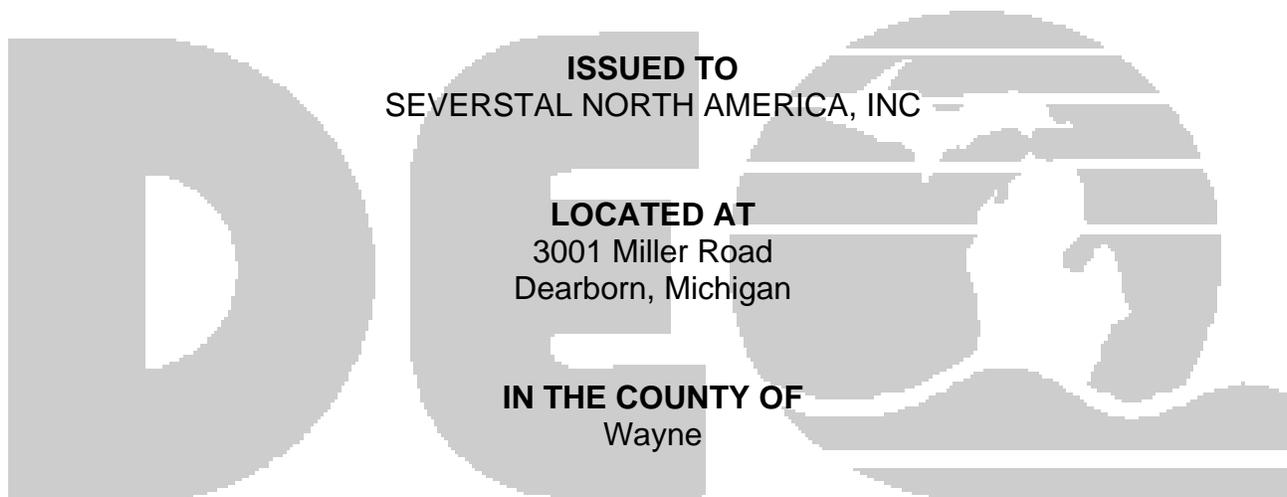


**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

April 19, 2007

**PERMIT TO INSTALL  
182-05B**



**ISSUED TO**  
SEVERSTAL NORTH AMERICA, INC

**LOCATED AT**  
3001 Miller Road  
Dearborn, Michigan

**IN THE COUNTY OF**  
Wayne

**STATE REGISTRATION NUMBER**  
A8640

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>January 11, 2007</b>	
DATE PERMIT TO INSTALL APPROVED: <b>April 19, 2007</b>	SIGNATURE: <b>G. Vinson Hellwig</b>
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

**PERMIT TO INSTALL**  
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**Common Abbreviations / Acronyms**

<b>Common Acronyms</b>		<b>Pollutant/Measurement Abbreviations</b>	
AQD	Air Quality Division	Btu	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H <sub>2</sub> S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	NO <sub>x</sub>	Oxides of Nitrogen
MAP	Malfunction Abatement Plan	PM	Particulate Matter
MDEQ	Michigan Department of Environmental Quality	PM-10	Particulate Matter less than 10 microns diameter
MIOSHA	Michigan Occupational Safety & Health Administration	pph	Pound per hour
MSDS	Material Safety Data Sheet	ppm	Parts per million
NESHAP	National Emission Standard for Hazardous Air Pollutants	ppmv	Parts per million by volume
NSPS	New Source Performance Standards	ppmw	Parts per million by weight
NSR	New Source Review	psia	Pounds per square inch absolute
PS	Performance Specification	psig	Pounds per square inch gauge
PSD	Prevention of Significant Deterioration	scf	Standard cubic feet
PTE	Permanent Total Enclosure	sec	Seconds
PTI	Permit to Install	SO <sub>2</sub>	Sulfur Dioxide
RACT	Reasonable Available Control Technology	THC	Total Hydrocarbons
ROP	Renewable Operating Permit	tpy	Tons per year
SC	Special Condition Number	µg	Microgram
SCR	Selective Catalytic Reduction	VOC	Volatile Organic Compounds
SRN	State Registration Number	yr	Year
TAC	Toxic Air Contaminant	Hg	Mercury
VE	Visible Emissions	Mn	Manganese
Cr	Chromium	Pb	Lead

\* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

### GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **[R336.1201(1)]**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **[R336.1201(4)]**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **[R336.1201(6)(b)]**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **[R336.1201(8), Section 5510 of Act 451, PA 1994]**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R336.1219. The written request shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **[R336.1219]**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **[R336.1901]**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **[R336.1912]**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.
11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R336.1303. **[R336.1301]**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this permit to install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R336.1370(2). **[R336.1370]**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R336.2001 and R336.2003, under any of the conditions listed in R336.2001. **[R336.2001]**

**SPECIAL CONDITIONS**

**Emission Unit Identification**

Unit/Group ID	Emission Unit/Process Group Description	Installation/Modification Date	Control Device Description	Stack/ Vent ID	Requirement Table No.
EUCOALHANDLING	Raw coal silo, pulverized coal silo, rail car unloading shed, coal pulverizer, & two 25 MMBtu/hr natural gas-fired heaters		4 Baghouses	NA	E-01.01
EUBBFCASTHOUSE	B Blast furnace cast house operations	1/1/1922	Baghouse	ROOF MONITORS, SVBFCE	E-01.02 F-01.01
EUBFCESTOVE	Blast Furnace B stove	1/1/1922	Low-NOx technology	SVBFCESTOVE	E-01.03 F-01.02
EUCBFCASTHOUSE	C Blast furnace cast house operations	1/1/48	Baghouse	ROOF MONITORS, SVCFCE	E-01.04 F-01.01
EUCFCESTOVE	Blast Furnace C stove	1/1/48	Low-NOx technology	SVCFCSTOVE	E-01.05 F-01.02
EURELADLINGBOF	Reladling south and north - BOF	1/1/75	Baghouse	SVRELADLEBA G, SVBOFBH	E-01.06 F-01.03
EUDESULFURIZATION	Desulfurization operation	1/1/81	Baghouse	SVDESULF	E-01.07
EUBOF	Basic oxygen furnace (BOF), 2 vessels	1/1/64	Electrostatic precipitator, baghouse	SVBOFESP, SVBOFBH	E-01.08 F-01.03
EUDESULFWATERINGS TATION	BOF desulfurization by-product material "desulf" watering station located at the south end of the BOF building. Levy digs the desulf materials with a front-end loader, brings them to an open area for	4/17/95	NA	NA	E-01.09

