 313.6 tons per year.

Ammonia is an air toxic, and the hourly emission limitation was established to reflect the status quo ammonia emission rate for this emissions unit for future air toxics evaluations that may involve this emissions unit.
 - b) Additional Terms and Conditions
 - (1) Except as set forth in 2.b)(11), the permittee shall control NO_x emissions from emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 by using a selective catalytic reduction (SCR) unit.

[OAC rule 3745-77-07(B)(1)]
 - (2) The permittee shall control particulate emissions (PE) from the blockhouse enclosures of emissions units P010, P011, P012 and P035 by using an electrostatic precipitator (ESP). Emissions from the ESP vent directly to the SCR unit.

[OAC rule 3745-77-07(A)(1)]
 - (3) A continuous emissions monitoring system (CEMS) malfunction is defined as any time in which the CEMS systems necessary for monitoring emissions in accordance with this permit is not able to sample or analyze the nitrogen oxides in the gas stream exiting the SCR unit.

[OAC rule 3745-77-07(A)(3)]
 - (4) A SCR malfunction is defined as any time that the SCR automatically shuts down due to an internal control system setting. A SCR malfunction will also include instances where



the permittee manually determines that the SCR is not operating properly and must be shut down. The malfunction event will begin at the time of automatic shutdown of the SCR (as recorded by the SCR control system) or at the time a malfunction requiring SCR shutdown is manually identified by the permittee.

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

- (5) Except as set forth in 2.b)(6), in the event of a CEMS malfunction, emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 shall be shut down within one hour. Once the emissions unit(s) is (are) shut down, the emissions unit(s) shall remain shut down until the CEMS is no longer malfunctioning.

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

- (6) In order to continue to operate the above emissions units during or after a CEMS malfunction, the permittee may develop and submit for pre-approval by the Ohio EPA, CDO an alternative compliance method for estimating the emissions from the arc fusion machines and large diameter lathes listed in Section 2.b)(5) above.

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

- (7) CEMS Quality Assurance/ Quality Control

The permittee shall maintain a copy of the written quality assurance/quality control plan for the CEMS designed to ensure continuous valid and representative readings of NOx emissions in units of pounds per hour and tons per month. The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the CEMS must be kept on site and available for inspection during regular office hours.

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

- (8) CEMS Statement of Certification

The permittee shall maintain a copy of the certification of the continuous NOx monitoring system granted by the Ohio EPA, Central Office on April 10, 2002. This certification was granted upon determination by the Ohio EPA, Central Office that the system meets all requirements of ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 2.

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

- (9) Except as set forth in 2.b)(11), in the event of an SCR malfunction, emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 will be shut down immediately following completion of work-in-process. Work-in-process is defined as follows for each type of emissions unit:

- (a) production and repair lathes (B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, P014, P015, P021, P032,



and P036) - The current lathe pass is a maximum of one hour of operation after SCR malfunction.

(b) crucible machines (P010, P011, P012, P035) - The crucible being fused inside the blockhouse at the time of the SCR malfunction.
[OAC rule 3745-77-07(B)(1)]

(10) Except as set forth in 2.b)(11), in the event that the SCR catalyst has degraded to the point that it needs to be replaced, the permittee is still authorized to operate emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 for up to 60 days provided the following conditions are met:

- (a) the permittee has ordered replacement catalyst no later than 10 business days after the permittee has determined that the catalyst has irreversibly degraded below the acceptable activity level; and
- (b) the permittee shall notify OEPA, CDO, DAPC within 5 business days upon determining the catalyst has irreversibly degraded; and
- (c) emissions of NOx from the SCR do not exceed 210.7 tons on a rolling, 12-month period; and
- (d) emissions of NOx for each emissions unit do not exceed the limits specified in the following table (These limits are based on the maximum hourly MMBtu demand and on the SCR operating at 50 % efficiency):

Emissions Unit	NOx Emission Limit lbs/hr
B001	23.0
B002	23.0
B003	23.0
B004	23.0
B005	23.0
B006	23.0
B023	20.0
B024	20.0
B025	20.0
B026	20.0
B027	20.0
B028	20.0



B029	20.0
B030	25.0
B031	20.0
B032	20.0
B033	20.0
P010	12.0
P011	12.0
P012	22.3
P014	28.0
P015	28.0
P021	3.3
P032	20.0
P035	22.3
P036	4.0

- (11) During the period from October 1 to April 30, the permittee is not subject to the SCR operation requirements in 2.b)(1, 9, and 10).

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

3. Operational Restrictions

None

4. Monitoring and Record Keeping Requirements

- a) The permittee shall maintain monthly records of the tons of NOx per month and of the rolling, 12-month NOx emissions calculated as the summation of the NOx emissions as determined by the CEMS (Section B.4.c) and the NOx emissions from the CEMS malfunctions (Section B.4.d).

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

- b) The permittee shall operate and maintain the CEMS to continuously monitor and record combined NOx emissions from emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

[OAC rule 3745-77-07(C)(1), 40 CFR Part 60.13]



- c) The permittee shall maintain records of all data obtained by the CEMS including emissions of NO_x in units of pounds per hour and tons per month, results of daily zero/span calibration checks and magnitude of manual calibration adjustments.

[OAC rule 3745-77-07(C)(1), 40 CFR Part 60.13]

- d) The permittee shall collect and record the following information for each CEMS malfunction:
- (1) The number of lathes operating.
 - (2) The emissions unit ID for each arc fusion machine in operation.
 - (3) The total duration of the CEMS malfunction, in hours.
 - (4) The estimated NO_x emissions from the lathes in operation calculated by multiplying the number of lathes in operation in Section B.4.d)(1), by the total hours of the CEMS malfunctions in Section B.4.d)(3), by the maximum allowable emission rate of 15.0* lbs NO_x/hr when the SCR is in operation and 45.6 lbs NO_x/hr when the SCR is not in operation.
 - (5) The estimated NO_x emissions from the arc fusion machines** calculated using the following equation:
$$\{\text{arc fusion machine \#4 (P010)} * 7.2 \text{ lbs/hr when the SCR is in operation or } 23.9 \text{ lbs/hr when the SCR is not in operation}\} + \{\text{arc fusion machine \#5 (P011)} * 7.2 \text{ lbs/hr when the SCR is in operation or } 23.9 \text{ lbs/hr when the SCR is not in operation}\} + \{\text{arc fusion machine \#8 (P012)} * 14.0 \text{ lbs/hr when the SCR is in operation or } 44.49 \text{ lbs/hr when the SCR is not in operation}\} + \{\text{arc fusion machine \#9 (P035)} * 14.0 \text{ lbs/hr}\}.$$
 - (6) The summation of the NO_x emissions from the lathes and from the arc fusion machines, in lbs.

* Allowable emission rate for emissions unit B030.

** If an arc fusion machine is not in operation at the time of the CEMS malfunction then its emissions are assumed to be zero.

[OAC rule 3745-77-07(C)(1), 40 CFR Part 60.13]

- e) The permittee shall perform daily checks, using either certified or non-certified visible emissions observers, when any of the emissions units identified in Section B.2.a)(2) are in operation and when the weather conditions allow, for any visible particulate emissions from the SCR unit stack serving these emissions units. 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:
- (1) the color of the emissions;
 - (2) whether the emissions are representative of normal conditions;
 - (3) if the emissions are not representative of normal conditions, the cause(s) of the abnormal emissions;
 - (4) the total duration of any visible emission incident; and
 - (5) any corrective actions taken to eliminate the visible emissions.

