STATE OF MISSISSIPPI
AIR POLLUTION CONTROL PERMIT

AND PREVENTION OF SIGNIFICANT DETERIORATION AUTHORITY TO CONSTRUCT AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

Mississippi Silicon LLC
Burnsville, Mississippi
Tishomingo County

has been granted permission to construct air emissions equipment to comply with emission limitations, monitoring requirements and other conditions set forth herein. This permit is issued in accordance with the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder and under authority granted by the Environmental Protection Agency under 40 CFR 52.01 and 52.21.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

AUTHORIZED SIGNATURE
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Issued: November 27, 2013 **Permit No.: 2640-00060**

PART I
GENERAL CONDITIONS

I.1. Any activities not identified in the application are not authorized by this permit.

I.2. All air pollution control facilities shall be designed and constructed such as to allow proper operation and maintenance of the facilities.

I.3. The necessary facilities shall be constructed so that solids removed in the course of control of air emissions may be disposed of in a manner such as to prevent the solids from becoming windborne and to prevent the materials from entering State waters without the proper environmental permits.

I.4. The air pollution control facilities shall be constructed such that diversion from or bypass of collection and control facilities is not needed except as provided for in Regulation APC-S-1, "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants", Section 10.

I.5. The construction of facilities shall be performed in such a manner as to reduce both point source and fugitive dust emissions to a minimum.

I.6. The permittee shall allow the Mississippi Department of Environmental Quality Office of Pollution Control and the Mississippi Environmental Quality Permit Board and/or their representatives upon presentation of credentials:

a. To enter upon the permittee's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any air emissions.

I.7. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to:

a. Violation of any terms or conditions of this permit.

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts, or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of authorized air emissions.

I.8. Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Environmental Quality Office of Pollution Control.

I.9. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

I.10. Nothing herein contained shall be construed as releasing the permittee from any liability for damage to persons or property by reason of the installation, maintenance, or operation of the air cleaning facility, or from compliance with the applicable statutes of the State, or with local laws, regulations, or ordinances.

I.11. This permit may only be transferred upon approval of the Mississippi Environmental Quality Permit Board.

I.12. This permit is for air pollution control purposes only.

I.13. Approval to construct will expire should construction not begin within eighteen (18) months of the issuance of this permit, or should construction be suspended for eighteen (18) months.

I.14. The permittee shall notify the MDEQ in writing when construction of the facility begins within fifteen (15) days of beginning actual construction.

I.15 Upon the completion of construction or installation of an affected source, the permittee shall notify the Permit Board within thirty (30) days that construction or installation was performed in accordance with the approved plans and specifications on file with the permit board. Certification of Construction for the purposes of this permit is defined as completion of the commissioning and testing, of all of the major production lines, which allows the beginning of operations as an integrated facility.

I.16 The Permit to Construct shall be deemed to satisfy the requirement for a permit to operate until the date the application for issuance of the Title V Permit to Operate is due. The permittee shall submit an application for a Title V Permit to Operate no later than twelve (12) months after beginning operation. Beginning operation will be assumed to occur upon certification of construction, unless the permittee specifies differently in writing.

PART II
EMISSION POINT DESCRIPTION

The permittee is authorized to construct air emissions equipment for the emission of air contaminants from the Silicon Manufacturing Plant:

Emission Point	Description
AA-000	**Silicon Manufacturing Plant**
AA-100	**Raw Material Receiving, Handling and Storage Operations**
AA-101	Material Handling and Transfer to and from Coal Storage Pile
AA-101a	Conveyance of Coal to Charging Storage Silo equipped with a baghouse or combination of baghouses with 120,000 acfm for controlling emissions (BG5)
AA-102	Material Handling and Transfer to and from Wood Storage Pile
AA-102a	Conveyance of Wood to Charging Storage Silo equipped with a baghouse or combination of baghouses with 120,000 acfm for controlling emissions (BG5)
AA-102b	Wood Chipper
AA-103	Material Handling and Transfer to and from Quartz Storage Pile
AA-103a	Conveyance of Quartz to Charging Storage Silo equipped with a baghouse or combination of baghouses with 120,000 acfm for controlling emissions (BG5)
AA-104	Material Handling and Transfer to and from Limestone Storage Pile
AA-105	Storage Piles Processing (i.e., Bulldozing)
AA-106	Wind Erosion on Coal, Wood and Quartz Storage Piles
AA-200	**Silicon Manufacturing Plant**

Emission Point	Description
AA-201	Four (4) Submerged Arc Furnaces equipped with individual negative pressure Baghouses (BG1, BG2, BG3, and BG4) for controlling emissions from the maximum production capacity of 2.75 tons/hour per furnace and 11.0 tons/hour utilizing all four furnaces and 21,024 tons/year per furnace and 84,096 tons/year utilizing all four furnaces.
AA-201a	Casting Frames
AA-202	Four (4) 10.0 MMBTU/Hr Natural Gas-Fired Ladle Preheaters (2 ton ladle capacity)
AA-300	**Product Refinement and Handling**
AA-301	Silicon Grinding and Milling Operations equipped with a baghouse or combination of baghouses with 120,000 acfm for controlling emissions (BG6)
AA-400	**Other Plantwide Operations and Activities**
AA-401	One (1) 500 gallon Diesel Storage Tank
AA-402	Plantwide Fugitive Emissions from Roadways
AA-402a	Plantwide Fugitive Emissions from Transport of Raw Materials (Material Storage Piles to SAF Charging Building)
AA-403	Slag Handling and Storage
AA-404	Silica Fume Silos
AA-405	Facility Wide Miscellaneous Operations subject to APC-S-6 *(Insignificant Activities)*
AA-500	**Emergency Support Equipment**
AA-501	One (1) 670 HP Diesel-Fired Emergency Generators

PART III
EMISSION POINT SPECIFIC LIMITATIONS AND STANDARDS

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard
AA-000 *(Entire Facility)*	**PSD Construction Permit Issued November 27, 2013**	**III.1**	**Silicon Production**	**84,096 tpy**
		III.2	**Natural Gas Combustion**	**350,000 MMBtu/yr**
		III.3	**NOx**	**1,906.2 tpy**
		III.4	**CO**	**1,444.3 tpy**
		III.5	**SO2**	**2,170.1 tpy**
		III.6	**VOC**	**93.5 tpy**
		III.7	**PM/PM10**	**81.8 tpy**
		III.8	**PM2.5**	**73.33 tpy**
		III.9	**HAP**	**9.90 tpy (Single)**
				24.9 tpy (Combined)
AA-101 *(Coal Storage Pile Material Handling)*	**PSD Construction Permit Issued November 27, 2013**	**III.10**	**PM/PM10/ PM2.5**	**BACT: Best Management Practices including a 3-sided windscreen barrier (where technically feasible), reduced drop heights, use of chemical stabilization, and/or watering to reduce visible emissions and the development of a fugitive dust control plan to minimize PM emissions**
		III.11	**Material Throughput Rate**	**105,120 tpy**
AA-101a (Coal Conveyance)	**PSD Construction Permit Issued November 27, 2013**	**III.12**	**PM/PM10/ PM2.5**	**BACT: 0.003 gr/dscf and use of Baghouse for PM/PM10/PM2.5 control**
AA-102 *(Wood Storage Pile Material Handling)*	**PSD Construction Permit Issued November 27, 2013**	**III.10**	**PM/PM10/ PM2.5**	**BACT: Best Management Practices including a 3-sided windscreen barrier(where technically feasible), reduced drop heights, use of chemical stabilization, and/or watering to reduce visible emissions and the development of a fugitive dust control plan to minimize PM emissions**
		III.13	**Material Throughput Rate**	**212,763 tpy**

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard
AA-102a (Wood Conveyance)	**PSD Construction Permit Issued November 27, 2013**	**III.12**	**PM/PM10/ PM2.5**	**BACT: 0.003 gr/dscf and use of Baghouse for PM/PM10/PM2.5 control**
AA-102b *(Wood Chipper)*	**PSD Construction Permit Issued November 27, 2013**	**III.14**	**PM/PM10/ PM2.5**	**BACT: Operation with an enclosure that will minimize fugitive emissions and limited hours of operation**
AA-103 *(Quartz Storage Pile Material Handling)*	**PSD Construction Permit Issued November 27, 2013**	**III.10**	**PM/PM10/ PM2.5**	**BACT: Best Management Practices including a 3-sided windscreen barrier(where technically feasible), reduced drop heights, use of chemical stabilization, and/or watering to reduce visible emissions and the development of a fugitive dust control plan to minimize PM emissions**
		III.15	**Material Throughput Rate**	**212,763 tpy**
AA-103a (Quartz Conveyance)	**PSD Construction Permit Issued November 27, 2013**	**III.12**	**PM/PM10/ PM2.5**	**BACT: 0.003 gr/dscf and use of Baghouse for PM/PM10/PM2.5 control**
AA-104 *(Limestone Storage Pile Material Handling)*	**PSD Construction Permit Issued November 27, 2013**	**III.10**	**PM/PM10/ PM2.5**	**BACT: Best Management Practices including a 3-sided windscreen barrier(where technically feasible), reduced drop heights, use of chemical stabilization, and/or watering to reduce visible emissions and the development of a fugitive dust control plan to minimize PM emissions**
		III.16	**Material Throughput Rate**	**183 tpy**
AA-105 *(Storage Piles Processing)*	**PSD Construction Permit Issued November 27, 2013**	**III.17**	**PM/PM10/ PM2.5**	**BACT: Development of Dust Control Plan including measures to eliminate dust such as application of wet suppressants, watering, speed reduction and vacuuming or sweeping, as required**
AA-106 *(Storage Pile Wind Erosion)*	**PSD Construction Permit Issued November 27, 2013**	**III.18**	**PM/PM10/ PM2.5**	**BACT: Implementation of a Fugitive Dust Control Plan. Visible emissions shall be controlled using water, dust suppressants, or wind screens as needed.**