Unit/Group ID	Emission Unit/Process Group Description	Installation/Modification Date	Control Device Description	Stack/ Vent ID	Requirement Table No.
	cooling using water spray and for fugitive dust control. After thorough cooling, Levy loads the materials into trucks for processing off site.				
EULADLEREFINE1	No. 1 Ladle refining facility	1/1/90	Baghouse	SVLADLEREFINE1	E-01.10
EULADLEREFINE2	No. 2 Ladle refining facility	1/1/95	Baghouse	SVLADLEREFINE2	E-01.11
EUANNEALFURNACES	34 annealing furnaces		NA	NA	E-01.12
EUSREHEATFURNACE1	Slab reheat furnace 1	1/1/79	NA	SVHSMREHEAT FCE11 SVHSMREHEAT FCE21	F-01.04
EUSREHEATFURNACE2	Slab reheat furnace 2	1/1/74	NA	SVHSMREHEAT FCE21 SVHSMREHEAT FCE22	F-01.04
EUSREHEATFURNACE3	Slab reheat furnace 3	1/1/74	NA	SVHSMREHEAT FCE31 SVHSMREHEAT FCE32	F-01.04

**Flexible Group Identification**

Flexible Grouping ID	Emission Unit/Process Groups Included in Flexible Grouping	Requirement Table No.
FGB&CCASTHOUSES	EUBBFCASTHOUSE, EUCBFCASTHOUSE	F-01.01
FGB&CSTOVES	EUBFCESTOVE, EUCFCESTOVE	F-01.02
FGBOFSHOP	EUBOF, EURELADLINGBOF	F-01.03
FGSREHEATFURNACE123	EUSREHEATFURNACE1, EUSREHEATFURNACE2, EUSREHEATFURNACE3	F-01.04
FGFACILITY	All equipment at the stationary source including equipment covered by other permits, grandfathered equipment and exempt equipment.	F-01.05

<b>TABLE E-01.01 COAL HANDLING EQUIPMENT EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>EMISSION GROUP</b>		EU COAL HANDLING			
<b>Flexible Grouping ID</b>		NA			
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>		4 Baghouses			
<b>B. Stack/Vent Parameters</b>		NA			
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVTRACKHOPPER	NA	NA	NA	30,000	NA
SVRAWCOALSILO	NA	NA	NA	1,800	NA
SVFINECOALSILO	NA	NA	NA	6,200	NA
SVPULVERIZER	NA	NA	NA	16,000	NA
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
Natural gas		1. 214.7 MMscf per 12-month rolling time period in the pulverizer hot gas generator. <b>(40 CFR 52.21(b)(3))</b>  2. 214.7 MMscf per 12-month rolling time period in the rail car shed heater. <b>(40 CFR 52.21(b)(3))</b>			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
1. PM		1. 0.005 gr/dscf from the track hopper baghouse <b>(40 CFR 52.21(b)(3), R336.1331(c))</b> 2. 0.005 gr/dscf from the raw coal silo baghouse <b>(40 CFR 52.21(b)(3), R336.1331(c))</b> 3. 0.005 gr/dscf from the fine coal silo baghouse <b>(40 CFR 52.21(b)(3), R336.1331(c))</b> 4. 0.005 gr/dscf from the coal pulverizer baghouse <b>(40 CFR 52.21(b)(3), R336.1331(c))</b>			
2. PM10		1. 0.005 gr/dscf from the track hopper baghouse <b>(R336.1205(1)(a) &amp; (b))</b> 2. 0.005 gr/dscf from the raw coal silo baghouse <b>(R336.1205(1)(a) &amp; (b))</b> 3. 0.005 gr/dscf from the fine coal silo baghouse <b>(R336.1205(1)(a) &amp; (b))</b> 4. 0.005 gr/dscf from the coal pulverizer baghouse <b>(R336.1205(1)(a) &amp; (b))</b>			
3. Visible emissions		1. 10% opacity from the track hopper baghouse <b>(R336.1301(1)(c))</b> 2. 10% opacity from raw coal silo baghouse <b>(R336.1301(1)(c))</b> 3. 10% opacity from the fine coal silo baghouse <b>(R336.1301(1)(c))</b> 4. 10% opacity from the coal pulverizer baghouse <b>(R336.1301(1)(c))</b>			

<b>TABLE E-01.01 COAL HANDLING EQUIPMENT EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>	
<b>III. COMPLIANCE EVALUATION</b>	
Records of all of the following shall be maintained on file for a period of 5 years.	
<b>A. MONITORING/RECORDKEEPING</b>	
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>	NA
<b>2. Process Monitoring System and Recordkeeping</b>	NA
<b>3. Other Monitoring and/or Recordkeeping</b>	<ol style="list-style-type: none"> <li>1. The permittee shall perform a Method 9 certified visible emission observation of each baghouse at least once a month during processing activity. The permittee shall initiate corrective action upon observation of visible emissions in excess of the applicable visible emission limitation and shall keep a written record of each required observation and corrective action taken. <b>(R336.1910)</b></li> <li>2. Permittee shall periodically inspect each baghouse to determine the operational and physical condition of the baghouse at least once per month, and immediately after observing visible emissions in excess of the applicable limitation. Each baghouse shall be inspected as necessary immediately after a malfunction or failure of the baghouse or the process equipment to determine the reason for the malfunction or failure. Written records of each inspection and corrective action taken, if any, shall be maintained. <b>(R336.1910)</b></li> <li>3. The permittee shall keep, in a satisfactory manner, monthly and previous 12-month fuel usage records for the rail car shed heater and the pulverizer hot gas generator. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(b)(3)</b></li> </ol>
<b>B. TESTING/RECORDKEEPING</b>	
<b>1. Parameter to be Tested/Recorded</b>	NA
<b>2. Method/Analysis</b>	NA
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	NA
<b>IV. REPORTING</b>	
<b>Reports and Schedules</b>	NA
<b>V. OPERATIONAL PARAMETERS</b>	
<ol style="list-style-type: none"> <li>1. The permittee shall not operate the coal pulverizer unless the baghouse is installed, maintained, and operated in a satisfactory manner. <b>(R336.1205(1)(a) &amp; (b), R336.1301, R336.1331(c), R336.1910, 40 CFR 52.21(b)(3))</b></li> <li>2. The permittee shall not load coal into the raw coal silo unless the baghouse is installed, maintained, and operated in a satisfactory manner. <b>(R336.1205(1)(a) &amp; (b), R336.1301, R336.1331(c), R336.1910, 40 CFR 52.21(b)(3))</b></li> </ol>	