Note: The presence of any visible particulate emissions may or may not indicate a violation of the particulate mass emission limitation and/or visible emission limitation. If required,



compliance with the particulate mass emission limitation and the visible emission limitation shall be determined by performing concurrent mass emission tests and visible emissions observations, using USEPA approved methods and procedures. The results of any required mass emission tests and visible emissions observations shall be used in determining whether or not the presence of any visible particulate emissions is indicative of a possible violation of the particulate mass emission limitation and/or visible emission limitation and/or visible emission limitation.

If the daily checks show visible emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when any of the emissions units identified in Section B.2.a)(2) are in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of normal visible emissions.

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

- f) The PTI applications for this/these emissions unit(s), B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, were evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
- (5) the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
- a. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - b. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
 - c. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).



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

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

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

Toxic Contaminant: ammonia

TLV (mg/m3): 17

Maximum Hourly Emission Rate (lbs/hr): 71.6

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 132.5

MAGLC (ug/m3): 404.8

The permittee, has demonstrated that emissions of ammonia, from emissions unit(s) B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F).

[ORC 3704.03(F)(3)(c) and F(4)]

- g) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration”, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:

- (1) changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
- (6) changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
- (7) physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the “Toxic Air Contaminant Statute” will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification"



under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a “modification”, the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

[ORC 3704.03(F)(3)(c) and F(4)], [OAC rule 3745-114-01], Option A, Engineering Guide #70

- f) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F):
 - (1) a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - (2) the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F);
 - (3) a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - a. the documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

[ORC 3704.03(F)(3)(c) and F(4)]

- g) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

[ORC 3704.03(F)(3)(c) and F(4)]

5. Reporting Requirements

- a) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month NOx emission limitation for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined.



The quarterly deviation reports shall be submitted in accordance with the requirements specified in Part A.4.c).

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

b) CEMS Data Reporting

The permittee must submit data for each CEMS (that meets the requirements of 40 CFR Part 60.13 and has received certification from Ohio EPA) to Ohio EPA, Central Office on a quarterly basis. The data presented in the quarterly reports shall reflect emissions unit operations, monitoring availability, actual tons of NO_x, and excess NO_x emissions in units of pounds per hour and rolling, 12-month limitation (in tons) for the previous calendar quarter.

The permittee shall submit reports within one month following the end of each calendar quarter to the Ohio EPA, CDO documenting any CEMS downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the date, time, reason, and corrective action(s) taken for each time period of monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

[OAC rule 3745-77-07(C)(1), 40 CFR Part 60.13]

c) CEMS Electronic Data Reporting, Summary Form

Pursuant to OAC rule 3745-15-04 and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report pursuant to 40 CFR Part 60.7. The summary shall be submitted to the Ohio EPA, CDO within the schedule required in Part A.4.c) of this PTI.

[OAC rule 3745-77-07(C)(1) 40 CFR Part 60.7]

d) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to Ohio EPA, CDO by January 31 and July 31 of each year and shall cover the previous 6-month period.

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

e) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the quarterly



deviation (excursion) reports. If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

[ORC 3704.03(F)(3)(c) and F(4)]

6. Testing Requirements

a) Compliance with the emission limitations in Section 2.a) of these terms and conditions shall be determined in accordance with the following methods:

(1) Emission Limitation:

210.7 tons per year NOx emissions from the SCR unit stack for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:

Compliance shall be based on the record keeping in Section 4, Monitoring and Recordkeeping, terms a) through c).

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

(2) Emission Limitation:

Visible particulate emissions (PE) from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036 shall not exceed 20% opacity, as a 6-minute average, except as provided by OAC rule 3745-17-07.

Applicable Compliance Method:

Compliance shall be based on the record keeping in Section 4., Monitoring and Recordkeeping, term d).

If required by Ohio EPA and/or U.S. EPA, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

[OAC rule 3745-77-07(C)(1), OAC rule 3745-17-03(B)(1)]

(3) Emission Limitation:

Ammonia emissions from the SCR unit stack shall not exceed 71.6 pounds per hour.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emission testing requirements specified in term b) which follows.



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

(4) Emission Limitation:

Ammonia emissions from the SCR unit stack shall not exceed 313.6 tons per year.

Applicable Compliance Method:

Compliance with the annual emission limitation for ammonia shall be assumed provided compliance is maintained with the pound per hour emission limitation for ammonia. The annual limitation was calculated by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

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

b) The permittee shall conduct, or have conducted, emission testing for the SCR unit in accordance with the following requirements:

- (1) The emission testing shall be conducted approximately 2.5 years after the effective date of this permit and approximately 12 months prior to permit expiration.
- (2) The emission testing shall be conducted to demonstrate compliance with the hourly emission limitation for ammonia.
- (3) The following test methods shall be employed to demonstrate compliance with the ammonia emission limitation: 40 CFR Part 60, Appendix A, Methods 1 - 4 and Conditional Test Method 027. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, CDO.
- (4) The tests shall be conducted while all emissions units venting to the SCR unit are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA, CDO.

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, CDO's refusal to accept the emissions tests.

Personnel from the Ohio EPA, CDO 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 emission tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with approval from the Ohio EPA, CDO.

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



c) Relative Accuracy Test Audit

To ensure the validity of the data from the CEMS, the permittee shall certify the accuracy of the CEMS annually pursuant to provisions for a relative accuracy test audit (RATA) in 40 CFR Part 60, Appendix F.

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

7. Miscellaneous Requirements

a) The following insignificant emissions units at this facility must comply with all applicable State and federal regulations, as well as any emission limitations and/or control requirements contained within the identified permit to install for the emissions unit. 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, 3745-21 and 3745-31:

- B018 - 58 hp natural gas-fired pump engine;
- B019 - 75 hp natural gas-fired pump engine;
- B020 - 600kW diesel emergency engine;
- B021 - 6.5 MMBtu/hr diesel emergency generator;
- B022 - 9.7 MMBtu/hr diesel emergency generator;
- P005 - crucible sandblasters for machines 1, 2, 3, and 4;
- P018 - crucible sandblasters for machines 5 and 8;
- P022 - (6) B-type tubing furnaces;
- P023 - (3) F-type tubing furnaces;
- P024 - (3) I-type tubing furnaces;
- P026 - (3) tubing wet cut saws;
- P027 - (5) vacuum bake ovens;
- P028 - tubing wet cut saws;
- P030 - crucible coating process (Ortona);
- P031 - tube trimmer #2;
- P034 - auto cutter #2;
- P044 - (6) I-type tubing furnaces;
- P050 - crucible wet-cut saw with beveler;
- P051 - (1) crucible belt-sander;
- P052 - Spencer system-deck housekeeping;
- P053 - 120 hp natural gas engine;
- P054 - (3) crucible wet-cut saws;
- P055 - crucible band saw; and
- P056 - vacuum system - LD housekeeping

[OAC rule 3745-77-07(A)(13)]

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

- P002 auto-cutter #1/hand-cut saws;
- P003 tubing wash tanks;
- T001 HF tank;



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- T002 HF tank;
 - P045 (3) vacuum bake ovens;
 - P046 roadways/parking areas;
 - P047 end cut saw table - LD feedstock;
 - P048 large diameter tube cleaning and inspection;
- c) This facility is subject to the applicable requirements specified in OAC Chapter 3745-25. In accordance with Ohio EPA Engineering Guide #64, the emission control action programs, as specified in OAC rule 3745-25-03, shall be developed and submitted within 60 days after receiving notification from the Ohio EPA.
- d) The permittee shall comply with all applicable provisions specified in 40 CFR Part 82, Subpart F as related to the operations at this facility.