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard
AA-200 ***(Silicon Processing)***	**PSD Construction Permit Issued November 27, 2013**	**III.28**	**Opacity**	**6% exiting roof vents**
AA-201 ***(Submerged Arc Furnaces)***	**PSD Construction Permit Issued November 27, 2013**	**III.19**	**PM/PM10/ PM2.5**	**BACT: 0.005 gr/dscf and use of fabric filter control (i.e., baghouse)**
	40 CFR 60.262(a)(1)	**III.20**	**PM**	**0.99 lb/MW-hr (compliance with 40 CFR 60, Subpart Z)**
	PSD Construction Permit Issued November 27, 2013	**III.21**	**GHG (as CO2e)**	**BACT: 95,467 tpy of CO2e per furnace and 381,866 tpy of CO2e f for all Furnaces combined; Use of Semi-Enclosed Furnace; and Good Operation and Maintenance**
		III.22	**NOx**	**BACT: 45.0 lbs/ton (averaged over a 3-hr period) of Silicon produced**
		III.23	**CO**	**BACT: 34.0 lbs/ton (averaged over a 3-hr period) of Silicon produced; Good Combustion and Operating Practices; Use of Semi-Enclosed Furnace**
	40 CFR 60.263(a)	**III.24**		**Less than 20 volume percent on a dry basis**
	PSD Construction Permit Issued November 27, 2013	**III.25**	**SO2**	**BACT: 52.0 lbs/ton (averaged over a 3-hr period) of Silicon produced; and Utilization of Low Sulfur Content Material (where technically feasible)**
		III.26	**VOC**	**BACT: 2.4 lbs/ton (averaged over a 30-day period) of Silicon produced; and Good Operating Practices**
	40 CFR 60.264(a)	**III.27**	**Opacity**	**Continuous Opacity Monitoring (COM) Installation and Operation**
	PSD Construction Permit Issued November 27, 2013	**III.28**		**3% exiting from the control device (i.e., fabric filter) (since this limit is lower than the 15% emission limitation of 40 CFR 60.264(b) the permittee is in compliance with 4 Subpart Z)**
	PSD Construction Permit Issued November 27, 2013	**III.54**	**Operating Limit**	**Only Two out of the Four Furnaces may be operated at any given time.**
		III.55		**Requirements to Remove Operating Restrictions**

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard
AA-201a ***(Casting Frames)***	**PSD Construction Permit Issued November 27, 2013**	**III.29**	**PM/PM10/ PM2.5**	**BACT: Best Management Practices to minimize the generation of fugitive particulate emissions**
AA-202 ***(Ladle Preheaters)***	**PSD Construction Permit Issued November 27, 2013**	**III.30**	**NOx**	**BACT: 0.08 lbs/MMBTU; low NOx or equivalent burners/technology; combustion of clean fuel; and good combustion practices**
AA-202 ***(Ladle Preheaters)***	**PSD Construction Permit Issued November 27, 2013**	**III.31**	**GHG**	**BACT: 117 lb/MMBTU of CO2**
				BACT: 0.0022lb/MMBtu of Methane;
				BACT: 0.0002 lb/MMBtu of N2O
				BACT: Good Combustion Practices, Combustion of Natural Gas Only, Periodic Maintenance, and energy efficient burner design including Low NOx burners or equivalent
AA-202 ***(Ladle Preheaters)***	**PSD Construction Permit Issued November 27, 2013**	**III.32**	**PM/PM10/ PM2.5**	**BACT: 0.0076 lbs/MMBTU; Combustion of Natural Gas; and Good Combustion Practices**
		III.33	**CO**	**BACT: 0.0840 lbs/MMBTU; Combustion of Natural Gas; and Good Combustion Practices**
		III.34	**SO2**	**BACT: 0.0006 lbs/MMBtu; Combustion of Clean Fuel (i.e., Combustion of Natural Gas Only); and Good Combustion Practices**
		III.35	**VOC**	**BACT: 0.0055lb/MMBtu; Combustion of Natural Gas; and Good Operating Practices**
AA-301 (Silicon Grinding and Milling)	**PSD Construction Permit Issued November 27, 2013**	**III.12**	**PM/PM10/ PM2.5**	**BACT: 0.003 gr/dscf and use of Baghouse for PM control**
AA-402 and AA-402a ***(Unpaved and Paved Roads and Plantwide Trasnport Fugitive Emissions)***	**PSD Construction Permit Issued November 27, 2013**	**III.17**	**PM/PM10/ PM2.5**	**BACT: Development of Dust Control Plan including measures to eliminate dust such as application of wet suppressants, watering, speed reduction and vacuuming or sweeping, as required**

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard
AA-403 ***(Slag Handling and Storage)***	**PSD Construction Permit Issued November 27, 2013**	**III.12**	**PM/PM10/ PM2.5**	**BACT: 0.003 gr/dscf and use of Baghouse for PM/PM10/PM2.5 control**
AA-404 ***(Silica Fume Silo)***	**PSD Construction Permit Issued November 27, 2013**	**III.36**	**PM/PM10/ PM2.5**	**BACT: 0.01 gr/dscf for PM10/PM2.5 and the use of Bin Vent Filter for PM Control**
AA-404 ***(Silica Fume Silo)***	**40 CFR 60.262(b) and PSD Construction Permit Issued November 27, 2013**	**III.37**	**Opacity**	**Dust Handling Equipment Emissions shall not exceed 10%**
AA-501 ***(Emergency Generators)***	**PSD Construction Permit Issued November 27, 2013**	**III.38**	**PM/PM10/ PM2.5**	**BACT: Good Combustion and Operating Practices and Compliance with NSPS IIII**
			CO	
			VOC	
			NOx	**BACT: Good Combustion and Operating Practices; Compliance with NSPS IIII; and Use of Ultra Low Sulfur Diesel (ULSD) fuel**
			SO2	
	40 CFR 60.4200(a)(2)(i)	**III39**	**NSPS Subpart IIII**	**Applicability**
	40 CFR 60.4206	**III.40**		**Lifetime Requirements**
	40 CFR 60.4205(b)	**III.41**		**Emission Standards**
	40 CFR 60.4207(b)	**III.42**		**Diesel Fuel Requirements**
AA-000 ***(Entire Facility)*** ****where applicable***	**40 CFR 64.2(a)**	**III.43**	**CAM**	**Applicability**
	40 CFR 60.260	**III.44**	**NSPS Subpart Z**	**Applicability**
	40 CFR 63.11524(a) and (b)(2)	**III.45**	**MACT Subpart YYYYYY**	**Applicability**

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Limit/Standard
AA-000 ***(Entire Facility)*** ****where applicable***	**40 CFR 63.11525(c)**	**III.46**	**MACT Subpart YYYYYY**	**Compliance Date (Upon Startup)**
	40 CFR 63.11526	**III.47**		**Emission Standards**
	40 CFR 63.6585(a) and (c) via 63.6590(c)	**III.48**	**MACT Subpart ZZZZ**	**Compliance via NSPS Subpart IIII**
	PSD Construction Permit Issued November 27, 2013	**III.49**	**Opacity**	**No more than 10%**
AA-405 ***(Insignificant Activities)*** ****where applicable***	**APC-S-1, Section 3.4(a)(1)**	**III.50**	**PM/PM10**	**0.6 lbs/MMBTU or as otherwise limited by facility modification restrictions**
	APC-S-1, Section 3.4(a)(2)	**III.51**		**$E = 0.8808*I^{-0.1667}$ or as otherwise limited by facility modification restrictions.**
	APC-S-1, Section 3.8(a)	**III.52**		**0.2 grains/dscf of flue gas calculated to 12% CO_2 by volume**
	APC-S-1, Section 4.1(a)	**III.53**	**SO2**	**4.8 lbs/MMBTU per hour or as otherwise limited by facility modification restrictions**
AA-000 (Entire Facility)	**PSD Construction Permit Issued November 27, 2013**	**III.56**	**SSM**	**Provisions for Startup, Shutdown, and Malfunction Emissions**

III.1 For Emission Point AA-000 (Entire Facility), the permittee shall limit the annual Silicon Production to no more than 84,096 tons per year (tpy) as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.2 For Emission Point AA-000 (Entire Facility), the permittee shall limit Natural Gas Combustion to no more than 350,000 MMBtu per year (MMBTU/yr) as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.3 For Emission Point AA-000 (Entire Facility), the permittee shall limit emissions of Nitrogen Oxides (NOx) to no more than 1,906.2 tpy as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.4 For Emission Point AA-000 (Entire Facility), the permittee shall limit emissions of Carbon Monoxide (CO) to no more than 1,444.3 tpy as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.5 For Emission Point AA-000 (Entire Faciltiy), the permittee shall limit emissions of Sulfur Dioxide (SO2) to no more than 2,170.1 tpy as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.6 For Emission Point AA-000 (Entire Facility), the permittee shall limit emissions of Volatile Organic Compounds (VOCs) to no more than 93.5 tpy as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.7 For Emission Point AA-000 (Entire Facility), the permittee shall limit emissions of Particulate Matter/Particulate-10 (PM/PM-10) to no more than 81.8 tpy as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.8 For Emission Point AA-000 (Entire Facility), the permittee shall limit emissions of Particulate Matter-2.5 to no more than 73.33 tpy as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.9 For Emission Point AA-000 (Entire Facility), the permittee shall limit emissions of Hazardous Air Pollutants (HAPs) to no more than 9.90 tpy for any single HAP and 24.9 tpy for combined HAPs, as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.10 For Emission Points AA-101, AA-102, AA-103, and AA-104 (Coal, Wood, Quartz, and Limestone Storage Pile Material Handling Areas), the permittee shall implement as appropriate the following Best Management Practices for minimizes PM emissions (BACT for PM/PM10/PM2.5);