<b>TABLE E-01.01 COAL HANDLING EQUIPMENT EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>
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|---|
| <p>3. The permittee shall not load coal into the fine coal silo unless the baghouse is installed, maintained, and operated in a satisfactory manner. <b>(R336.1205(1)(a) &amp; (b), R336.1301, R336.1331(c), R336.1910, 40 CFR 52.21(b)(3))</b></p> <p>4. The permittee shall not load coal into the track hopper unless the baghouse is installed, maintained, and operated in a satisfactory manner. <b>(R336.1205(1)(a) &amp; (b), R336.1301, R336.1331(c), R336.1910, 40 CFR 52.21(b)(3))</b></p> |
|---|

<b>VI. OTHER REQUIREMENTS</b>
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NA
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<b>TABLE E-01.02 B BLAST FURNACE CAST HOUSE OPERATIONS</b>					
<b>EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>EMISSION GROUP</b>	EUBBFCASTHOUSE				
<b>Flexible Grouping ID</b>	FGB&CCASTHOUSE				
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>	Natural gas suppression system prior to installation of baghouse. Baghouse after June 30, 2008				
<b>B. Stack/Vent Parameters</b>	NA				
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVBBFROOFMONEAST	75.2	NA	NA	NA	<b>R336.1225</b>
SVBBFROOFMONWEST	75.2	NA	NA	NA	<b>R336.1225</b>
SVBFCE	200	111	150	250,000	<b>R336.1225</b>
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>	<b>Maximum Usage Rate</b>				
NA	NA				
<b>B. Pollutant</b>	<b>Maximum Emission Limit</b>				
1. PM	1. 0.003 gr/dscf from baghouse stack (40 CFR 52.21(b)(3)) <b>R336.1331, 40 CFR 63 Subpart FFFFF</b> 2. 5.59 lb/hr from baghouse stack (40 CFR 52.21(b)(3))				
2. PM-10	1. 0.0015 gr/dscf from baghouse stack (R336.1205(1)(a) & (b)) 2. 2.85 lb/hr from baghouse stack (R336.1205(1)(a) & (b))				
3. Opacity from roof monitors	20% (R336.1358 (1))				
4. Secondary emissions exiting any opening in the casthouse	20% (6-minute average) (40 CFR 63.7790(a))				
5. Opacity from baghouse stack	10% (R336.1361)				
<b>III. COMPLIANCE EVALUATION</b>					
Records of all of the following shall be maintained on file for a period of 5 years.					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>	NA				
<b>2. Process Monitoring System and Recordkeeping</b>	1. If applicable, the permittee shall install, maintain, and operate a Continuous Parametric Monitoring System (CPMS) for the baghouse capture system according to the requirements of 40 CFR 63.7830(a) and 40 CFR 63.7831(e). (40 CFR 63.7830(a))				
<b>3. Other Monitoring and/or Recordkeeping</b>	1. Prior to installation of the B blast furnace casthouse baghouse, the permittee shall perform a Method 9 certified visible emission observation of roof monitors at least once a week during the blast furnace operation for a minimum of one entire cast. After installation of the B blast furnace casthouse baghouse, the permittee shall perform non-certified visible emission observation for the roof monitors at least once a week during blast furnace processing activity and a Method 9 certified visible emission observation of roof monitors at least once every month during blast furnace processing activity. The permittee				

**TABLE E-01.02 B BLAST FURNACE CAST HOUSE OPERATIONS  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>shall initiate corrective action upon observation of visible emissions in excess of the applicable visible emission limitation and shall keep a written record of each required observation and corrective action taken. <b>(R336.1358(1))</b></p> <ol style="list-style-type: none"><li>2. The permittee shall maintain a copy of each notification and report submitted under 40 CFR Part 63, Subpart FFFFF, including all documentation supporting the initial notification or notification of compliance status submitted according to 40 CFR 63.10(b)(2)(xiv). <b>(40 CFR 63.7842(a)(1))</b></li><li>3. The permittee shall maintain the records required for startup, shutdown and malfunction under 63.6(e)(3)(iii) through (v). <b>(40 CFR 63.7842(a)(2))</b></li><li>4. The permittee shall maintain records associated with performance tests, and performance evaluations as required by 40 CFR 63.10(b)(2)(viii). <b>(40 CFR 63.7842(a)(3))</b></li><li>5. Except as allowed in S.C. 8 permittee shall install, operate, and maintain a bag leak detection system meeting the following specifications on the baghouse control: <b>(40 CFR 63.7831(f))</b><ol style="list-style-type: none"><li>a. Certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic foot (0.0044 grains per actual cubic foot). <b>(40 CFR 63.7831(f)(1))</b></li><li>b. Provides output of relative changes in particulate matter loadings. <b>(40 CFR 63.7831(f)(2))</b></li><li>c. Is equipped with an alarm, located such that it is heard by appropriate plant personnel, that sounds an alarm when an increase in relative particulate loadings is detected over a preset level. <b>(40 CFR 63.7831(f)(3))</b></li><li>d. Initially adjusted by establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and setting the alarm set points and alarm delay time. <b>(40 CFR 63.7831(f)(5))</b></li></ol></li><li>6. Following the initial adjustment of the bag leak detection system, the permittee shall not adjust the sensitivity or range, averaging period, alarm set points or alarm delay time except as specified in the operation and maintenance plan. This requirement does not apply if the permittee installs a COMS as specified in S.C. 8. <b>(40 CFR 63.7831(f)(6))</b></li><li>7. If the sensitivity of the bag leak detection system is changed beyond the limits established pursuant to 40 CFR 63.7831(f)(6), a copy of a written certification by a responsible official shall be included in the semiannual compliance report for that period. This requirement does not apply if the permittee installs a COMS as specified in S.C. 8. <b>(40 CFR 63.7833(c)(2))</b></li></ol>
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**TABLE E-01.02 B BLAST FURNACE CAST HOUSE OPERATIONS  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