State of Ohio Environmental Protection Agency
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C. Emissions Unit Terms and Conditions



1. P017, SAW

Operations, Property and/or Equipment Description:

Cortest quartz rod/tubing trimmer with mist eliminator for wet use and baghouse for dry use

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 01-08511)	Particulate emissions shall not exceed 0.020 gr/dscf (equivalent to 1.23 pounds per hour at maximum flow rate) in the exhaust stream or there shall be no visible particulate emissions from the stack, whichever is less stringent. Total particulate emissions from this emissions unit shall not exceed 5.4 tons per year. See b)(2)a. and b. and c)(1) below.
b.	OAC rule 3745-17-07(A)	The visible particulate emission limitations specified by this rule are less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-11(B)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitations established pursuant to OAC rule 3745-31-05 (A)(3).

(2) Additional Terms and Conditions

a. During dry operation, the permittee shall only operate the quartz rod/tubing trimmer unit while venting emissions to the dust collection system (the exhaust from the dust collection system is vented outside).



- b. During wet operation, the permittee shall only operate the quartz rod/tubing trimmer unit while venting to the mist eliminator (the exhaust of the mist eliminator is vented indoors).
- c. The emission limitations of 1.23 pound particulate emissions per hour and 5.4 ton particulate emissions per year were established for PTI purposes to reflect the potential to emit for this emissions unit after being vented to a dust collection system. Therefore, the parametric monitoring of the dust collection system as established in the following terms and conditions will ensure compliance with these emission limitations.

c) Operational Restrictions

- (1) The pressure drop across the baghouse shall be maintained within the range of 1-8 inches of water while the emissions unit is in operation.

The operation of the control equipment outside the range specified above may or may not indicate a mass emission and/or visible emission violation. If required by the Ohio EPA and/or U.S. EPA, compliance with the mass emission limitation and visible emission limitations shall be determined by performing concurrent mass emission tests and visible emissions readings, using USEPA-approved methods and procedures. The results of any required emission tests and visible emission readings shall be used in determining whether or not the operation of the control equipment outside the range specified above is indicative of a possible violation of the mass emission limitation and/or visible emission limitations.

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

d) Monitoring and/or Recordkeeping Requirements

- (1) 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 01-08511, issued on March 5, 2002: d)(2), and 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. Reporting Requirements

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

- (2) The permittee shall perform daily checks, using either certified or non-certified visible emissions readers, 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 conditions;



- c. if the emissions are not representative of normal conditions, the cause(s) of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.
Note: The presence of any visible particulate emissions may or may not indicate a violation of the particulate mass emission limitation and/or visible emission limitation. If required by the Ohio EPA Central District Office, compliance with the particulate mass emission limitation and the visible emission limitation shall be determined by performing concurrent mass emission tests and visible emissions readings, using USEPA methods and procedures. The results of any required mass emission tests and visible emission readings shall be used in determining whether or not the presence of any visible particulate emissions is indicative of a possible violation of the particulate mass emission limitation and/or visible emission limitation.
- f. 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 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)]

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

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

e) Reporting Requirements

- (1) 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 01-08511, issued on March 5, 2002: e)(2) through 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.

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

- (2) The permittee shall submit quarterly pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse was outside the range specified above. The quarterly reports shall be submitted in



accordance with the requirements specified in A. Standard Terms and Conditions – Section 2.

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

- (3) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Ohio EPA, Central District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

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

- (4) The permittee shall also submit annual reports that specify the total particulate emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

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

f) Testing Requirements

- (1) 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 01-08511, issued on March 5, 2002: f)(2)a through f)(2)c. 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.

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

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

- a. Emissions Limitation:
Particulate emissions shall not exceed 0.020 gr/dscf (equivalent to 1.23 pounds per hour at maximum flow rate) in the exhaust stream or there shall be no visible particulate emissions from the stack, whichever is less stringent.

Applicable Compliance Method:

If required by the Ohio EPA and/or U.S. EPA, compliance shall be demonstrated using Methods 1 through 5 of 40 CFR Part 60, Appendix A; otherwise, compliance shall be demonstrated by the absence of any visible emissions from the baghouse serving this emissions unit and using Method 22 of 40 CFR Part 60, Appendix A.

- b. Emission Limitation:
PE shall not exceed 1.23 lbs/hr.



Applicable Compliance Method:

This emission limitation was calculated by multiplying the grain loading limit of the baghouse (0.020 gr/dscf) by the maximum air flow capacity of the baghouse (7,200 acfm), by 60 minutes per hour, and dividing by 7,000 grains per pound. Therefore, compliance shall be assumed provided compliance is maintained with the grain loading limit.

- c. Emission Limitation:
PE shall not exceed 5.4 tons/yr.

Applicable Compliance Method:

Compliance with the annual emission limitation for PE shall be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual limitation was calculated by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

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

- g) Miscellaneous Requirements

- (1) None.



2. P037, Crucible Cleaning System

Operations, Property and/or Equipment Description:

Automated crucible cleaning system: chemical delivery system, acid etching system and scrubber. Administrative modification.

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 01-08339)	Hydrogen fluoride emissions from the wet caustic scrubber stack shall not exceed 0.15 pound per hour. Hydrogen fluoride emissions shall not exceed 0.66 ton per year. See Sections b)(2)a., b)(2)b., c)(1), and c.(2) below.

(2) Additional Terms and Conditions

a. The permittee shall vent the emissions from this emissions unit to a wet caustic scrubber and operate the wet caustic scrubber while operating this emissions unit.

b. The emission limitations of 0.15 pound hydrogen fluoride emissions per hour and 0.66 ton hydrogen fluoride emissions per year were established for PTI purposes to reflect the potential to emit for this emissions unit after being vented to a wet caustic scrubber. Therefore, the parametric monitoring of the wet caustic scrubber as established in the following terms and conditions will ensure compliance with these emission limitations.

c. The emissions from the following components of the automated crucible cleaning system shall be vented to the wet caustic scrubber:

- i. chemical delivery;
- ii. acid etching (crucible cleaning); and



iii. spent acid waste tanks.

c) Operational Restrictions

(1) The permittee shall maintain the wet caustic scrubber liquid recirculation flow rate at not less than 100 gallons per minute (gpm) while operating this emissions unit.

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

(2) The permittee shall continuously maintain the scrubber liquid pH at a value of not less than 7 at all times while the emissions unit is in operation.

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

(3) The operation of the control equipment outside the range specified above may or may not indicate a mass emission and/or visible emission violation. If required by the Ohio EPA and/or U.S. EPA, compliance with the mass emission limitation and visible emission limitations shall be determined by performing concurrent mass emission tests and visible emissions readings, using USEPA-approved methods and procedures. The results of any required emission tests and visible emission readings shall be used in determining whether or not the operation of the control equipment outside the range specified above is indicative of a possible violation of the mass emission limitation and/or visible emission limitations.

d) Monitoring and/or Recordkeeping Requirements

(1) The monitoring devices and recorder(s) shall be installed, calibrated, operated and maintained in accordance with good engineering practices. To meet this monitoring requirement the permittee has established an interlocked Process Control System PLC to continuously monitor and record the parameters listed in Section c) above and to automatically shut down the emissions unit before an excursion from the operational restrictions listed in Section A.II above occurs.

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

(2) While the emissions unit is in operation, the permittee shall record the following parameters on a daily basis:

a. the scrubber liquid recirculation flow rate, in gpm; and

b. the scrubber liquid pH.

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

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:

a. scrubber liquid recirculation flow rate, in gpm; and

b. the scrubber liquid pH.