(a) Install a 3-sided windscreen barrier (where technically feasible);
(b) Reduce drop heights;
(c) Use chemical stabilizers;

(d) Use watering Techniques; and
(e) Develop and Implement a Fugitive Dust Control Plan

(Ref.: PSD Construction Plan Issued Issuance Date)

III.11 For Emission Point AA-101 (Coal Storage Pile Material Handling), the permittee shall limit the Material Throughput Rate to no more than 105,120 tpy as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.12 For Emission Point AA-101a, AA-102a, AA-103a, AA-301, and AA-403 (Coal, Wood, and Quartz Conveyance, Silicon Grinding and Milling, and Slag Handling and Storage) the permittee shall limit PM/PM10/PM2.5 emissions to no more than 0.003 grains per dry standard cubic foot (gr/dscf) and use a baghouse for PM/PM10/PM2.5 control (BACT for PM/PM10/PM2.5). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.13 For Emission Point AA-102 (Wood Storage Pile Material Handling), the permittee shall limit the Material Throughput Rate to no more than 212,763 tpy as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.14 For Emission Point AA-102b (Wood Chipper), the permittee shall operate with an enclosure that will minimize fugitive emissions and limit the hours of operations to minimize PM/PM10/PM2.5 emissions (BACT for PM/PM10/PM2.5). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.15 For Emission Point AA-103 (Quartz Storage Pile Material Handling), the permittee shall limit the Material Throughput Rate to no more than 212,763 tpy as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.16 For Emission Point AA-104 (Limestone Storage Pile Material Handling), the permittee shall limit the Material Throughput Rate to no more than 183 tpy as determined for each consecutive 12-month period. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.17 For Emission Point AA-105 (Storage Piles Processing), the permittee shall implement a Dust Control Plan for minimizing PM/PM10/PM2.5 emissions (BACT for PM/PM10/PM2.5) which shall include as appropriate the following;

(a) Application of a wet suppressants;
(b) Watering Application;
(c) Spreed Reduction Implementation and Postings; and
(d) Vacuuming or Sweeping Methodologies

(Ref.: PSD Construction Plan Issued Issuance Date)

III.18 For Emission Point AA-106 (Storage Pile Wind Erosion), the permittee shall implement a Fugitive Dust Control Plan for minimizing PM/PM10/PM2.5 emissions (BACT for

PM/PM10/PM2.5) which shall include as appropriate the following for controlling Visible Emissions:

(a) Water Application;
(b) Dust Suppressants; and
(c) Wind Screens

(Ref.: PSD Construction Plan Issued Issuance Date)

III.19 For Emission Point AA-201 (Submerged Arc Furnace), the permittee shall limit PM/PM10/PM2.5 emissions to no more than 0.005 gr/dscf and use a baghouse for PM control (BACT for PM/PM10/PM2.5). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.20 For Emission Point AA-201 (Submerged Arc Furnace), the permittee is subject to the New Source Performance Standards for Ferroalloy Production, specifically 40 CFR 60 - Subpart Z and shall limit PM emissions to no more than 0.99 lb/MW-hr for determining compliance with 40 CFR 60, Subpart Z. (Ref.: 40 CFR 60.262(a)(1))

III.21 For Emission Point AA-201 (Submerged Arc Furnace), the permittee shall limit emissions of Greenhouse Gases, expressed as Carbon Dioxide equivalent, to no more than 95,467 tpy per furnace and 381,866 tpy for all four furnaces combined, as determined for each consecutive 12-month period, and shall also use semi-enclosed furnaces and employ good operating and maintenance techniques (BACT for GHG (as CO2e)). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.22 For Emission Point AA-201 (Submerged Arc Furnace), the permittee shall limit NOx emissions to no more than 45.0 lbs/ton as determined by a 3-hr rolling average period of Silicon produced (BACT for NOx). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.23 For Emission Point AA-201 (Submerged Arc Furnace), the permittee shall limit CO emissions to no more than 34.0 lbs/ton, as determined by a 3-hr rolling average period of Silicon produced, and Utilize Good Combustion and Operation Practices and Semi-Enclosed Furnaces (BACT for CO). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.24 For Emission Point AA-201 (Submerged Arc Furnace), the permittee is subject to the New Source Performance Standards for Ferroalloy Production, specifically 40 CFR 60 - Subpart Z and shall limit CO emissions to no more than 20 volume percent on a dry basis for determining compliance with 40 CFR 60, Subpart Z. (Ref.: 40 CFR 60.263(a)). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.25 For Emission Point AA-201 (Submerged Arc Furnace), the permittee shall limit SO2 emissions to no more than 52.0 lbs/ton, as determined by a 3-hr rolling average period of Silicon produced, and Utilize Low Sulfur Content Material where technically feasible (BACT for SO2). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.26 For Emission Point AA-201 (Submerged Arc Furnace), the permittee shall limit VOC emissions to no more than 2.4 lbs/ton, as determined by a 30-day rolling average period of Silicon produced, and Utilize Good Operating Practices (BACT for VOC). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.27 For Emission Point AA-201 (Submerged Arc Furnace), the permittee is subject to the New Source Performance Standards for Ferroalloy Production, specifically 40 CFR 60 - Subpart Z and shall install, calibrate, maintain, and operate a Continuous Opacity Monitoring (COM) Device as specified in 40 CFR 60.264(a). (Ref.: 40 CFR 60.264(a)).

III.28 For Emission Point AA-201 (Submerged Arc Furnace), the permittee is subject to New Source Performance Standards for Ferroalloy Production, specifically 40 CFR 60 – Subpart Z. and report as excess emissions all six-minute periods in which the average opacity is 3 perrcent or greater leaving the control device (i.e., fabric filter) as required by the federally enforceable PSD Construction herein. For Emission Point AA-200 (Silicon Processing), the permittee shall have emissions of Opacity equal to or less than 6% exiting the roof vents or areas where the Silicon is melted and refined. (Ref.: 40 CFR 264(b) for AA-201 and PSD Construction Perrmit issued Issuance Date for AA-200 and AA-201)

III.29 For Emission Point AA-201a (Casting Frames), the permittee shall implement a system for ensuring that a system of Best Management Practices is implemented to minimize the generation of fugitive particulate emissions (BACT for PM/PM10/PM2.5). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.30 For Emission Point AA-202 (Ladle Preheaters), the permittee shall limit emissions of NOx to no more than 0.08 lbs/MMBtu and utilize low NOx or equivalent burners/technology, combust clean fuel only and implement good combustion practices (BACT for NOx). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.31 For Emission Point AA-202 (Ladle Preheaters), the permittee shall limit emissions of Greenhouse Gases (GHG) to the following BACT emissions limitations (BACT for GHG):

(a) Carbon Dioxide (CO2) emissions to no more than 117 lb/MMBtu
(b) Methane emissions to no more than 0.0022 lb/MMBtu
(c) Nitrous Oxide emissions to no more than 0.0002 lb/MMBtu
(d) Good Combustion Practices, Combustion of Natural Gas Only, Periodic Maintenance, and energy efficient burner design including Low NOx burners or equivalent.

(Ref.: PSD Construction Permit Issued November 27, 2013)

III.32 For Emission Point AA-202 (Ladle Preheaters), the permittee shall limit emissions of PM/PM10/PM2.5 to no more than 0.0076 lbs/MMBtu, combust natural gas only, and utilize good combustion practices (BACT for PM/PM10/PM2.5). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.33 For Emission Point AA-202 (Ladle Preheaters), the permittee shall limit emissions of CO to no more than 0.0840 lbs/MMBtu, combust natural gas only, and utilize good combustion practices (BACT for CO). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.34 For Emission Point AA-202 (Ladle Preheaters), the permittee shall limit emissions of SO2 to no more than 0.0006 lbs/MMBtu, combust clean fuels only (i.e., natural gas only), and utilize good combustion practices (BACT for SO2). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.35 For Emission Point AA-202 (Ladle Preheaters), the permittee shall limit emissions of VOC to no more than 0.0055 lbs/MMBtu, combust natural gas only, and utilize good combustion practices (BACT for VOC). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.36 For Emission Point AA-404 (Silica Fume Silo), the permittee shall limit emissions of PM/PM10/PM2.5 to no more than 0.01 gr/dscf for PM/PM10/PM2.5 and the use of Bin Vent Filter (BACT for PM/PM10/PM2/5). (PSD Construction Permit Issued November 27, 2013)

III.37 For Emission Point AA-404 (Silica Fume Silo), the permittee is subject to 40 CFR 60.262(b) and shall limit emissions of Opacity from the Dust Handling Equipment to no more than 10% at any time. (Ref.: 40 CFR 60.262(b))

III.38 For Emission Point AA-501 (Emergency Generators), the permittee shall utilize Good Combustion and Operating Practices, utilize Ultra Low Sulfur Diesel (ULSD) Fuel, and comply with 40 CFR 60 – Subpart IIII for demonstrating compliance with PM/PM10/PM2.5, CO, VOC, NOx, and SO2. (BACT for PM/PM10/PM2.5, CO, and VOC is the Good Combustion and Operating Practices as well as complying with Subpart IIII and BACT for NOx and SO2 is Good Combustion and Operating Practices, compliance with Subpart IIII, and use of ULSD Fuel). (Ref.: PSD Construction Permit Issued November 27, 2013)