8. If permittee does not install and operate a bag leak detection system, the permittee shall install, operate, and maintain a COMS according to the requirements in 40CFR Sec. 63.7831(h) and monitor the hourly average opacity of emissions exiting each control device stack according to the requirements in 40 CFR 63.7832. **(40 CFR 63.7832)**
9. The permittee shall monitor the pressure drop across each baghouse compartment daily to ensure that the pressure drop is within the normal operating range identified in the manual. **(40 CFR 63.7830(b)(1))**
10. The permittee shall confirm that dust is being removed from hoppers on a weekly basis through visual observations or other means of determining the proper functioning of the removal mechanisms. **(40 CFR 63.7830(b)(2))**
11. The permittee shall confirm that the compressed air supply to the pulse-jet baghouse is operating properly on a daily basis. **(40 CFR 63.7830(b)(3))**
12. The permittee shall monitor the cleaning cycles of the baghouse to ensure proper operation using appropriate technology. **(40 CFR 63.7830(b)(4))**
13. The permittee shall check the bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means. **(40 CFR 63.7830(b)(5))**
14. The permittee shall inspect the baghouse to confirm the physical integrity of the baghouse through quarterly inspections of the interior of the baghouse for air leaks. **(40 CFR 63.7830(b)(7))**
15. The permittee shall inspect fans for wear, material buildup, and corrosion on a quarterly basis using visual inspections, vibration detectors, or equivalent means. **(40 CFR 63.7830(b)(8))**
16. The permittee shall monitor the process as required by this table, except during monitoring malfunctions, out-of-control periods, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments). **(40 CFR 63.7832(a))**
17. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used in data averages and calculations used to report emission or operating levels or to fulfill minimum data availability requirements. **(40 CFR 63.7832(b))**
18. The permittee shall prepare, and operate at all times according to, a written operation and maintenance plan for the baghouse capture system. The plan shall address each of the following:  
**(40 CFR 63.7800(b))**

**TABLE E-01.02 B BLAST FURNACE CAST HOUSE OPERATIONS  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

- a. Weekly inspections of the equipment that is important to the performance of the total capture system, including, but not limited to, observations of the physical appearance of the equipment and requirements to repair any defect or deficiency in the capture system before the next scheduled inspection; **(R336.1301, R336.1358(1), 40 CFR 63.7800(b)(1))**
  - b. Operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system including, but not limited to, operating limit parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to, volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure. **(40 CFR 63.7800(b)(3))**
19. If applicable, the permittee shall monitor the hourly average actual volumetric flow rate through each separately ducted hood and the average hourly total volumetric flow rate at the inlet to the baghouse according to the requirements in 40 CFR 63.7832. **(40 CFR 63.7830(a))**
20. If applicable, the permittee shall develop and make available for inspection upon request by AQD a site-specific monitoring plan that addresses all of the following requirements for the baghouse capture system: **(40 CFR 63.7831(a))**
- a. Installation of the CPMS sampling probe or other interface at a measurement location relative to each hooded emission point such that the measurement is representative of capture of the exhaust emissions; **(40 CFR 63.7831(a)(1))**
  - b. Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system; **(40 CFR 63.7831(a)(2))**
  - c. Performance evaluation procedures and acceptance criteria; **(40 CFR 63.7831(a)(3))**
  - d. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1), (c)(3), (c)(4)(ii), (c)(7), and (c)(8); **(40 CFR 63.7831(a)(4))**
  - e. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d); and **(40 CFR 63.7831(a)(5))**
  - f. Ongoing recordkeeping and reporting procedures in accordance the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i). **(40 CFR 63.7831(a)(6))**

**TABLE E-01.02 B BLAST FURNACE CAST HOUSE OPERATIONS  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>21. If applicable, the permittee shall operate and maintain the capture system CPMS in continuous operation according to the site-specific monitoring plan. Unless otherwise specified, the CPMS shall: <b>(40 CFR 63.7831(b))</b></p> <ul style="list-style-type: none"> <li>a. Complete a minimum of one cycle of operation for each successive 15-minute period and collect a minimum of three of the required four data points to constitute a valid hour of data;  <b>(40 CFR 63.7831(b)(1))</b></li> <li>b. Provide valid hourly data for at least 95 percent of every averaging period; and <b>(40 CFR 63.7831(b)(2))</b></li> <li>c. Determine and record the hourly average of all recorded readings.  <b>(40 CFR 63.7831(b)(3))</b></li> </ul> <p>22. The permittee shall operate the baghouse capture system at or above the lowest value or settings established for the operating limits in the operation and maintenance plan and collect, reduce, and record the monitoring data for each of the operating limit parameters. <b>(40 CFR 63.7833(b))</b></p>
<b>B. TESTING/RECORDKEEPING</b>	
<b>1. Parameter to be Tested/Recorded</b>	<ul style="list-style-type: none"> <li>1. Opacity</li> <li>2. PM</li> <li>3. PM-10</li> </ul>
<b>2. Method/Analysis</b>	Approved Method
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	<ul style="list-style-type: none"> <li>1. Within 180 operating days after commencement of trial operation of the B blast furnace casthouse baghouse, verification of PM and PM10 emission rates from the B-Blast Furnace baghouse stack, by testing at owner's expense, in accordance with Department requirements, will be required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. <b>(R336.1205, R336.1331(c), R336.2001, R336.2003, R336.2004, 40 CFR 52.21(b)(3))</b></li> <li>2. The permittee shall conduct a performance test to demonstrate initial compliance with the applicable emission and opacity limitations of 40 CFR Part 63, Subpart FFFFF, contained in this table within 180 days of the startup of "B" BF casthouse baghouse. <b>(40 CFR 63.7820(a))</b></li> <li>3. Permittee shall conduct performance tests for particulate matter emissions and opacity at least once per permit term. <b>(40 CFR 63.7821)</b></li> <li>4. The permittee shall demonstrate compliance with the opacity limitation in II.B.4 with a certified observer of Method 9 visible emissions using Method 9. The performance test for visible emissions shall consist of</li> </ul>