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

- (2) The permittee shall submit the quarterly deviation (excursion) reports in accordance with A. Standard Terms and Conditions – Section 2. of this permit.

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

f) Testing Requirements

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

a. Emission Limitation:

Hydrogen fluoride emissions from the wet caustic scrubber stack shall not exceed 0.15 pound per hour.

Applicable Compliance Method:

Compliance with the pound per hour emission limit for hydrogen fluoride shall be demonstrated by multiplying the maximum uncontrolled emission rate of 10.55 pounds per hour by (1 - 98.6%) where 98.6% is the control efficiency of the scrubber for hydrogen fluoride.

If required by the Ohio EPA and/or U.S. EPA, the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 26. Compliance with this emission limitation has been demonstrated based on the results of emission tests performed on September 15 and 16, 2003 that showed a maximum hourly emission rate of 0.0174 lb/hr.

b. Emission Limitation:

Hydrogen fluoride emissions shall not exceed 0.66 ton per year.

Applicable Compliance Method:

Compliance with the annual emission limitation for hydrogen fluoride may be assumed provided compliance is maintained with the pound per hour emission limitation for hydrogen fluoride. The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours per year and dividing by 2000 pounds per ton.

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

g) Miscellaneous Requirements

- (1) None.



3. Emissions Unit Group - Arc Fusion Crucible Machines: P010, P011, P012, P035,

EU ID	Operations, Property and/or Equipment Description
P010	P-14 Arc Fusion Machine no. 4 controlled with a SCR unit and dust collection system - 4 baghouses and an ESP - and monitored by a NOx CEMS.
P011	P-14 Arc Fusion Machine No. 5 controlled with a SCR unit and dust collection system - 4 baghouses and an ESP - and monitored by a NOx CEMS.
P012	P-272 Arc Fusion Machine No. 8 controlled with a SCR unit and dust collection system - 4 baghouses and an ESP - and monitored by a NOx CEMS.
P035	P-272 Arc Fusion Machine No. 9 controlled with a SCR unit and dust collection system - 4 baghouses and an ESP- and monitored by a NOx CEMS.

- 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 No. P0104785)	<p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D).</p> <p><u>For emission units P010 and P011:</u> Nitrogen oxides (NOx) emissions for each of these individual emissions units from the SCR unit stack shall not exceed 7.2 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 23.9 pounds per hour.</p> <p><u>For emission units P012 and P035:</u> Nitrogen oxides (NOx) emissions for each of these individual emissions units from the SCR unit stack shall not exceed 14.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 44.49</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>pounds per hour.</p> <p><u>For emission units P010 and P011:</u> Particulate emissions (PE) for each of these individual emissions unit alone from all stacks serving these emissions unit shall not exceed 7.0 tons per year.</p> <p><u>For emission units P012 and P035:</u> Particulate emissions (PE) for each of these individual emissions unit alone from all stacks serving these emissions unit shall not exceed 8.3 tons per year.</p> <p>See 1.b)(2)a. and 1.b)(2)b. below.</p>
b.	OAC rule 3745-31-05(D) (synthetic minor to avoid PSD)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions
c.	OAC rule 3745-17-11(B)(1)	<p><u>For emission units P010 and P011:</u> PE for these individual emissions units alone from all stacks serving these emissions unit shall not exceed 1.6 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.</p> <p><u>For emission units P012 and P035:</u> PE for these individual emissions units alone from all stacks serving these emissions unit shall not exceed 1.9 pounds per hour based on Table I which is more stringent than the allowable PE rate from Figure II.</p>
d.	OAC rule 3745-17-07(B)	See 1.b)(2)f. below.
e.	OAC rule 3745-17-08(B)	See 1.b)(2)e. below.



(2) Additional Terms and Conditions

- a. Except for the time period set forth in B. Facility-Wide Terms and Conditions – Section 2.b)(11), the emissions generated during the crucible formation shall be vented to the ESP. The emissions from the ESP shall be vented directly to the SCR unit.

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

- b. The permittee shall vent the emissions from this emissions unit through a dust collection system consisting of: baghouse no. 15, baghouse no. 3, baghouse no. 6 and baghouse no. 9, and a dry electrostatic precipitator (ESP) and shall operate the dust collection system (4 baghouses and ESP) at all times while operating this emissions unit.

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

- c. The PE pounds per hour and tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop any additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.
- d. The NO_x pounds per hour limitation for this emissions unit was established to reflect the potential to emit for the unit after control for the time period of May 1 to September 30. For the remainder of the year, the NO_x pound per hour limitation for the emissions unit was established to reflect the potential to emit for the unit without control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.
- e. Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.
- f. Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.

c) Operational Restrictions

- (1) The pressure drop across the baghouses which make up a portion of the dust collection system shall be maintained within the following pressure drop ranges while the emissions unit is in operation:
 - a. for baghouse no. 15, within the range of 1 to 6 inches of water;
 - b. for baghouse no. 3, within the range of 1 to 6 inches of water;
 - c. for baghouse no. 6, within the range of 1 to 6 inches of water; and
 - d. for baghouse no. 9, within the range of 1 to 6 inches of water.

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



- (2) The permittee shall operate the ESP during any operation of this emissions unit.
[OAC rule 3745-77-07(A)(1)]
- (3) Except as set forth in B. Facility-Wide Terms and Conditions Section 2.b)(11), the permittee shall operate the SCR during any operation of this emissions unit.
[OAC rule 3745-77-07(A)(1)]
- (4) The secondary voltage recorded at each field within the ESP shall be maintained within the manufacturer's recommended ranges:
 - a. a minimum of three fields out of a total of four must be operating; and
 - b. the secondary voltage of at least three operating fields shall not drop below 8 kV, for each field, for a period exceeding five minutes.

The ESP parameter ranges may be adjusted in the event that future emission testing is conducted which demonstrates compliance with the particulate emission limitation and written approval of the new ESP parameters is obtained from the Ohio EPA, Central District Office.

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

- (5) The operation of the control equipment outside the range specified above may or may not indicate a mass emission and/or visible emission violation. If required by the Ohio EPA and/or U.S. EPA, compliance with the mass emission limitation and visible emission limitations shall be determined by performing concurrent mass emission tests and visible emissions readings, using USEPA-approved methods and procedures. The results of any required emission tests and visible emission readings shall be used in determining whether or not the operation of the control equipment outside the range specified above is indicative of a possible violation of the mass emission limitation and/or visible emission limitations.

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

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall operate and maintain equipment to monitor the pressure drops across the dust collection system baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The permittee shall monitor the pressure drops across baghouse no. 15, baghouse no. 3, baghouse no. 6, and baghouse no. 9 on a daily basis.

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

- (2) The permittee shall monitor and record, once each day, the secondary voltage, in kilovolts, to each field and the number of fields operating in the ESP when the emissions unit is in operation.

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



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

Note: The presence of any visible particulate emissions may or may not indicate a violation of the particulate mass emission limitation and/or visible emission limitation. If required, compliance with the particulate mass emission limitation and the visible emission limitation shall be determined by performing concurrent mass emission tests and visible emissions observations, using USEPA methods and procedures. The results of any required mass emission tests and visible emissions observations shall be used in determining whether or not the presence of any visible particulate emissions is indicative of a possible violation of the particulate mass emission limitation and/or visible emission limitation.

If the daily checks show visible emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when this emissions unit is in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of normal visible emissions

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

- (4) During the period of May 1 to September 30, for monitoring and record keeping requirements for the hourly NO_x emission limitation, the permittee shall collect and record the rolling, 3-hour average of the NO_x destruction efficiency of the SCR. The efficiency shall be based upon data obtained from the SCR inlet analyzer and the outlet CEMS.