III.39 For Emission Point AA-501, the permittee is subject to 40 CFR 60 – New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (Subpart IIII), specifically 40 CFR 60.4200(a)(2)(i), and shall comply with the applicable provisions. (Ref.: 40 CFR 60.4200(a)(2)(i))

III.40 For Emission Point AA-501, the permittee is subject to 40 CFR 60.4206 and shall comply with the applicable provisions and achieve the emission standards over the life of the engine. (Ref.: 40 CFR 60.4206)

III.41 For Emission Point AA-501, the permittee is subject to 40 CFR 4205(b) and shall comply with the applicable provision and shall achieve compliance with the emission standards. (Ref.: 40 CFR 4205(b))

III.42 For Emission Point AA-501, the permittee is subject to 40 CFR 4207(b) and shall comply with the Diesel Fuel Requirements of 40 CFR 50.510(b). (Ref.: 40 CFR 40.4207(b))

III.43 For Emission Point AA-000 (Entire Facility), the permittee is subject to 40 CFR 64.2(a) – Compliance Assurance Monitoring (CAM) Provisions where applicable and the applicable CAM Plan is not due until the Title V Permit to Operate is due, which is specified herein, as a requirement upon certification of construction (i.e., Condition I.16). (Ref.: 40 CFR 64.2(a))

III.44 For Emission Point AA-000 (Entire Facility), the permittee is subject to 40 CFR 60.260 – Subpart Z, Standards of Performance for Ferroalloy Production Facilities and shall comply with the applicable provisions. (Ref.: 40 CFR 60.260)

III.45 For Emission Point AA-000 (Entire Facility), the permittee is subject to 40 CFR 63.11524(a) and (b)(2) – Subpart YYYYYY, National Emission Standards for Hazardous Air Pollutants for Area Sources: Ferroalloy Production Facilities and shall comply with the applicable provisions. (Ref.: 40 CFR 63.11524(a) and (b)(2))

III.46 For Emission Point AA-000 (Entire Facility), the permittee is subject to 40 CFR 63.11525(c) and shall comply upon startup of the Ferroalloy Production Facility. (Ref.: 40 CFR 63.11525(c))

III.47 For Emission Point AA-000 (Entire Facility), the permittee is subject to 40 CFR 63.11526 and shall comply with the following for demonstrating compliance with MACT YYYYYY:

(a) You shall not discharge to the atmosphere visible emissions (VE) from the control device that exceed 5 percent of accumulate occurrences in a 60-minute observation period.

(b) You shall not discharge to the atmosphere fugitive PM emissions from the furnace building containing the electrometallurgical operations that exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute average per hour that does not exceed 60 percent.

(Ref.: 40 CFR 63.11526)

III.48 For Emission Point AA-000 (Entire Facility), the permittee is subject to 40 CFR 63 – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines and shall comply with this subpart by demonstrating compliance with the applicable provisions of 40 CFR 60 – Subpart IIII, as specified in 40 CFR 63.6585(a) and (c) via 63.6590(c). (Ref.: 40 CFR 63.6585(a) and (c) via 63.6590(c))

III.49 For Emission Point AA-000 (Entire Facility), the permittee shall limit emissions of Opacity to no more than 10% at any time. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.50 For Emission Point AA-405 (Insignificant Activities), the maximum permissible emission of ash and/or particulate matter from each fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input. (Ref. 11 Miss. Admin Code Pt. 2, R. 1.3.D(1)(a).)

III.51 For Emission Point AA-405 (Insignificant Activities), the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations equal to or greater than 10 million BTU per hour heat input but less than 10,000 million BTU per hour heat input shall not exceed an emission rate as determined by the relationship

$E = 0.8808*I^{-0.1667}$

where E is the emission rate in pounds per million BTU per hour heat input and I is the heat input in millions of BTU per hour. (Ref. 11 Miss. Admin Code Pt. 2, R. 1.3.D(1)(b).)

III.52 For Emission Point AA-405 (Insignificant Activities), the permittee shall not cause the maximum discharge of particulate matter to exceed 0.2 grains per standard dry cubic foot of flue gas calculated to twelve percent (12%) carbon dioxide by volume for products of combustion. (Ref. 11 Miss. Admin Code Pt. 2, R. 1.3.H(1).)

III.53 For Emission Point AA-405 (Insignificant Activities), the permittee shall not cause the maximum discharge of sulfur oxides from any fuel burning installations in which the fuel is burned primarily to produce heat or power by indirect heat transfer to exceed 4.8 pounds(measured as sulfur dioxide) per million BTU heat input. (Ref. 11 Miss. Admin Code Pt. 2, R. 1.4.A(1).)

III.54 For Emission Point AA-201 (Submerged Arc Furnaces), the permittee is only authorized to operate two (2) out of the four (4) Submerged Arc Furnaces at any given time and shall never operate all four combined Submerged Arc Furnaces at one time. (Ref.: PSD Construction issued Issuance Date)

III.55 For Emission Pint AA-201 (Submerged Arc Furnaces), the permittee can formally request a modification to this permit to remove the restriction on the number of Submerged Arc Furnaces that can operate at any given time. To request elimination of this restriction via permit modication, the permittee must submit a demonstration to the MDEQ, EPA, and the FLM that operation of 3 or 4 Submerged Arc Furnaces simultaneously would not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS), or exceed the visibility thresholds or deposition analysis thresholds (DAT) for Sipsey Wilderness or Mingo National Wildlife Refuge (both are federally mandated Class I areas). The applicant will follow EPA's Appendix W requirements and the 2010 Federal Land Managers' Air Quality Related Values Workgroup (FLAG) document for conducting an air quality impact evaluation to Class II and Class I areas, respectively. Operation of 3 or 4 Submerged Arc Furnaces at any given time can only occur after a PSD permit modification is issued by MDEQ. (Ref.: PSD Construction Permit Issued November 27, 2013)

III.56 For Emission Point AA-000 (Entire Facility), Startup and Shutdown emissions have been accounted for in the individual emission limitations for the facility including the BACT emission limitations, and therefore all emission point specific limits of the federally enforceable permit herein apply at all times including startup and shutdown. The necessary monitoring (i.e., Continuous Emissions Monitoring Systems, Performance Testing) should validate the potential emissions when these events occur. Malfunction emissions are those emissions that would normally not occur because of unforeseen instances and not part of any routine or normal method of operation as defined by 11 Miss. Admin. Code Pt. 2, Ch. 1.
(Ref.: PSD Construction Permit Issued November 27, 2013)

PART IV
EMISSION POINT SPECIFIC MONITORING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Monitoring Requirement
AA-000 *(Entire Facility)*	PSD Construction Permit Issued November 27, 2013	IV.1	Silicon Production	Determine the Production for each consecutive 12-month period
		IV.2	Natural Gas Combustion	Determine the total Combustion Rate
		IV.3	Opacity	Determine using Method 22 and then Method 9 if emissions are present
		IV.4	Pretest Conference/ Protocol	30-days prior to performance testing if requested by MDEQ upon 60 day advanced of Stack Test Protocol
		IV.5	Control Equipment	Regular Maintenance shall be performed and kept in log form
		IV.6	NOx	Determine the Emission Rate for each consecutive 12 month period
		IV.7	CO	
		IV.8	SO2	
		IV.9	VOC	
		IV.10	PM/PM10	
		IV.11	PM2.5	
		IV.12	HAP	
AA-101 *(Coal Storage Pile Material Handling)*	PSD Construction Permit Issued November 27, 2013	IV.13	PM/PM10/ PM2.5	Implement and Develop a Dust Control Plan for demonstrating compliance with BACT
		IV.14	Material Throughput Rate	Determine the Material Throughput Rate for each consecutive 12 month period
AA-101a (Coal Conveyance)	PSD Construction Permit Issued November 27, 2013	IV.13	PM/PM10/ PM2.5	Implement and Develop a Dust Control Plan for demonstrating compliance with BACT

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Monitoring Requirement
AA-102 ***(Wood Storage Pile Material Handling)***	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
		IV.14	**Material Throughput Rate**	**Determine the Material Throughput Rate for each consecutive 12 month period**
AA-102a (Wood Conveyance)	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
AA-102b ***(Wood Chipper)***	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
AA-103 ***(Quartz Storage Pile Material Handling)***	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
		IV.14	**Material Throughput Rate**	**Determine the Material Throughput Rate for each consecutive 12 month period**
AA-103a (Quartz Conveyance)	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Fugitive Dust Control Plan for demonstrating compliance with BACT**
AA-104 ***(Limestone Storage Pile Material Handling)***	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
		IV.14	**Material Throughput Rate**	**Determine the Material Throughput Rate for each consecutive 12 month period**
AA-105 ***(Storage Piles Processing)***	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Fugitive Dust Control Plan for demonstrating compliance with BACT**

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Monitoring Requirement
AA-106 ***(Storage Pile Wind Erosion)***	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
AA-201 ***(Submerged Arc Furnaces)***	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
		IV.15	**GHG (as CO2e)**	**Determine the CO2e Emission Rate for each consecutive 12 month period**
AA-201 ***(Submerged Arc Furnaces)***	**PSD Construction Permit Issued November 27, 2013**	**IV.16**	**NOx**	**Installation and Operation of CEMS**
			CO	
			SO2	
			VOC	**Initial Performance Test for Demonstrating Operational Ranges**
			PM/PM10	
			PM2.5	
AA-201 ***(Submerged Arc Furnaces)***	**40 CFR 60.264**	**IV.17**	**NSPS Subpart Z**	**COMs Requirements**
	40 CFR 60.265	**IV.18**		**Monitoring of Operations**
	40 CFR 60.266	**IV.19**		**Compliance with Test Methods and Procedures**
	40 CFR 63.11527(a)	**IV.25**	**MACT Subpart YYYYYY**	**Monitoring**
	40 CFR 63.11528	**IV.26**		**Performance Testing and Compliance Requirements**
AA-201a ***(Casting Frames)***	**PSD Construction Permit Issued November 27, 2013**	**IV.20**	**PM/PM10/ PM2.5**	**Utilize Best Management Practices for demonstrating compliance with BACT**