**TABLE E-01.02 B BLAST FURNACE CAST HOUSE OPERATIONS  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

30 6-minute block averages during tapping of the furnace.  
**(40 CFR 63.7823(c)(1) and (2))**

5. The permittee shall maintain records of visible emissions observations required by 40 CFR Part 63, Subpart FFFFF. **(40 CFR 63.7842(c))**
6. The permittee shall sample for an integral number of furnace tapping operations to obtain at least 1 hour of sampling for each test run. **(40 CFR 63.7822(e))**
7. The permittee shall maintain records of the time corrective action was initiated, the corrective action taken, and the date when corrective actions were completed in response to a bag leak detection system alarm. **(40 CFR 63.7842(d) and 40 CFR 63.7833(c)(1))**
8. Performance tests for visible emissions shall be conducted such that the opacity observations overlap with the performance tests for particulate. **(40 CFR 63.7823(b))**
9. The permittee shall certify that the baghouse capture system operated during the performance test at the site-specific operating limits established in the operation and maintenance plan using the following procedures: **(40 CFR 63.7824(a))**
  - a. Concurrent with all opacity observations, measure and record values for each of the operating limit parameters in the capture system operation and maintenance plan according to the monitoring requirements specified in §63.7830(a). **(40 CFR 63.7824(a)(1))**
  - b. For any dampers that are manually set and remain at the same position at all times the capture system is operating, the damper position shall be visually checked and recorded at the beginning and end of each opacity observation period segment. **(40 CFR 63.7824(a)(2))**
  - c. Review and record the monitoring data and identify and explain any times the capture system operated outside the applicable operating limits. **(40 CFR 63.7824(a)(3))**
  - d. Certify in the performance test report that during all observation period segments, the capture system was operating at the values or settings established in the capture system operation and maintenance plan. **(40 CFR 63.7824(a)(4))**
10. The permittee may change the operating limits for the baghouse capture system if the following requirements are met: **(40 CFR 63.7824(d))**
  - a. Submit a written notification to the Administrator requesting to conduct a new performance test to revise the operating limit. **(40 CFR 63.7824(d)(1))**

**TABLE E-01.02 B BLAST FURNACE CAST HOUSE OPERATIONS  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	b. Conduct a performance test to demonstrate compliance with the applicable operating limitation. <b>(40 CFR 63.7824(d)(2))</b> c. Establish revised operating limits according to the applicable procedures in 40 CFR 63.7824, paragraphs (a) through (c) for a capture system. <b>(40 CFR 63.7824(d)(3))</b>
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**IV. REPORTING**

<b>Reports and Schedules</b>	1. Permittee shall report the results of the initial performance test in the notification of compliance status. <b>(40 CFR 63.7820(a), 40 CFR 63.7825(c) and 40 CFR 63.7840(e))</b> 2. Permittee shall submit a notification of intent to perform any performance testing under 40 CFR Part 63, Subpart FFFFF at least 60 calendar days before testing is to begin. <b>(40 CFR 63.7840(d))</b> 3. Any time an action taken by the permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) is not consistent with the procedures in the startup, shutdown, and malfunction plan, the permittee shall comply with all requirements of 63.10(d)(5)(ii). <b>(40 CFR Part 63.7841(c))</b>
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**V. OPERATIONAL PARAMETERS**

	1. After June 30, 2008, B Blast Furnace Cast House shall not be operated unless the baghouse is installed, maintained and operated in a satisfactory manner. <b>(R336.1205(1)(a) &amp; (b), R336.1225, R336.1331(c), R336.1910, 40 CFR 52.21(b)(3), MDEQ Consent Order AQD No. 6-2006 Paragraph 10.B)</b> 2. Prior to installation of the baghouse, the B Blast Furnace Cast House shall not be operated unless the natural gas fired fume suppression system is installed and operating properly. <b>(R336.1910)</b> 3. Prior to installation of the baghouse, the permittee shall operate and maintain a flow indication system for natural gas to the suppression system when the B Blast Furnace Casthouse is operated. <b>(R336.1910)</b> 4. The B Blast Furnace Cast House shall be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions. <b>(40 CFR 63.7800(a) and 40 CFR 63.6(e)(1)(i))</b> 5. The permittee shall develop and implement a written startup, shutdown and malfunction plan for the B Blast Furnace Cast House. <b>(40 CFR 63.7810(c), 40 CFR 63.7835(b) and 40 CFR 63.6(e)(3))</b> 6. By January 31, 2008, the permittee shall provide the B blast furnace casthouse baghouse capture system design plans and a signed certification from the designer, certifying that the baghouse capture system is designed to achieve no less than 98% collection efficiency. <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(b)(3))</b>
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**VI. OTHER REQUIREMENTS**