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

- (5) During the period of May 1 to September 30, for each 3-hour period when the NO_x destruction efficiency is less than 70%, the permittee shall note the following in the operations log:
- a. the 3-hour average NO_x destruction efficiency;
 - b. the hours included in the 3-hour period;
 - c. for each hour within the period, the production lathes, repair lathes



- d. and arc fusion machines that were operating; for each hour within the period, the sum of the hourly NOx emissions limitations for the production lathes, repair lathes and arc fusion machines that were operating;
- e. for each hour within the period, the NOx emissions in pounds per hour measured by the SCR outlet CEMS; and
- f. for each hour within the period, whether the value for (e) exceeds the value for (d), above

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

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all periods of time during which the pressure drop(s) across the baghouse(s) was (were) outside the operating range(s) specified above;
 - b. all periods of time during which the ESP was not operated in accordance with the restrictions specified in Section c)(4); and
 - c. all exceedances of the hourly NOx emission limitation based upon the records required by Section d)(5)f. above.

The quarterly deviation reports shall be submitted in accordance with A. Standard Terms and Conditions – Section 2. of this permit.

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

- (2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse stacks and SCR unit stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to Ohio EPA, Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

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

f) Testing Requirements

- (1) Compliance with the emission limitations in Section b)(1) of these terms and conditions shall be determined in accordance with the following methods: Compliance with the emission limitations in Section b)(1) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
NOx emissions for the emissions unit alone from the SCR unit stack shall not exceed 7.2 pounds per hour for emission units P010 and P011 and 14.0 pounds per hour for emission units P012 and P035 from May 1 to September 30.

Applicable Compliance Method:



The emission limitation during the period of May 1 to September 30 was established by the following equation:

$$\text{Emission limitation (EL)} = (\text{X crucibles/hr})^* \times (\text{Y lbs of NOx/crucible})^{**} \times (0.30)^{***}$$

where:

X = 10 for emission units P010 and P011;

X = 6.32 for emission units P012 and P035;

Y = 2.39 for emission units P010 and P011; and

Y = 7.04 for emission units P012 and P035

* Maximum hourly crucible production.

** The emission factor was established through emission tests performed by GE Quartz, Inc. on 12/4/96, 12/5/96 and 12/19/96.

*** The control efficiency of the SCR unit is assumed to be 70% for the purpose of this calculation.

Compliance with this limitation may be demonstrated by showing that the rolling, 3-hour average SCR destruction efficiency is equal to or greater than 70%.

During the period of May 1 to September 30, if the rolling, 3-hour average SCR destruction efficiency is less than 70%, compliance with this emission limitation shall be demonstrated by showing that the NOx emission rate determined in Section 1.d)(5)e. is less than or equal to the emission limitation determined in Section 1.d)(5)d.

If required by the Ohio EPA and/or U.S. EPA, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

b. Emission Limitation:

210.7 tons per year of NOx from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part B – Facility-Wide Terms and Conditions, Section 6.a).

c. Emission Limitation:

Visible PE from any stack serving these emissions units shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the emission limitation based on the record keeping required in section 1.d)(3).

If required by the Ohio EPA and/or U.S. EPA, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part



60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

d. Emission Limitation:

PE for the emissions unit alone from all stacks serving this emissions unit shall not exceed 1.6 pounds per hour for units P010 and P011 and 1.9 pounds per hour for units P012 and P035 based on Table I which is more stringent than the allowable PE rate from Figure II.

Applicable Compliance Method:

Compliance with this emission limitation may be demonstrated using the following equation:

hourly PE rate = L + F + P + C where:

PE = particulate emissions for this emissions unit

L = particulate emissions from loading of sand into crucible pots (lb/hr)

F = particulate emissions from crucible formation through electric arc fusion (lb/hr)

P = particulate emissions from crucible pop-off hood (lb/hr)

C = particulate emissions from hot sand clean out (lb/hr)

For emission units P010 and P011:

$$L = (484 \text{ lbs/hr})^* \times (0.174 \text{ lb/ton})^{**} \times (0.01)^{***} \times (1 \text{ ton/2000 lbs})$$

$$F = (10 \text{ crucibles/hr})^* \times (0.37 \text{ lb PE/crucible})^{**} \times (0.1)^{***}$$

$$P = (484 \text{ lbs/hr})^* \times (0.058 \text{ lb/ton})^{**} \times (0.01)^{***} \times (1 \text{ ton/2000 lbs})$$

$$C = (150 \text{ lbs/hr})^* \times (0.75 \text{ lb PE / lb sand})^{**} \times (0.001)^{***}$$

For emission units P012 and P035:

$$L = (484 \text{ lbs/hr})^* \times (0.174 \text{ lb/ton})^{**} \times (0.01)^{***} \times (1 \text{ ton/2000 lbs})$$

$$F = (6.32 \text{ crucibles/hr})^* \times (0.952 \text{ lb PE/crucible})^{**} \times (0.1)^{***}$$

$$P = (631 \text{ lbs/hr})^* \times (0.058 \text{ lb/ton})^{**} \times (0.01)^{***} \times (1 \text{ ton/2000 lbs})$$

$$C = (210 \text{ lbs/hr})^* \times (0.75 \text{ lb PE / lb sand})^{**} \times (0.001)^{***}$$

- * L - The hourly process weight rate.
- F - The maximum hourly crucible production
- P - The hourly process weight rate.
- C - The maximum hot sand dumped per hour.

- ** L&P -The transfer emission factor was derived with information from AP-42, 5th Edition, Volume I, Chapter 11, Mineral Products Industry, Table 11.12-2, dated January 1995.



F -This emission factor was established through emission tests performed by GE Quartz, Inc. Newark Plant from 12/17/96 through 12/19/96.

C - This emission factor was estimated and provided by GE Quartz, Inc. based on engineering judgement.

*** L -The control efficiency of baghouse Nos. 6 and 9 are assumed to be 99%.

F -The control efficiency of the ESP is assumed to be 90%.

P -The control efficiency of baghouse No. 15 is assumed to be 99%.

C -The control efficiency of baghouse No. 3 is assumed to be 99.9%.

Compliance with this emission limitation was demonstrated through emission tests performed on January 30, 2002. If required by the Ohio EPA and/or U.S. EPA, compliance shall be determined through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

e. Emission Limitation:

PE for this emissions unit alone from all stacks serving this emissions unit shall not exceed 7.0 tons per year for P010 and P011 and 8.3 tons per year for P012 and P035.

Applicable Compliance Method:

Compliance with the annual emission limitation for PE shall be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

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

g) Miscellaneous Requirements

(1) None.



4. Emissions Unit Group - Crucible Coolers: P020, P033,

EU ID Operations, Property and/or Equipment Description

P020 6 Crucible Coolers for Crucible Machines No. 4, 5, 8.

P033 Two Crucible Coolers for Crucible Machine No. 9.

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 3745-31-05(A)(3) (PTI 01-08824)	<p><u>For emission unit P020:</u> Particulate emissions (PE) from the exhaust stream shall not exceed 0.62 pound per hour and there shall be no visible particulate emissions.</p> <p><u>For emission unit P033:</u> Particulate emissions (PE) from the exhaust stream shall not exceed 0.3 pound per hour and there shall be no visible particulate emissions.</p> <p><u>For emission unit P020:</u> Particulate emissions shall not exceed 2.72 tons per year from the stack serving this emissions unit.</p> <p><u>For emission unit P033:</u> Particulate emissions shall not exceed 1.31 tons per year from the stack serving this emissions unit.</p>
b.	OAC rule 3745-17-07(B)	See b)(2)a. below.
c.	OAC rule 3745-17-08(B)	See b)(2)b. below.
d.	OAC rule 3745-17-07(A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the requirement specified in OAC rule 3745-



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		31-05(A)(3).
e.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to the requirement specified in OAC rule 3745-31-05(A)(3).
f.	40 CFR Part 64 – Compliance assurance monitoring (CAM)	See d)(3) below.