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Monitoring Requirement
AA-202 ***(Ladle Preheaters)***	**PSD Construction Permit Issued November 27, 2013**	**IV.21**	**NOx**	**Utilize Good Combustion Practices and Implement Maintenance Guidelines for demonstrating compliance with BACT**
			GHG	
			PM/PM10/ PM2.5	
			CO	
			SO2	
			VOC	
AA-301 (Silicon Grinding and Milling)	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
AA-402 and AA-402a ***(Unpaved and Paved Roads and Plantwide Trasnport Fugitive Emissions)***	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
AA-403 ***(Slag Handling and Storage)***	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
AA-404 ***(Silica Fume Silo)***	**PSD Construction Permit Issued November 27, 2013**	**IV.13**	**PM/PM10/ PM2.5**	**Implement and Develop a Dust Control Plan for demonstrating compliance with BACT**
AA-501 ***(Emergency Generators)***	**PSD Construction Permit Issued November 27, 2013**	**IV.22**	**PM/PM10/ PM2.5**	**Implement Maintenance Guidelines for demonstrating compliance with BACT**
			CO	
			VOC	
			NOx	
			SO2	

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Monitoring Requirement
AA-501 ***(Emergency Generators)***	**40 CFR 60.4209**	**IV.23**	**NSPS Subpart IIII**	**Monitoring and Compliance Requirements**
	40 CFR 60.4211(a), (c), (f), and (g)	**IV.24**		

IV.1 For Emission Point AA-000 (Entire Facility), the permittee shall determine the Silicon Produced for each consecutive 12-month period by obtaining data from purchasing, processing, and production, and any other data necessary to determine the facility wide production rate as determined for each consecutive 12-month period, for demonstrating compliance with Condition III.1 of the permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.2 For Emission Point AA-000 (Entire Facility), the permittee shall determine the Natural Gas Combustion Rate total for each consecutive 12-month period by utilizing energy records, reports, and any other data necessary to determine the facility wide Natural Gas Combustion Rate for determining compliance with Condition III.2 of the permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.3 For Emission Point AA-000 (Entire Facility), the permittee shall perform weekly Visual Emission Evaluations (VEEs/Observations) by Method 22, 40 CFR 60, Appendix A. Observations shall be conducted during daylight hours and while the equipment is in operation. If visible emissions are observed, excluding condensed water water vapor, the permittee shall:

(a) Within 24 hours, take corrective action that eliminates the visible emissions or verify that the unit causing the emission and any associated air pollution control equipment are operating normally in accordance with desiggn and standards procedures, and under the same conditions in which compliance was achieved in the past, and

(b) If visible emissions are not eliminated, have a certified visual emissions observer determine compliance with the opacity standard using EPA Reference Method 9 within three business days, and

(c) Report the visible emissions as a potential deviation (or as a violation if demonstrated by EPA Reference Method 9) according to the reporting requirements of this permit.

(Ref.: PSD Construction Permit Issued November 27, 2013)

IV.4 For Emission Point AA-000 (Entire Facility), the permittee shall submit a Performance Test Protocol 60 days prior to any Performance Test. Upon receipt of the Performance Test Protocol, the MDEQ may request a Pretest Conference to discuss the Performance Testing at least 30 days in advance of the Performance Test to discuss the Peformance Test or Performance Test Protocol. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.5 For Emission Point AA-000 (Entire Facility), the permittee shall perform regular maintenance on the control equipment according to the manufacturer design and recommendations. This maintenance shall be kept in log form and made available to MDEQ during inspections. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.6 For Emission Point AA-000 (Entire Facility), the permittee shall determine the NOx emission rate as determined for each consecutive 12-month period by utilizing data obtained from CEM, Stack/Performance Testing, Natural Gas Usage Records, and any other data necessary to demonstrate compliance with Condition III.3 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.7 For Emission Point AA-000 (Entire Facility), the permittee shall determine the CO emission rate as determined for each consecutive 12-month period by utilizing data obtained from CEM, Stack/Performance Testing, Natural Gas Usage Records, and any other data necessary to demonstrate compliance with Condition III.4 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.8 For Emission Point AA-000 (Entire Facility), the permittee shall the permittee shall determine the SO2 emission rate as determined for each consecutive 12-month period by utilizing data obtained from CEM, Stack/Performance Testing, Natural Gas Usage Records, and any other data necessary to demonstrate compliance with Condition III.5 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.9 For Emission Point AA-000 (Entire Facility), the permittee shall the permittee shall determine the VOC emission rate as determined for each consecutive 12-month period by utilizing data obtained from Stack/Performance Testing, Natural Gas Usage Records, and any other data necessary to demonstrate compliance with Condition III.6 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.10 For Emission Point AA-000 (Entire Facility), the permittee shall the permittee shall determine the PM/PM10 emission rate as determined for each consecutive 12-month period by utilizing data obtained from Stack/Performance Testing, Natural Gas Usage Records, and any other data necessary to demonstrate compliance with Condition III.7 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.11 For Emission Point AA-000 (Entire Facility), the permittee shall the permittee shall determine the PM2.5 emission rate as determined for each consecutive 12-month period by utilizing data obtained from Stack/Performance Testing, Natural Gas Usage Records, and any other data necessary to demonstrate compliance with Condition III.8 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.12 For Emission Point AA-000 (Entire Facility), the permittee shall the permittee shall determine the HAP (Individual and Combined) emission rates as determined for each consecutive 12-month period by utilizing data obtained from Stack/Performance Testing, Natural Gas Usage Records, and any other data necessary to demonstrate compliance with Condition III.9 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.13 For Emission Points AA-101 (Coal Storage Pile Material Handling), AA-101a (Coal Conveyance), AA-102 (Wood Storage Pile Material Handling), AA-102a (Wood

Conveyance), AA-102b (Wood Chipper), AA-103 (Quartz Storage Pile Material Handling), AA-103a (Quartz Conveyance), AA-104 (Limestone Storage Pile Material Handling), AA-105 (Storage Piles Processing), AA-106 (Storage Pile Wind Erosion), AA-301 (Silicon Grinding and Milling), AA-402 and AA-402a (Unpaved and Paved Roads and Plantwide Transport Fugitive Emissions), the permittee shall develop and implement a Dust Control Plan for demonstrating compliance with the individual BACT Limits for PM/PM10/PM2.5, specifically Conditions III. III.10, III.12, III.14, III.17, and III.18, of the federally enforceable permit herein. For each emission point that operates a baghouse, the permittee shall install, maintain, and operate a continuous pressure drop monitor to monitor and record the differential pressure at least every 15 minutes. For each baghouse, the permittee shall establish a pressure drop range based on stack test data, vendor information, operational history, and/or visual inspections that indicates proper operation of the baghouse. These pressure drop ranges shall be maintained at the facility and be made available upon request from MDEQ personnel. Should a pressure drop reading fall outside the established range, the permittee shall immediately inspect the baghouse to determine the cause of the excursion and return the baghouse to normal operating conditions. The emission point ID, date, time, length of the excursion, and reason for an excursion from an established pressure drop range shall be recorded and any corrective measures taken to restore the baghouse to normal operating conditions shall be noted. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.14 For Emission Points AA-101 (Coal Storage Pile Material Handling), AA-102 (Wood Storage Pile Material Handling), AA-103 (Quartz Storage Pile Material Handling), and AA-104 (Limestone Storage Pile Material Handling), the permittee shall determine the Material Throughput Rate as determined for each consecutive 12-month period by utilizing data obtained from Purchasing Records, Production Records, and any other data necessary to demonstrate compliance with Condition III.11, III.13, III.15, and III.16, of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.15 For Emission Point AA-201 (Submerged Arc Furnaces), the permitee shall determine the CO2e emission rate as determined for each consecutive 12-month period by utilizing data obtained from Stack/Performance Testing, Natural Gas Usage Records, and any other data necessary to demonstrate compliance with Condition III. 21 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.16 For Emission Point AA-201 (Submerged Arc Furnaces), the permittee shall install and operate a Continuous Emission Monitoring (CEM) System on the furnace baghouses for monitoring NOx, CO, and SO2 immediately upon operation of the furnaces and not beginning operation as defined by Condition I.15 of the federally enforceable permit herein (i.e, for the purpose of this permit and this condition specifically, the furnace baghouses will be treated as stand-alone units so that the CEMS will be installed sooner rather than later with regard to monitoring and compliance). The CEMS shall meet the applicable performance specification required by 40 PART 60, Appendix B, the applicable quality assurance procedures required by 40 CFR Part 60, Appendix F, and the requirements of 40 CFR 60.13. In lieu of the requirements of 40 CFR Part 60, Appendix F, 5.1.1, 5.1.3, and 5.1.4, the permittee may conduct either a Relative Accuracy Audit (RAA) or a Relative

Accuracy Test Audit (RATA) on each CEMs at least once every three (3) years. The permittee shall conduct Cylinder Gas Audits (CGA) each calendar quarter during which a RAA or a RATA is not performed. A CEMS is not required for PM, PM10, PM2.5 and VOC, but rather the permittee is required to perform an initial stack test within 180 days of reaching maximum production (not to exceed three years from start-up of Phase 1 of the facility) and develop operational ranges for demonstrating compliance with the PM, PM10, PM2.5 and VOC BACT limits. The permittee shall utilize Method 5 for PM/PM10, Method 201A for PM2.5, and Method 25A for VOC. The permittee shall repeat the performance if the facility's operations change such that the operational ranges would no longer be valid for determining compliance with the PM, PM10, PM2.5 or VOC BACT limits. The permittee may be required to repeat the Operation Range Performance Test at the MDEQ's discretion and request at any time during the Operating Permit (Title V) Term if the MDEQ determines necessary. During the performance test, the permittee shall monitor the following:

(a) Charge Weights and Materials, Tap Weights, and Materials;
(b) Heat Times, including Start and Stop Times, and a log of Process Operations, Including periods of no Operations during testing;
(c) Control Device Operation Log; and
(d) Continuous Monitor or Reference Method 9 data which is required to be performed and documented during said Performance Test.