	1. Records required under 40 CFR Part 63, Subpart FFFFF and specified in this table shall be retained for five years. The records must be maintained onsite for the two most recent years of the five year period. Records from the remaining three years of the five year period may be keep offsite. <b>(40 CFR 63.7843(b) and (c))</b>
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<b>TABLE E-01.03 B BLAST FURNACE STOVE EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>FLEXIBLE GROUPING</b>		FGB&CSTOVES			
<b>Emission Unit/Process Group</b>		EUBFCESTOVE			
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>		Low-NOx technology; scrubber and mechanical collector for blast furnace gas precleaning			
<b>B. Stack/Vent Parameters</b>		NA			
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVBSTOVE	190	99	750	NA	<b>R336.1225, 40 CFR 52.21(c) &amp; (d)</b>
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
NA		NA			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
1. NOx		1. 36.0 lb/hr (R336.1205(1)(a) & (b))			
		2. 136.6 ton/12-month rolling period (R336.1205(1)(a) & (b))			
2. SO2		1. 70.9 lb/hr. (40 CFR 52.21(c) & (d), 40 CFR 52.21(j))			
3. CO		1. 661.1 lb/hr (40 CFR 52.21(d))			
<b>III. COMPLIANCE EVALUATION</b>					
Records of all of the following shall be maintained on file for a period of 5 years.					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>		NA			
<b>2. Process Monitoring System and Recordkeeping</b>		1. The permittee shall keep, in a satisfactory manner, daily fuel usage records for EUBFCESTOVE. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. (R336.1205(1)(a) & (b), 40 CFR 52.21(b)(3), (c), & (d))  2. Following the performance testing required in S.C. III.B.3.1 of this table, the permittee shall determine compliance with emission limits in S.C. II.B.1.2 of this table by establishing emission factors based up on the BFCE stove stack testing and applying these emission factors to the daily fuel usage recorded in S.C. III.A.2.1, as outlined in Appendix 1.7. (R336.1205(1)(a) & (b))			

<b>TABLE E-01.03 B BLAST FURNACE STOVE EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>	
	3. Following the performance testing required in S.C. III.B.3.1 of Table E-01.05, the permittee shall determine compliance with the emission limit in S.C. II.B.3.1 of this table by establishing an emission factor based upon the CFCE stove stack testing and applying this emission factor to the daily fuel usage recorded in S.C. III.A.2.1, as outlined in Appendix 1.7. <b>(40 CFR 52.21 (d))</b>
<b>3. Other Monitoring and/or Recordkeeping</b>	NA
<b>B. TESTING/RECORDKEEPING</b>	
<b>1. Parameter to be Tested/Recorded</b>	1. NOx 2. SO2
<b>2. Method/Analysis</b>	Approved method
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	1. Within 180 operating days after commencement of trial operation of the B blast furnace casthouse baghouse, verification of NOx and SO2 emission rates from the B-Blast Furnace stove stack, by testing at owner's expense, in accordance with Department requirements, will be required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. <b>(R336.2001, R336.2003, R336.2004, 40 CFR 52.21(c) &amp; (d), 40 CFR 52.21(j))</b>
<b>IV. REPORTING</b>	
<b>Reports and Schedules</b>	NA
<b>V. OPERATIONAL PARAMETERS</b>	
1. After completion of C-FCE modification, the permittee shall not operate EUBFCESTOVE unless the low-NOx technology is installed, maintained, and operated in a satisfactory manner. <b>(R336.1205(1)(a) &amp; (b), R336.1910)</b>	
2. The permittee shall not fire blast furnace gas in EUBFCESTOVE unless the scrubber and mechanical collector for pre-combustion gas cleaning are installed, maintained, and operated in a satisfactory manner. <b>(R336.1205(1)(a) &amp; (b), R336.1910, 40 CFR 52.21(b)(3))</b>	
<b>VI. OTHER REQUIREMENTS</b>	
NA	

<b>TABLE E-01.04 C BLAST FURNACE CAST HOUSE OPERATIONS EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>EMISSION GROUP</b>		EUCBFCASTHOUSE			
<b>Flexible Grouping ID</b>		FGB&CBFCASTHOUSE			
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>		Baghouse.			
<b>B. Stack/Vent Parameters</b>		NA			
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVCBFROOFMONEAST	75.2	NA	NA	NA	<b>R336.1225</b>
SVCBFROOFMONWEST	75.2	NA	NA	NA	<b>R336.1225</b>
SVCFCE	200	153	150	500,000	<b>R336.1225</b>
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
NA		NA			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
1. PM	1. 0.003 gr/dscf from baghouse stack		<b>(40 CFR 52.21(b)(3), R336.1331, 40 CFR 63 Subpart FFFFF)</b>		
	2. 11.17 lb/hr from baghouse stack		<b>(40 CFR 52.21(b)(3))</b>		
2. PM-10	1. 0.0015 gr/dscf from baghouse stack		<b>(R336.1205(1)(a) &amp; (b))</b>		
	2. 5.70 lb/hr from baghouse stack		<b>(R336.1205(1)(a) &amp; (b))</b>		
3. Opacity from roof monitors	20%		<b>(R336.1358 (1))</b>		
4. Secondary emissions exiting any opening in the casthouse	20% (6-minute average) <b>(40 CFR 63.7790(a))</b>				
5. Opacity from baghouse stack	10%		<b>(R336.1361)</b>		
6. SO2 from baghouse stack	1. 23.03 lb/hr		<b>(40 CFR 52.21 (c) &amp; (d), 40 CFR 52.21 (j))</b>		
	2. 91.79 ton per 12-month rolling time period		<b>(40 CFR 52.21 (c), (d), &amp; (j))</b>		
7. NOx from baghouse stack	1. 2.45 lb/hr		<b>(R336.1205(1)(a) &amp; (b))</b>		
	2. 9.77 ton per 12-month rolling time period		<b>(R336.1205(1)(a) &amp; (b))</b>		
8. VOC from baghouse stack	1. 6.77 lb/hr		<b>(R336.1702(a))</b>		
9. Mn	1. 0.00256 lb/hr from baghouse stack		<b>(R336.1225)</b>		
10. Pb	1. 0.00015 lb/hr from baghouse stack		<b>(40 CFR 52.21(d))</b>		
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>		NA			
<b>2. Process Monitoring System and Recordkeeping</b>		1. If applicable, the permittee shall install, maintain, and operate a Continuous Parametric Monitoring System (CPMS) for the baghouse capture system according to the requirements of 40 CFR 63.7830(a) and 40 CFR 63.7831(e). <b>(40 CFR 63.7830(a))</b>			