(2) Additional Terms and Conditions

- a. Pursuant to paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) do not apply to this emissions unit.
- b. Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.
- c. The permittee shall vent the PE to the baghouse at all times when the emissions unit is in operation.

c) Operational Restrictions.

- (1) The pressure drop across the baghouse shall be maintained within the range of 1 to 6 inches of water while the emissions unit is in operation.

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

- (2) The operation of the control equipment outside the range specified above may or may not indicate a mass emission and/or visible emission violation. If required by the Ohio EPA and/or U.S. EPA, compliance with the mass emission limitation and visible emission limitations shall be determined by performing concurrent mass emission tests and visible emissions readings, using USEPA-approved methods and procedures. The results of any required emission tests and visible emission readings shall be used in determining whether or not the operation of the control equipment outside the range specified above is indicative of a possible violation of the mass emission limitation and/or visible emission limitations.

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

d) Monitoring and/or Recordkeeping Requirements

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



[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 emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

Note: The presence of any visible particulate emissions may or may not indicate a violation of the particulate mass emission limitation and/or visible emission limitation. If required, compliance with the particulate mass emission limitation and the visible emission limitation shall be determined by performing concurrent mass emission tests and visible emissions observations, using USEPA approved methods and procedures. The results of any required mass emission tests and visible emissions observations shall be used in determining whether or not the presence of any visible particulate emissions is indicative of a possible violation of the particulate mass emission limitation and/or visible emission limitation.

If the daily checks show visible emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of normal visible emissions.

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

- (3) The CAM plan for P020 has been developed for particulate emissions. The CAM performance indicator for the baghouse controlling this emissions unit is the static pressure drop across the baghouse, which was established in accordance with the manufacturer's recommendations. When the static pressure drop shows operation outside the indicator range(s), the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in Section e) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.



e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse was outside the operating range specified above. The quarterly reports shall be submitted in accordance with A. Standard Terms and Conditions – Section 2.

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

- (2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA, Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

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

f) Testing Requirements

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

Emission Limitation:

Particulate emissions (PE) from the exhaust stream shall not exceed 0.62 pound per hour for P020 and 0.3 pound per hour for P033.

Applicable Compliance Method for P020:

Crucible coolers for crucible machine 4
 $(8.70 \text{ lbs/hr}) \times (1-0.98) = 0.174 \text{ lb/hr}$

Crucible coolers for crucible machine 5
 $(8.70 \text{ lbs/hr}) \times (1-0.98) = 0.174 \text{ lb/hr}$

Crucible coolers for crucible machine 8
 $(13.32 \text{ lbs/hr}) \times (1-0.98) = 0.27 \text{ lb/hr}$

Total = 0.62 lb PE/hr

Applicable Compliance Method for P033:

Crucible coolers for crucible machine 4
 $(13.86 \text{ lbs/hr}) \times (1-0.98) = 0.3 \text{ lb/hr}$

The emission factors of 8.70 lbs/hr, 13.32 lbs/hr, and 13.86 lbs/hr were provided by GE Quartz. The emission factors were derived from experimental data and mass balance calculations. The experimental data is based upon experiments which determined the amount of loose sand adhering to the product surface.

Compliance with this emission limitation shall be determined with emission testing to be conducted approximately 2.5 years after the effective date of this permit performed in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A.



Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, CDO's refusal to accept the emissions tests.

Personnel from the Ohio EPA, CDO 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 emission tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with approval from the Ohio EPA, CDO.

- a. Emission Limitation:
There shall be no visible particulate emissions.

Applicable Compliance Method:
Compliance with this emission limitation shall be demonstrated using Test Method 22-like visible emission observations. Although Test Method 22 applies to fugitive emissions units, the visible/no visible emissions observation technique of Test Method 22 can be applied to ducted emissions, i.e., Test Method 22-like visible emission observations.

- b. Emission Limitation:
Particulate emissions shall not exceed 2.72 tons per year from the stack servicing P020 and 1.31 tons per year from the stack servicing P033.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE shall be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual limitation was calculated by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

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

- g) Miscellaneous Requirements
 - (1) None.



5. Emissions Unit Group - Crucible Machines High Purity: P009, P025,

EU ID	Operations, Property and/or Equipment Description
P009	High purity crucible machine No. 3 - uncontrolled
P025	High purity crucible machine No. 1 - uncontrolled

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 No. P0104785)	<p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D).</p> <p><u>For emission unit P009:</u> Nitrogen oxides (NOx) emissions shall not exceed 3.3 pounds per hour from the stack serving this emissions unit.</p> <p><u>For emission unit P025:</u> Nitrogen oxides (NOx) emissions shall not exceed 4.13 pounds per hour from the stack serving this emissions unit.</p> <p><u>For emission unit P009:</u> Particulate emissions (PE) shall not exceed 3.25 tons per year from the stack serving this emissions unit.</p> <p><u>For emission unit P025:</u> Particulate emissions (PE) shall not exceed 4.6 tons per year from the stack serving this emissions unit.</p>
b.	OAC rule 3745-31-05(D) (synthetic minor to avoid PSD)	Total NOx emissions shall not exceed 18.1 tons per year, from the two high purity crucible machine stacks, for



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>emissions units P009 and P025, combined, as a rolling, 12-month summation of the NOx emissions.</p> <p>See 1.c)(1) below.</p>
c.	OAC rule 3745-17-07(A)	Visible PE from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
d.	OAC rule 3745-17-11(B)(1)	<p><u>For emission unit P009:</u> PE from the stack serving this emissions unit shall not exceed 0.74 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.</p> <p><u>For emission unit P025:</u> PE from the stack serving this emissions unit shall not exceed 1.042 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.</p>

(2) Additional Terms and Conditions

a. The PE and NOx pounds per hour and PE tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop any additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The maximum crucible production for emissions units P009 and P025, combined, shall not exceed 75,416 crucibles, based upon a rolling, 12-month summation of the crucible production figures.

The permittee has existing crucible production records and therefore this emissions unit does not need to be limited to a monthly production limitation during the first year after issuance of this permit.

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

d) Monitoring and/or Recordkeeping Requirements

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



- a. the total number of crucibles produced in emissions units P009 and P025;
- b. the total NOx emission rate from emissions units P009 and P025, combined, in pounds, calculated using the following formula:
{number of crucibles produced monthly in P025}*{1.02 lbs/crucible} + {number of crucibles produced monthly in P009}*{0.48 lb/crucible}; and
- c. the rolling, 12-month summation of NOx emissions and the rolling, 12-month summation of crucibles produced from emissions units P009 and P025, combined.

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

- (2) The permittee shall perform daily checks, using either certified or non-certified visible emissions observers, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to eliminate the visible emissions.

Note: The presence of any visible particulate emissions may or may not indicate a violation of the particulate mass emission limitation and/or visible emission limitation. If required, compliance with the particulate mass emission limitation and the visible emission limitation shall be determined by performing concurrent mass emission tests and visible emissions observations, using USEPA methods and procedures. The results of any required mass emission tests and visible emissions observations shall be used in determining whether or not the presence of any visible particulate emissions is indicative of a possible violation of the particulate mass emission limitation and/or visible emission limitation.