In the event that the CEMS fails* so that the permittee cannot collect emissions data for NOx, CO, and SO2, the permittee will performance test for NOx, CO, and SO2 at a frequency of no less than monthly until such time that the CEMS system is performing to the manufacturer design and specification as required and specified in the above condition. *Failure of the CEMS is to be determined by the staff of the MDEQ so that the permittee must expediently and readily develop a means of correcting the systems for collecting and measuring emissions in a timely manner.

(Ref.: PSD Construction Permit Issued November 27, 2013)

IV.17 For Emission Point AA-201 (Submerged Arc Furnaces), the permittee is subject to 40 CFR 60.264 and shall comply with the following emissions monitoring requirements for demonstrating compliance:

(a) The permittee is subject to the provisions of this subpart shall install, calibrate, maintain and operate a continuous monitoring system for measurement of the opacity of emissions discharged into the atmosphere from the control device(s).

(b) For the purpose of reports required under 40 CFR 60.7(c), the permittee shall report as excess emissions all six-minute periods in which the average opacity is 15 percent or greater.

(c) The permittee subject to the provisions of this subpart shall submit a written

report of any product change to the DEQ. Reports of product changes must be postmarked not later than 30 days after implementation of the product change.

(Ref.: 40 CFR 60.264)

IV.18 For Emission Point AA-201 (Submerged Arc Furnaces), the permittee is subject to 40 CFR 60.265 and shall monitor the following operations for demonstrating compliance:

(a) The permittee of any electric submerged arc furnace subject to the provisions of this subpart shall maintain daily records of the following information:

(1) Product being produced.
(2) Description of constituents of furnace charge, including the quantity, by weight.
(3) Time and duration of each tapping period and the identification of material tapped (slag or product.)
(4) All furnace power input data obtained under paragraph (b) of this section.
(5) All flow rate data obtained under paragraph (c) of this section or all fan motor power consumption and pressure drop data obtained under paragraph (e) of this section.

(b) The permittee subject to the provisions of this subpart shall install, calibrate, maintain, and operate a device to measure and continuously record the furnace power input. The furnace power input may be measured at the output or input side of the transformer. The device must have an accuracy of ±5 percent over its operating range.

(c) The permittee subject to the provisions of this subpart shall install, calibrate, and maintain a monitoring device that continuously measures and records the volumetric flow rate through each separately ducted hood of the capture system, except as provided under paragraph (e) of this section. The permittee of an electric submerged arc furnace that is equipped with a water cooled cover which is designed to contain and prevent escape of the generated gas and particulate matter shall monitor only the volumetric flow rate through the capture system for control of emissions from the tapping station. The permittee may install the monitoring device(s) in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device must have an accuracy of ±10 percent over its normal operating range and must be calibrated according to the manufacturer's instructions. The DEQ may require the permittee to demonstrate the accuracy of the monitoring device relative to Methods 1 and 2 of appendix A to this part.

(d) When performance tests are conducted under the provisions of 40 CFR 60.8 of this part to demonstrate compliance with the standards under 40 CFR 60.262(a) (4) and (5), the volumetric flow rate through each separately ducted hood of the capture system must be determined using the monitoring device required under paragraph (c) of this section. The volumetric flow rates must be determined for furnace power input levels at 50 and 100 percent of the nominal rated capacity of the electric submerged arc furnace. At all times the electric submerged arc furnace is operated, the permittee shall maintain the volumetric flow rate at or above the appropriate levels for that furnace power input level determined during the most recent performance test. If emissions due to tapping are captured and ducted separately from emissions of the electric submerged arc furnace, during each tapping period the owner or operator shall maintain the exhaust flow rates through the capture system over the tapping station at or above the levels established during the most recent performance test. Operation at lower flow rates may be considered by the DEQ to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that these flow rates be reestablished by conducting new performance tests under 40 CFR 60.8 of this part.

(e) The permittee may as an alternative to paragraph (c) of this section determine the volumetric flow rate through each fan of the capture system from the fan power consumption, pressure drop across the fan and the fan performance curve. Only data specific to the operation of the affected electric submerged arc furnace are acceptable for demonstration of compliance with the requirements of this paragraph. The permittee shall maintain on file a permanent record of the fan performance curve (prepared for a specific temperature) and shall:

(1) Install, calibrate, maintain, and operate a device to continuously measure and record the power consumption of the fan motor (measured in kilowatts), and

(2) Install, calibrate, maintain, and operate a device to continuously measure and record the pressure drop across the fan. The fan power consumption and pressure drop measurements must be synchronized to allow real time comparisions of the data. The monitoring devices must have an accuracy of ±5 percent over their normal operating ranges.

(f) The volumetric flow rate through each fan of the capture system must be determined from the fan power consumption, fan pressure drop, and fan performance curve specified under paragraph (e) of this section, during any performance test required under 40 CFR 60.8 to demonstrate compliance with the standards under 40 CFR 60.262(a)(4) and (5). The permittee shall determine the volumetric flow rate at a representative temperature for furnace power input levels of 50 and 100 percent of the nominal rated capacity of the

electric submerged arc furnace. At all times the electric submerged arc furnace is operated, the owner or operator shall maintain the fan power consumption and fan pressure drop at levels such that the volumetric flow rate is at or above the levels established during the most recent performance test for that furnace power input level. If emissions due to tapping are captured and ducted separately from emissions of the electric submerged arc furnace, during each tapping period the owner or operator shall maintain the fan power consumption and fan pressure drop at levels such that the volumetric flow rate is at or above the levels established during the most recent performance test. Operation at lower flow rates may be considered by the DEQ to be unacceptable operation and maintenance of the affected facility. The permittee may request that these flow rates be reestablished by conducting new performance tests under 40 CFR 60.8. The DEQ may require the owner or operator to verify the fan performance curve by monitoring necessary fan operating parameters and determining the gas volume moved relative to Methods 1 and 2 of appendix A to this part.

(g) All monitoring devices required under paragraphs (c) and (e) of this section are to be checked for calibration annually in accordance with the procedures under 40 CFR 60.13(b).

(Ref.: 40 CFR 60.265)

IV.19 For Emission Point AA-201 (Submerged Arc Furnaces), the permittee is subject to 40 CFR 60.266 and shall comply with the following Test Methods and Procedures:

(a) During any performance test required in 40 CFR 60.8, the permittee shall not allow gaseous diluents to be added to the effluent gas stream after the fabric in an open pressurized fabric filter collector unless the total gas volume flow from the collector is accurately determined and considered in the determination of emissions.

(b) In conducting the performance tests required in 40 CFR 60.8, the permittee shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b).

(c) The permittee shall determine compliance with the particulate matter standards in 40 CFR 60.262 as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = \left[\left(\sum_{i=1}^{N} C_{si} Q_{sdi}\right)\right] / (PK)$$

where:

E=emission rate of particulate matter, kg/MW-hr (1b/MW-hr).
n=total number of exhaust streams at which emissions are quantified.
c_{si} =concentration of particulate matter from exhaust stream "i", g/dscm (gr/dscf).
Q_{sdi} =volumetric flow rate of effluent gas from exhaust stream "i", dscm/hr (dscf/hr).
P=average furnace power input, MW.
K=conversion factor, 1000 g/kg (7000 gr/lb).

(2) Method 5 shall be used to determine the particulate matter concentration (c_{si}) and volumetric flow rate (Q_{sdi}) of the effluent gas, except that the heating systems specified in sections 2.1.2 and 2.1.6 are not to be used when the carbon monoxide content of the gas stream exceeds 10 percent by volume, dry basis. If a flare is used to comply with 40 CFR 60.263, the sampling site shall be upstream of the flare. The sampling time shall include an integral number of furnace cycles.

(i) When sampling emissions from open electric submerged arc furnaces with wet scrubber control devices, sealed electric submerged arc furnaces, or semienclosed electric arc furnaces, the sampling time and sample volume for each run shall be at least 60 minutes and 1.80 dscm (63.6 dscf).

(ii) When sampling emissions from other types of installations, the sampling time and sample volume for each run shall be at least 200 minutes and 5.66 dscm (200 dscf).

(3) The measurement device of 40 CFR 60.265(b) shall be used to determine the average furnace power input (P) during each run.

(4) Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

(5) The emission rate correction factor, integrated sampling procedure of Method 3B shall be used to determine the CO concentration. The sample shall be taken simultaneously with each particulate matter sample.

(d) During the particulate matter run, the maximum open hood area (in hoods with segmented or otherwise moveable sides) under which the process is expected to be operated and remain in compliance with all standards shall be recorded. Any future operation of the hooding system with open areas in excess of the maximum is not permitted.

(e) To comply with 40 CFR 60.265 (d) or (f), the permittee shall use the monitoring devices in 40 CFR 60.265 (c) or (e) to make the required measurements as determined during the performance test.