**TABLE E-01.04 C BLAST FURNACE CAST HOUSE OPERATIONS  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

**3. Other Monitoring and/or  
Recordkeeping**

1. Prior to installation of the C blast furnace casthouse baghouse, the permittee shall perform a Method 9 certified visible emission observation of roof monitors at least once a week during the blast furnace operation for a minimum of one entire cast. After installation of the C blast furnace casthouse baghouse, the permittee shall perform non-certified visible emission observation for the roof monitors at least once a week during blast furnace processing activity and a Method 9 certified visible emission observation of roof monitors at least once every month during blast furnace processing activity. The permittee shall initiate corrective action upon observation of visible emissions in excess of the applicable visible emission limitation and shall keep a written record of each required observation and corrective action taken. **(R336.1358(1))**
2. The permittee shall maintain a copy of each notification and report submitted under 40 CFR Part 63, Subpart FFFFF, including all documentation supporting the initial notification or notification of compliance status submitted according to 40 CFR 63.10(b)(2)(xiv). **(40 CFR 63.7842(a)(1))**
3. The permittee shall maintain the records required for startup, shutdown and malfunction under 63.6(e)(3)(iii) through (v). **(40 CFR 63.7842(a)(2))**
4. The permittee shall maintain records associated with performance tests, and performance evaluations as required by 40 CFR 63.10(b)(2)(viii). **(40 CFR 63.7842(a)(3))**
5. Except as allowed in S.C. 8, permittee shall install, operate, and maintain a bag leak detection system meeting the following specifications on the baghouse control: **(40 CFR 63.7831(f))**
  - a. Certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic foot (0.0044 grains per actual cubic foot). **(40 CFR 63.7831(f)(1))**
  - b. Provides output of relative changes in particulate matter loadings. **(40 CFR 63.7831(f)(2))**
  - c. Is equipped with an alarm, located such that it is heard by appropriate plant personnel, that sounds an alarm when an increase in relative particulate loadings is detected over a preset level. **(40 CFR 63.7831(f)(3))**
  - d. Initially adjusted by establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and setting the alarm set points and alarm delay time. **(40 CFR 63.7831(f)(5))**
6. Following the initial adjustment of the bag leak detection system, the permittee shall not adjust the sensitivity or range, averaging period, alarm set points or alarm delay time except as specified in the

**TABLE E-01.04 C BLAST FURNACE CAST HOUSE OPERATIONS  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

- operation and maintenance plan. This requirement does not apply if the permittee installs a COMS as specified in S.C. 8. **(40 CFR 63.7831(f)(6))**
7. If the sensitivity of the bag leak detection system is changed beyond the limits established pursuant to 40 CFR 63.7831(f)(6), a copy of a written certification by a responsible official shall be included in the semiannual compliance report for that period. This requirement does not apply if the permittee installs a COMS as specified in S.C. 8. **(40 CFR 63.7833(c)(2))**
  8. If permittee does not install and operate a bag leak detection system, the permittee shall install, operate, and maintain a COMS according to the requirements in 40 CFR Sec. 63.7831(h) and monitor the hourly average opacity of emissions exiting each control device stack according to the requirements in 40 CFR 63.7832. **(40 CFR 63.7832)**
  9. The permittee shall monitor the pressure drop across each baghouse compartment daily to ensure that the pressure drop is within the normal operating range identified in the manual. **(40 CFR 63.7830(b)(1))**
  10. The permittee shall confirm that dust is being removed from hoppers on a weekly basis through visual observations or other means of determining the proper functioning of the removal mechanisms. **(40 CFR 63.7830(b)(2))**
  11. The permittee shall confirm that the compressed air supply to the pulse-jet baghouse is operating properly on a daily basis. **(40 CFR 63.7830(b)(3))**
  12. The permittee shall monitor the cleaning cycles of the baghouse to ensure proper operation using appropriate technology. **(40 CFR 63.7830(b)(4))**
  13. The permittee shall check the bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means. **(40 CFR 63.7830(b)(5))**
  14. The permittee shall inspect the baghouse to confirm the physical integrity of the baghouse through quarterly inspections of the interior of the baghouse for air leaks. **(40 CFR 63.7830(b)(7))**
  15. The permittee shall inspect fans for wear, material buildup, and corrosion on a quarterly basis using visual inspections, vibration detectors, or equivalent means. **(40 CFR 63.7830(b)(8))**
  16. The permittee shall monitor the process as required by this table, except during monitoring malfunctions, out-of-control periods, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments). **(40 CFR 63.7832(a))**

**TABLE E-01.04 C BLAST FURNACE CAST HOUSE OPERATIONS  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

17. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used in data averages and calculations used to report emission or operating levels or to fulfill minimum data availability requirements. **(40 CFR 63.7832(b))**
  
18. The permittee shall prepare, and operate at all times according to, a written operation and maintenance plan for the baghouse capture system. The plan shall address each of the following:  
**(40 CFR 63.7800(b))**
  - a. Weekly inspections of the equipment that is important to the performance of the total capture system, including, but not limited to, observations of the physical appearance of the equipment and requirements to repair any defect or deficiency in the capture system before the next scheduled inspection; **(R336.1301, R336.1358(1), 40 CFR 63.7800(b)(1))**
  
  - b. Operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system including, but not limited to, operating limit parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to, volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure.  
**(40 CFR 63.7800(b)(3))**
  
19. If applicable, the permittee shall monitor the hourly average actual volumetric flow rate through each separately ducted hood and the average hourly total volumetric flow rate at the inlet to the baghouse according to the requirements in 40 CFR 63.7832. **(40 CFR 63.7830(a))**
  
20. If applicable, the permittee shall develop and make available for inspection upon request by AQD a site-specific monitoring plan that addresses all of the following requirements for the baghouse capture system: **(40 CFR 63.7831(a))**
  - a. Installation of the CPMS sampling probe or other interface at a measurement location relative to each hooded emission point such that the measurement is representative of capture of the exhaust emissions; **(40 CFR 63.7831(a)(1))**
  
  - b. Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system; **(40 CFR 63.7831(a)(2))**
  
  - c. Performance evaluation procedures and acceptance criteria; **(40 CFR 63.7831(a)(3))**