If the daily checks show visible emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when this emissions unit is in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of normal visible emissions.

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

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month crucible production restriction and NOx emission



limitation. The quarterly deviation reports shall be submitted in accordance with A. Standard Terms and Conditions – Section 2. of this permit.

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

- (2) The permittee shall submit annual reports that specify the total NOx emissions from emissions units P009 and P025 combined for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for these emissions units in the annual Fee Emission Report.

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

- (3) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to Ohio EPA, Central District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

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

f) Testing Requirements

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

a. Emission Limitation:

NOx emissions shall not exceed 3.3 pounds per hour for P009 and 4.13 pounds per hour from P025 from the stack serving these emission units.

Applicable Compliance Method:

Compliance with this emission limitation may be demonstrated by multiplying the maximum hourly number of crucibles produced in these emissions units (6 for P009 and 3.5 for P025) by an emission factor of 0.48 lb/crucible for P009 and 1.02 for P025 (based on emission tests performed by GE Quartz, Inc. Newark Plant on 3/24/98).

If required by the Ohio EPA and/or U.S. EPA, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

b. Emission Limitation:

Total NOx emissions shall not exceed 18.1 tons per year, from the two high purity crucible machine stacks, for emissions units P009 and P025, combined, as a rolling, 12-month summation of the NOx emissions.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation based on the record keeping required in section 1.d)(1).



c. Emission Limitation:

Visible PE from the stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the emission limitation based on the record keeping required in section 1.d)(2).

If required by the Ohio EPA and/or U.S. EPA, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

[3745-17-03(B)(1)]

d. Emission Limitation:

PE shall not exceed 0.74 pounds per hour from the stack serving this emissions unit.

Applicable Compliance Method:

Compliance with this emission limitation was established through emission tests performed on August 2, 1999 that demonstrated an hourly emission rate of 0.017 lb/hr. If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

e. Emission Limitation:

PE shall not exceed 3.25 tons per year from the stack serving this emissions unit.

Applicable Compliance Method:

Compliance with the annual emission limitation for PE shall be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

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

g) Miscellaneous Requirements

(1) None.



6. Emissions Unit Group - Large Diameter Lathes: B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P014, P015, P021, P032, P036,

EU ID	Operations, Property and/or Equipment Description
B001	Large Diameter Lathe No. 1 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B002	Large Diameter Lathe No. 2 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B003	Large Diameter Lathe No. 3 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B004	Large Diameter Lathe No. 4 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B005	Large Diameter Lathe No. 5 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B006	Large Diameter Lathe No. 6 - 3.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B023	Large Diameter Lathe No. 10 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B024	Large Diameter Lathe No. 11 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B025	Large Diameter Lathe No. 12 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS
B026	Large Diameter Lathe No. 13 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B027	Large Diameter lathe No. 14 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B028	Large Diameter Lathe No. 16 - 5.04 MMBtu/hr controlled with a SCR unit monitored by a NOx CEMS
B029	Large Diameter Lathe No. 17 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B030	Large Diameter Lathe - No. 18 - 6.3 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B031	Large Diameter Lathe No. 15 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B032	Large Diameter Lathe No. 19 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
B033	Large Diameter Lathe No. 20 - 5.04 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
P014	Large Diameter Lathe No. 7 - 4.56 MMBtu/hr controlled with a SCR unit and controlled by a NOx CEMS
P015	Large Diameter Lathe No. 8 - 4.56 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
P021	Large diameter repair lathe No. 1 - 0.78 MMBtu/hr controlled with a SCR unit and monitored by a NOx CEMS.
P032	Large Diameter Lathe No. 9 - 5.04 MMBtu/hr controlled with a SCR unit and monitored with a NOx CEMS.
P036	Large diameter repair lathe No. 2 - 0.88 MMBtu/hr controlled with a SCR unit and monitored with a NOx CEMS.



- 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 No. P0104785)	<p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1) and 3745-31-05(D).</p> <p><u>For emission units B001 – B006:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 14.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 45.6 pounds per hour.</p> <p><u>For emission units B023 – B029 and B031 - B033:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 12.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 39.2 pounds per hour.</p> <p><u>For emission unit B030:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 15.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 49.0 pounds per hour.</p> <p><u>For emission units P014 and P015:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>stack shall not exceed 17.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 55.0 pounds per hour.</p> <p><u>For emission units P021:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 2.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 6.60 pounds per hour.</p> <p><u>For emission units P036:</u> Nitrogen oxides (NOx) emissions for this emissions unit alone from the SCR unit stack shall not exceed 3.0 pounds per hour from May 1 to September 30. From October 1 to April 30, the emissions from the unit shall not exceed 7.50 pounds per hour.</p> <p><u>For emission units B001-B006, B023-B033, P014, P015, P021, and P036:</u> Particulate emissions (PE) for this emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.</p> <p>See 3.b)(2)a. below.</p>
b.	OAC rule 3745-31-05(D) (synthetic minor to avoid PSD)	Total NOx emissions from the SCR unit stack shall not exceed 210.7 tons per year for emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NOx emissions.
c.	OAC rule 3745-17-07(A)	Visible PE from the SCR unit stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
d.	OAC rule 3745-17-11(B)(1)	<u>For emission units B001-B006, B023-B033, P014, P015, P021, and P036:</u>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		PE for this emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.

(2) Additional Terms and Conditions

- a. Except for the time period set forth in B. Facility-Wide Terms and Conditions – Section 2.b)(11), the permittee shall vent the emissions from this emissions unit to a selective catalytic reduction (SCR) unit while operating this emissions unit.

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

- b. The PE pounds per hour and tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit after control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

- c. The NOx pounds per hour limitation for this emissions unit was established to reflect the potential to emit for the unit after control for the time period of May 1 to September 30. For the remainder of the year, the NOx pound per hour limitation for the emissions unit was established to reflect the potential to emit for the unit without control. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) For monitoring and record keeping requirements for the rolling, 12-month NOx emission limitation, see Part B. – Facility-Wide Terms and Conditions, Section 4.a).

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

- (2) For monitoring and record keeping requirements for the visible PE limitation from the SCR unit stack, see Part B. – Facility-Wide Terms and Conditions, Section 4.e).

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

- (3) During the period of May 1 to September 30, for monitoring and record keeping requirements for the hourly NOx emission limitation, the permittee shall collect and record the rolling, 3-hour average of the NOx destruction efficiency of the SCR. The



efficiency shall be based upon data obtained from the SCR inlet analyzer and the outlet CEMS.

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

- (4) During the period of May 1 to September 30, for each 3-hour period when the NOx destruction efficiency is less than 70%, the permittee shall note the following in the operations log:
 - a. the 3-hour average NOx destruction efficiency;
 - b. the hours included in the 3-hour period;
 - c. for each hour within the period, the production lathes, repair lathes and arc fusion machines that were operating;
 - d. for each hour within the period, the sum of the hourly NOx emissions limitations for the production lathes, repair lathes and arc fusion machines that were operating;
 - e. for each hour within the period, the NOx emissions in pounds per hour measured by the SCR outlet CEMS; and
 - f. for each hour within the period, whether the value for (e) exceeds the value for (d), above.

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

e) Reporting Requirements

- (1) For reporting requirements for the rolling, 12-month NOx emission limitation, see Part B. – Facility-Wide Terms and Conditions, Section 5.a).
- (2) For reporting requirements for the visible PE limitation from the SCR unit stack, see Part B. – Facility-Wide Terms and Conditions, Section 5.d).
- (3) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the hourly NOx emission limitation based on the records required by Section d)(4)f. above. The quarterly deviation reports shall be submitted in accordance with A. Standard Terms and Conditions – Section 2. of this permit.