(Ref.: 40 CFR 60.266)

IV.20 For Emission Point AA-201a (Casting Frames), the permittee shall utilize Best Management Practices for demonstrating compliance with the minimization of fugitive particulate emissions as required by Condition III.29 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.21 For Emission Point AA-202 (Ladle Preheaters), the permittee shall utilize Good Combustion Practices and Implement Maintenance Guidelines for demonstrating compliance with the NOx, GHG, PM/PM10/PM2.5, CO, SO2, and VOC BACT Limits as described in Conditions III.29, III.30, III.31, III.32, III.33, and III.34 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.22 For Emission Point AA-501 (Emergency Generators), the permittee shall implement Maintenance Guidelines for demonstrating compliance with PM/PM10/PM2.5, CO, VOC, NOx, and SO2 BACT limits as described in Condition III.37 of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

IV.23 For Emission Point AA-501 (Emergency Generators), if the permittee is subject to the monitoring provisions then the permittee shall also comply with the Monitoring and Compliance Requirements of 40 CFR 60.4209 and either comply by installing a non-resettable hour meter or a diesel particulate filter with a backpressure monitor. (Ref.: 40 CFR 60.4209)

IV.24 For Emission Point AA-501 (Emergency Generators), if the permittee is subject to the emissions standards of 40 CFR 60 – Subpart IIII, the permittee shall comply with the requirements of 40 CFR 60.4211(a), (c), (f), and (g)). (Ref.: 40 CFR 60.4211(a), (c), (f), and (g))

IV.25 For Emission Point AA-201 (Submerged Arc Furnacec), the permittee is subject to the monitoring provision of 40 CFR 63, Subpart YYYYYY and shall comply with the following:

(a) Each *EAF equipped with fabric filters* —

(1) *Visual monitoring.* The permittee shall perform visual monitoring of the monovent or fabric filter outlet stack(s) for any VE according to the schedule specified in paragraphs (a)(1)(i) and (a)(1)(ii) of this section.

(i) *Daily visual monitoring.* Perform visual determination of fugitive emissions once per day, on each day the process is in operation, during operation of the process.

(ii) *Weekly visual monitoring.* If no visible fugitive emissions are detected in consecutive daily visual monitoring performed in accordance with paragraph (a)(1)(i) of this section for 90 days of operation of the process, the permittee may decrease the frequency of visual monitoring to once per calendar week of time the process is in operation, during operation of the process. If visible fugitive emissions are detected during these inspections, the permittee shall resume daily visual monitoring of that operation during each day that the process is in operation, in accordance with paragraph (a)(1)(i) of this section until the permittee satisfies the criteria of this section to resume conducting weekly visual monitoring.

(2) If the visual monitoring reveals the presence of any VE, the permittee shall conduct a Method 22 (appendix A-7 of 40 CFR part 60) test following the requirements of 40 CFR 63.11528(b)(1) within 24 hours of determining the presence of any VE.

(3) If you own or operate an existing affected source, the permittee shall install, operate, and maintain a bag leak detection system for each fabric filter as an alternative to the monitoring requirements in paragraph (a)(1) of this section. If the permittee owns or operates a new affected source, the permittee shall install, operate, and maintain a bag leak detection system for each fabric filter according to the requirements in paragraphs (a)(3)(i) through (a)(3)(vii) of this section. Such source is not subject to the requirements in paragraphs (a)(1) and (a)(2) of this section.

(i) The system must be certified by the manufacturer to be capable of detecting emissions of PM at concentrations of 10 milligrams per actual cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor shall provide output of relative PM loadings and the owner or operator shall continuously record the output from the bag leak detection system using a strip chart recorder, data logger, or other means.

(iii) The system must be equipped with an alarm that will sound when an increase in relative PM loadings is detected over the alarm set point established in the operation and maintenance plan, and the alarm must be located such that it can be heard, seen, or otherwise detected by the appropriate plant personnel.

(iv) The initial adjustment of the system must, at minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points. If the system is equipped with an alarm delay time feature, the permittee shall also must establish a maximum reasonable alarm delay time.

(v) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set point, or alarm delay time, except that, once per quarter, the permittee may adjust the sensitivity of the bag leak detection system to account for seasonal effects including temperature and humidity.

(v) For fabric filters that are discharged to the atmosphere through a stack, the bag leak detector sensor shall be installed downstream of the fabric filter and upstream of any wet scrubber.

(vi) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(4) When operating a bag leak detection system, if an alarm sounds, conduct visual monitoring of the monovent or fabric filter outlet stack(s) as required in paragraph (a)(1) of this section within 1 hour. If the visual monitoring reveals the presence of any VE, the permittee shall conduct a Method 22 test following the requirements of 40 CFR 63.11528(b)(1) within 24 hours of determining the presence of any VE.

(5) The permittee shall prepare a site-specific monitoring plan for each bag leak detection system. The permittee shall operate and maintain each bag leak detection system according to the plan at all times. Each plan must address all of the items identified in paragraphs (a)(5)(i) through (a)(5)(v)of this section.

(i) Installation of the bag leak detection system.

(ii) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point and alarm delay time will be established.

(iii) Operation of the bag leak detection system including quality assurance procedures.

(iv) Maintenance of the bag leak detection system including a routine maintenance schedule and spare parts inventory list.

(v) How the bag leak detection system output will be recorded and stored.

(Ref.: 40 CFR 63.11527(a))

IV.26 For Emission Point AA-201 (Submerged Arc Furnaces), the permittee is subject 40 63.11528 and shall comply with the Performance Testing and Compliance Requirements as follows:

(a) *Initial compliance demonstration deadlines.* The permittee shall conduct an initial Method 22 (appendix A-7 of 40 CFR part 60) test following the requirements of paragraph (b)(1) of this section of each existing electrometallurgical operation control device and an initial Method 9 observation following the requirements of paragraph (c)(1) of this section from the furnace building due to electrometallurgical operations no later than 60 days after your applicable compliance date. For any new electrometallurgical operation control device, the permittee shall conduct an initial Method 22 test following the requirements of paragraph (b)(1) of this section within 15 days of startup of the control device.

(b) *Visible emissions limit compliance demonstration.*

(1) The permittee shall conduct a Method 22 (appendix A-7 of 40 CFR part 60) test to determine that VE from the control device do not exceed the emission standard specified in 40 CFR 63.11526(a). For a fabric filter, conduct the test for at least 60 minutes at the fabric filter monovent or outlet stack(s), as applicable. For a wet scrubber, conduct the test for at least 60 minutes at the outlet stack(s).

(2) The permitee shall conduct a semiannual Method 22 test using the procedures specified in paragraph (b)(1) of this section.

(c) *Furnace building opacity.*

(1) The permittee shall conduct an opacity test for fugitive emissions from the furnace building according to the procedures in 40 CFR 63.6(h) and Method 9 (appendix A-4 of 40 CFR part 60). The test shall be conducted for at least 60 minutes and shall include tapping the furnace or reaction vessel. The observation shall be focused on the part of the building where electrometallurgical operation fugitive emissions are most likely to be observed.

(2) Conduct subsequent Method 9 tests no less frequently than every 6 months and each time the permittee makes a process change likely to increase fugitive emissions.

(3) After the initial Method 9 performance test, as an alternative to the Method 9 performance test, the permittee may monitor VE using Method 22 (appendix A-7 of 40 CFR part 60) for subsequent semi-annual compliance demonstrations. The Method 22 test is successful if no VE are observed for 90 percent of the readings over the furnace cycle (tap to tap) or 60 minutes, whichever is longer. If VE are observed greater than 10 percent of the time over the furnace cycle or 60 minutes, whichever is longer, then the facility shall conduct another test as soon as possible, but no later than 15 calendar days

after the Method 22 test using Method 9 (appendix A-4 of 40 CFR part 60) as specified in paragraph (c)(1) of this section.

(Ref.: 40 CFR 63.11528)

PART V
EMISSION POINT SPECIFIC
RECORDKEEPING AND/OR REPORTING REQUIREMENTS

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Recordkeeping and/or Reporting Requirement
AA-000 ***(Entire Facility)***	**PSD Construction Permit Issued November 27, 2013**	**V.1**	**Performance Testing**	**Submit Results no later than 60 days following actual test**
		V.2	**Natural Gas Combustion**	**Maintain Records and Submit Semi-Annual Records of Usage Rate**
		V.3	**Silicon Production**	**Maintain All Records and Submit a Semi-Annual Production Report for each consecutive 12-month period**
		V.4	**NOx**	**Maintain All Records and Submit Semi-Annually to Demonstrate Compliance with consecutive 12-month period Individual and Combined Emission Limitations and/or Individual and Combined BACT Emission Limitation**
			CO	
			SO2	
			VOC	
			PM/PM10	
			PM2.5	
			HAP	
			GHG (CO2e)	
AA-100 ***(Raw Material Receiving and Handling Operations)***	**PSD Construction Permit Issued November 27, 2013**	**V.5**	**PM/PM10/ PM2.5**	**Submit Semi-Annual Reports that the permittee is incompliance with the Dust Control Plan**
		V.6	**Material Throughput Rate**	**Semi-Annual Report the Material Throughput Rate for each consecutive 12 month period**
AA-201 ***(Submerged Arc Furnaces)***	**PSD Construction Permit Issued November 27, 2013**	**V.7**	**NOx**	**Submit Semi-Annual Report of Emission from CEMs Data**
			CO	
			SO2	
		V.8	**VOC**	**Submit Semi-Annual Report of Emissions utilizing Data obtained from Performance Testing**
			PM/PM10/ PM2.5	