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

f) Testing Requirements

- (1) Compliance with the emission limitations in Section b)(1) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
NOx emissions for the emissions unit alone from the SCR unit stack shall not exceed 14.0 pounds per hour for emissions units B001 – B006, 12.0 pounds per hour for emissions units B023 - B029 and B031 - B033, 15.0 pounds per hour for



B030, 17.0 pounds per hour for emissions units P014 and P015, and 2.0 pounds per hour for emissions units P021 and P036.

Applicable Compliance Method:

The emission limitations during the period of May 1 to September 30 were established by multiplying the maximum hourly MMBTU demand (X) by an emission factor of (Y) lbs/MMBTU (derived from emissions tests performed on March 25, 1998) and by (1-0.70) for the control efficiency of the SCR unit where:

X = 3.78 and Y = 12.06 for emissions units B001 – B006;

X = 5.04 and Y = 7.77 for emissions units B023 – B029, B031, and B032;

X = 6.3 and Y = 7.77 for emissions unit B030;

X = 4.56 and Y = 12.06 for emissions units P014 and P015; and

X = 0.78 and Y = 8.5 for emissions units P021 and P036.

Compliance with this limitation may be demonstrated by showing that the rolling, 3-hour average SCR destruction efficiency is equal to or greater than 70%.

During the period of May 1 to September 30, if the rolling, 3-hour average SCR destruction efficiency is less than 70%, compliance with this emission limitation shall be demonstrated by showing that the NO_x emission rate determined in Section 3.d)(4)e. is less than or equal to the emission limitation determined in Section 3.d)(4)d.

If required by the Ohio EPA and/or U.S. EPA, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.Miscellaneous Requirements

b. Emission Limitation:

210.7 tons per year of NO_x from the SCR unit stack serving emissions units B001, B002, B003, B004, B005, B006, B023, B024, B025, B026, B027, B028, B029, B030, B031, B032, B033, P010, P011, P012, P014, P015, P021, P032, P035, and P036, combined, as a rolling, 12-month summation of the NO_x emissions.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part B – Facility-Wide Terms and Conditions, Section 6.a)(1).

c. Emission Limitation:

Visible PE from the SCR stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emission limitation as described in Part B – Facility-Wide Terms and Conditions, Section 6.a)(2).

d. Emission Limitation:

PE for the emissions unit alone from the SCR unit stack shall not exceed 0.551 pound per hour.



Applicable Compliance Method:

Compliance with this emission limitation was demonstrated based upon the results of emission tests performed on May 28, 1998 that demonstrated a maximum hourly emission rate of 0.4 lb/hr. If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5 and the procedures specified in OAC rule 3745-17-03(B)(10).

e. **Emission Limitation:**

PE for the emissions unit alone from the SCR unit stack shall not exceed 2.4 tons per year.

Applicable Compliance Method:

Compliance with the annual emission limitation for PE shall be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

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

g) **Miscellaneous Requirements**

(1) None.



7. Emissions Unit Group - Window Grade Quartz Machines: P038, P039, P040, P041, P042, P043,

EU ID	Operations, Property and/or Equipment Description
P038	Window Grade Quartz Machine No. 1
P039	Window Grade Quartz Machine No. 2
P040	Window Grade Quartz Machine No. 3
P041	Window Grade Quartz Machine No. 4
P042	Window Grade Quartz Machine No. 5
P043	Window Grade Quartz Machine No. 6

- 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 No. 01-01308)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1), and 3745-31-05(D). See B.2.a). Nitrogen oxides (NOx) emissions from this emissions unit shall not exceed 1.28 pounds per hour and 5.6 tons per year. Carbon Monoxide (CO) emissions from this emissions unit shall not exceed 1.62 pounds per hour and 7.10 tons per year. Particulate emissions (PE) for this emissions unit shall not exceed 2.41 tons per year.
b.	OAC rule 3745-17-07(A)	Visible PE shall not exceed 20% opacity, as a 6-minute average. Except as provided by rule.
c.	OAC rule 3745-17-11(B)(1)	PE shall not exceed 0.551 pound per hour based on Table I which is more stringent than the allowable PE rate from Figure II.



(2) Additional Terms and Conditions

a. The PE, CO, and NOx pounds per hour and tons per year emission limitations for this emissions unit were established to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop additional monitoring, record keeping, and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

Note: The presence of any visible particulate emissions may or may not indicate a violation of the particulate mass emission limitation and/or visible emission limitation. If required, compliance with the particulate mass emission limitation and the visible emission limitation shall be determined by performing concurrent mass emission tests and visible emissions observations, using USEPA approved methods and procedures. The results of any required mass emission tests and visible emissions observations shall be used in determining whether or not the presence of any visible particulate emissions is indicative of a possible violation of the particulate mass emission limitation and/or visible emission limitation.

If the daily checks show visible emissions that are representative of normal operation for 30 consecutive operating days, the required frequency of visible emissions checks may be reduced to weekly (once per week, when the emissions unit is in operation). If a subsequent check indicates abnormal visible emissions, the frequency of emissions checks shall revert to daily until such time as there are 30 consecutive operating days of normal visible emissions.

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



e) Reporting Requirements

- (1) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to Ohio EPA, CDO by January 31 and July 31 of each year and shall cover the previous 6-month period.

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

f) Testing Requirements

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

a. Emission Limitation:

NOx emissions for this emissions unit shall not exceed 1.28 pounds per hour.

Applicable Compliance Method:

This emission limitation was established by multiplying the maximum hourly MMBtu demand (0.85) by an emission factor of 1.5 lbs NOx/MMBtu (derived from emissions tests performed, April 25, 2006 on the Window Grade Quartz Unit at the GE Quartz Highland Road Plant.

If required by the Ohio EPA and/or U.S. EPA, compliance shall be demonstrated through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 7E.

b. Emission Limitation:

5.6 tons per year of NOx

Applicable Compliance Method:

Compliance with the annual emission limitation for NOx shall be assumed provided compliance is maintained with the pound per hour emission limitation for NOx. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

c. Emission Limitation:

CO emissions for this emission unit shall not exceed 1.62 pounds per hour.

Applicable Compliance Method:

This emission limitation was established by multiplying the maximum hourly MMBtu demand (0.85) by an emission factor of 1.90 lbs CO/MMBtu (derived from emissions tests performed, April 25, 2006 on the Window Grade Quartz Unit at the GE Quartz Highland Road Plant.

d. Emission Limitation:

7.1 tons per year of CO.

Applicable Compliance Method:

Compliance with the annual emission limitation for CO Shall be assumed provided compliance is maintained with the pound per hour emission limitation



for CO. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

- e. Emission Limitation:
Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation as described in Section d)(1).

If required compliance shall be determined through visible emissions observations performed in accordance with U.S. EPA method 9.

- f. Emission Limitation:
PE shall not exceed 0.551 pound per hour.

Applicable Compliance Method:
If required by the Ohio EPA and/or U.S. EPA, the permittee shall demonstrate compliance with this emission limitation through emission testing in accordance with 40 CFR Part 60, Appendix A, Methods 1-5.

- g. Emission Limitation:
PE for this emissions unit shall not exceed 2.41 tons per year.

Applicable Compliance Method:
Compliance with the annual emission limitation for PE shall be assumed provided compliance is maintained with the pound per hour emission limitation for PE. The annual emission limitation was established by multiplying the hourly limitation by 8760 hours per year and dividing by 2000 pounds per ton.

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

- g) Miscellaneous Requirements

- (1) None