Emission Point	Applicable Requirement	Condition Number	Pollutant/ Parameter	Recordkeeping and/or Reporting Requirement
AA-201 ***(Submerged Arc Furnaces)***	**40 CFR 60.264(c)**	**V.9**	**NSPS Subpart Z**	**Product Change Notification Report**
AA-301 (Silicon Grinding and Milling)	**PSD Construction Permit Issued November 27, 2013**	**V.5**	**PM/PM10/ PM2.5**	**Maintain and Submit Semi-Annual Reports that the permittee is in compliance with the Dust Control Plan**
AA-402 and AA-402a ***(Unpaved and Paved Roads and Plantwide Trasnport Fugitive Emissions)***	**PSD Construction Permit Issued November 27, 2013**	**V.5**	**PM/PM10/ PM2.5**	**Submit Semi-Annual Reports that the permittee is incompliance with the Dust Control Plan**
AA-403 ***(Slag Handling and Storage)***	**PSD Construction Permit Issued November 27, 2013**	**V.5**	**PM/PM10/ PM2.5**	**Submit Semi-Annual Reports that the permittee is incompliance with the Dust Control Plan**
AA-404 ***(Silica Fume Silo)***	**PSD Construction Permit Issued November 27, 2013**	**V.5**	**PM/PM10/ PM2.5**	**Submit Semi-Annual Reports that the permittee is incompliance with the Dust Control Plan**
AA-501 ***(Emergency Generators)***	**PSD Construction Permit Issued November 27, 2013**	**V.10**	**NOx**	**Maintain and Submit Semi-Annual Reports of Emissions and Use of Low Sulfur Fuel Oil for each consecutive 12-month period**
			CO	
			SO2	
			VOC	
			PM/PM10/ PM2.5	
AA-000 ***(Entire Facility)*** ****where applicable***	**40 CFR 63.11529(a)**	**V.11**	**MACT Subpart YYYYYY**	**Initial Notification**
	40 CFR 63.11529(b)	**V.12**		**Notification of Compliance Status**
	40 CFR 63.11529(c)	**V.13**		**Annual Compliance Certification**
	40 CFR 63.11529(d) through (g)	**V.14**		**Recordkeeping Requirements**

V.1 For Emission Point AA-000 (Entire Facility), the permittee shall submit all required performance testing results no later than 60 days from the actual performance test. (Ref.: PSD Construction Permit Issued November 27, 2013)

V.2 For Emission Point AA-000 (Entire Facility), the permittee shall submit semi-annual records to be able to demonstrate sufficiently that the permittee is in compliance with the natural gas usage limitations and recordkeeping requirements for the previous consecutive 12-month period of the federally enforceable permit herein and for demonstrating that good combustion practices were implemented. (Ref.: PSD Construction Permit Issued November 27, 2013)

V.3 For Emission Point AA-000 (Entire Facility), the permittee shall submit semi-annual records to be able to demonstrate sufficiently that the permittee is in compliance with the Silicon production limitation for the previous consecutive 12-month period of the federally enforceable permit herein. (Ref.: PSD Construction Permit issued Issuanace Date)

V.4 For Emission Point AA-000 (Entire Facility), the permittee shall submit semi-annual records to be able to demonstrate sufficiently that the permittee is in compliance with the facility wide and individual BACT limits for NOx, CO, SO2, VOC, PM/PM10/PM2.5, HAP, and GHG (as CO2e) for the previous consecutive 12-month period of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

V.5 For Emission Point AA-100 (Raw Material Receiving and Handling Operations), AA-301 (Silicon Grinding and Milling), AA-403 (Slag Handling and Storage), AA-402 and AA-402a (Unpaved Roads and Paved Roads and Plantwide Transport of Fugitive Emisisons) and AA-404 (Silica Fume Silo), the permittee shall submit semi-annual reports certifying that the permittee implemented and followed its Dust Control Plan for minimizing PM/PM10/PM2.5 emissions for the previous consecutive 12-month period for demonstrating compliance with the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

V.6 For AA-100 (Raw Material Receiving and Handling Operations), the permittee shall submit semi-annual records to be able to demonstrate sufficiently that the permittee is in compliance with the Material Throughput Rate Limitation for the previous consecutive 12-month period of the federally enforceable permit herein. (Ref.: PSD Construction Permit Issued November 27, 2013)

V.7 For AA-201 (Submerged Arc Furnaces), the permittee shall submit semi-annual records to be able to demonstrate sufficiently that the permittee is in compliance with the NOx, CO, and SO2 emission rates for the previous consecutive 12-month period of the federally enforceable permit herein, utilizing the CEMS technology data as described and required monitoring in Section IV. If this data is unavailable then the data of the contingency plan will be used to demonstrate compliance so that the permittee can demonstrate its emission rate for these pollutants at any given time to the MDEQ for demonstrating compliance with the individual BACT emission limits.

V.8 For Emission Point AA-201 (Submerged Arc Furnaces), the permittee shall submit semi-annual records to be able to demonstrate sufficiently that the permittee is in compliance with the VOC and PM/PM10/PM2.5 emission limitations for the previous consecutive 12-month period of the federally enforceable permit herein. The permittee shall utilize performance test data and/or operational range data from the performance test and any other data for demonstrating compliance with the emission limitation. (Ref.: PSD Construction Permit Issued November 27, 2013)

V.9 For Emission Point AA-201 (Submerged Arc Furnace), the permitte shall comply with 40 CFR 60, Subpart Z and submit a written report of any product change to the MDEQ no later than 30 days after implementation of the product change. (Ref.: 40 CFR 60.264(c))

V.10 For Emission Point AA-501 (Emergency Generators), the permitee shall submit semi-annual records to be able to demonstrate sufficiently that the permittee is in compliance with the NOx, CO, SO2, VOC, PM/PM10/PM2.5 emission limitations of the federally enforceable permit herein for the previous consecutive 12-month period and is using Ultra Low Sulfur Diesel (ULSD) Fuel. (Ref.: PSD Construction Permit Issued November 27, 2013)

V.11 For Emission Point AA-000 (Entire Facility), the permittee shall notify the MDEQ no later than 120 days following startup of the affected source that the permitee is subject to 40 CFR 63 - Subpart YYYYYY as specified by 40 CFR CFR 63.11529(a). (Ref.: 40 CFR 63.11529(a))

V.12 For Emission Point AA-000 (Entire Facility), the permittee shall submit a Notification of Compliance Status within as required by 40 CFR 63.11529(b). This notification must include the following:

(a) The results of Method 22 (appendix A-7 of 40 CFR part 60) test for VE as required by 40 CFR 63.11528(a);

(b) If the permittee has installed a bag leak detection system, documentation that the system satisfies the design requirements specified in 40 CFR 63.11527(a)(3) and that the permittee has prepared a site-specific monitoring plan that meets the requirements specified in 40 CFR 63.11527(a)(5);

(c) The results of the Method 9 (appendix A-4 of 40 CFR part 60) test for building opacity as required by 40 CFR 63.11528(a).

(Ref.: 40 CFR 63.11529(b))

V.13 For Emission Point AA-000 (Entire Facility), the permittee shall comply with 40 CFR 63.11529(c) and submit an annual certification of compliance according to the following:

(a) The results of any daily or weekly visual monitoring events required by 40 CFR 63.11527(a)(1) and (b)(1), alarm-based visual monitoring at sources equipped with bag leak detection systems as required by 40

CFR 63.11527(a)(4), or readings outside of the operating range at sources using CPMS on wet scrubbers required by 40 CFR 63.11527(b)(4).

(b) The results of the follow up Method 22 (appendix A-7 of 40 CFR part 60) tests that are required if VE are observed during the daily or weekly visual monitoring, alarm-based visual monitoring, or out-of-range operating readings as described in paragraph (a) of this section.

(c) The results of the Method 22 (appendix A-7 of 40 CFR part 60) or Method 9 (appendix A-4 of 40 CFR part 60) tests required by 40 CFR 63.11528(b) and (c), respectively.

(d) If the permittee operates a bag leak detection system for a fabric filter or a CPMS for a wet scrubber, submit annual reports according to the requirements in 40 CFR 63.10(e) and include summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable).

V.14 For Emission Point AA-000 (Entire Facility), the permittee shall keep records as specified in 40 CFR 63.11529(d) through (g) as follows for demonstrating complying with the Recordkeeping Requirements of 40 CFR 63-Subpart YYYYYY:

(a) The permittee shall keep the records specified in paragraphs (a)(1) through (a)(2) of this section.

(1) As required in 40 CFR 63.10(b)(2)(xiv), the permittee shall keep a copy of each notification that the permittee submitted to comply with this subpart and all documentation supporting any Initial Notification, Notification of Compliance Status, and annual compliance certifications that you submitted.

(2) You shall keep the records of all daily or weekly visual, Method 22 (appendix A-7 of 40 CFR part 60), and Method 9 (appendix A-4 of 40 CFR part 60) monitoring data required by 40 CFR 63.11527 and the information identified in paragraphs (a)(2)(i) through (a)(2)(v) of this section.
- (i) The date, place, and time of the monitoring event;
- (ii) Person conducting the monitoring;
- (iii) Technique or method used;
- (iv) Operating conditions during the activity; and
- (v) Results, including the date, time, and duration of the period from the time the monitoring indicated a problem (e.g., VE) to the time that monitoring indicated proper operation.

(b) The permittee's records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1).

(c) As specified in 40 CFR 63.10(b)(1), The permittee shall keep each record for 5 years following the date of each recorded action.

(d) The permittee shall keep each records onsite for at least 2 years after the date of each recorded action according to 40 CFR 63.10(b)(1). The permittee shall keep the records offsite for the remaining 3 years.

(Ref.: 40 CFR 63.11529(d) through (g))