**TABLE E-01.04 C BLAST FURNACE CAST HOUSE OPERATIONS  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>d. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1), (c)(3), (c)(4)(ii), (c)(7), and (c)(8); <b>(40 CFR 63.7831(a)(4))</b></p> <p>e. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d); and <b>(40 CFR 63.7831(a)(5))</b></p> <p>f. Ongoing recordkeeping and reporting procedures in accordance the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i). <b>(40 CFR 63.7831(a)(6))</b></p> <p>21. If applicable, the permittee shall operate and maintain the capture system CPMS in continuous operation according to the site-specific monitoring plan. Unless otherwise specified, the CPMS shall: <b>(40 CFR 63.7831(b))</b></p> <p>a. Complete a minimum of one cycle of operation for each successive 15-minute period and collect a minimum of three of the required four data points to constitute a valid hour of data; <b>(40 CFR 63.7831(b)(1))</b></p> <p>b. Provide valid hourly data for at least 95 percent of every averaging period; and <b>(40 CFR 63.7831(b)(2))</b></p> <p>c. Determine and record the hourly average of all recorded readings. <b>(40 CFR 63.7831(b)(3))</b></p> <p>22. The permittee shall operate the baghouse capture system at or above the lowest value or settings established for the operating limits in the operation and maintenance plan and collect, reduce, and record the monitoring data for each of the operating limit parameters. <b>(40 CFR 63.7833(b))</b></p> <p>23. The permittee shall keep a daily record of the amount of iron cast from the furnace. <b>(R336.1205(1)(a) &amp; (b), R336.1225)</b></p> <p>24. The permittee shall keep, in a satisfactory manner, monthly and previous 12-month records of SO<sub>2</sub> and NO<sub>x</sub> emission calculations for C blast furnace casthouse baghouse, using emission factors developed during the testing required in SC III.B.3.1, using the method shown in Appendix 1.7. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(c) and (d))</b></p>
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**B. TESTING/RECORDKEEPING**

<b>1. Parameter to be Tested/Recorded</b>	<p>1. Opacity</p> <p>2. PM</p> <p>3. PM-10</p> <p>4. SO<sub>2</sub></p>
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**TABLE E-01.04 C BLAST FURNACE CAST HOUSE OPERATIONS  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<ol style="list-style-type: none"> <li>5. NO<sub>x</sub></li> <li>6. VOC</li> <li>7. Mn</li> <li>8. Pb</li> </ol>
<p><b>2. Method/Analysis</b></p>	<p>Approved Method</p>
<p><b>3. Frequency and Schedule of Testing/Recordkeeping</b></p>	<ol style="list-style-type: none"> <li>1. Within 180 days after commencement of trial operation, verification of PM, PM<sub>10</sub>, NO<sub>x</sub>, VOC, and SO<sub>2</sub> emission rates from the C-Blast Furnace baghouse stack, by testing at owner's expense, in accordance with Department requirements, will be required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. <b>(R336.1205, R336.702, R336.2001, R336.2003, R336.2004, 40 CFR 52.21(c) &amp; (d), 40 CFR 52.21(j))</b></li> <li>2. The permittee shall conduct a performance test to demonstrate initial compliance with the applicable emission and opacity limitations of 40 CFR Part 63, Subpart FFFFF contained in this table within 180 days of startup. <b>(40 CFR 63.7820(a))</b></li> <li>3. Permittee shall conduct performance tests for particulate matter emissions and opacity at least once per permit term. <b>(40 CFR 63.7821)</b></li> <li>4. The permittee shall demonstrate compliance with the opacity limitation in II.B.4 with a certified observer of Method 9 visible emissions using Method 9. The performance test for visible emissions shall consist of 30 6-minute block averages during tapping of the furnace. <b>(40 CFR 63.7823(c)(1) and (2))</b></li> <li>5. The permittee shall maintain records of visible emissions observations required by 40 CFR Part 63, Subpart FFFFF. <b>(40 CFR 63.7842(c))</b></li> <li>6. The permittee shall sample for an integral number of furnace tapping operations to obtain at least 1 hour of sampling for each test run. <b>(40 CFR 63.7822(e))</b></li> <li>7. The permittee shall maintain records of the time corrective action was initiated, the corrective action taken, and the date when corrective actions were completed in response to a bag leak detection system alarm. <b>(40 CFR 63.7842(d) and 40 CFR 63.7833(c)(1))</b></li> </ol>

**TABLE E-01.04 C BLAST FURNACE CAST HOUSE OPERATIONS  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

8. Performance tests for visible emissions shall be conducted such that the opacity observations overlap with the performance tests for particulate. **(40 CFR 63.7823(b))**
9. The permittee shall obtain an analysis of the C Blast Furnace Casthouse baghouse dust once per calendar month during the 1<sup>st</sup> year after the modification of C blast furnace and quarterly thereafter, or less frequently if approved in writing by the Air Quality Division. The analysis shall determine the percentage of Pb and Mn in the collected PM dust from the baghouse. The permittee shall submit an acceptable protocol for baghouse dust sampling and analysis methods to the Air Quality Division, at least 60 days prior the initial performance emission test. **(R336.1225, R336.1228, 40 CFR 52.21(d))**
10. Within 60 days of achieving the maximum production rate, but not later than 180 days after commencement of trial operation, the permittee shall verify and quantify Mn and Pb emission rates and the ratio of Mn and Pb concentrations in the baghouse dust to the actual amount of Mn and Pb emitted from the C Blast Furnace Casthouse by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R336.1225, R336.1228, R336.2001, R336.2003, R336.2004, 40 CFR 52.21(b)(3))**
11. The permittee shall certify that the baghouse capture system operated during the performance test at the site-specific operating limits established in the operation and maintenance plan using the following procedures: **(40 CFR 63.7824(a))**
  - a. Concurrent with all opacity observations, measure and record values for each of the operating limit parameters in the capture system operation and maintenance plan according to the monitoring requirements specified in §63.7830(a). **(40 CFR 63.7824(a)(1))**
  - b. For any dampers that are manually set and remain at the same position at all times the capture system is operating, the damper position shall be visually checked and recorded at the beginning and end of each opacity observation period segment. **(40 CFR 63.7824(a)(2))**
  - c. Review and record the monitoring data and identify and explain any times the capture system operated outside the applicable operating limits. **(40 CFR 63.7824(a)(3))**
  - d. Certify in the performance test report that during all observation period segments, the capture system was operating at the values or settings established in the capture system operation and maintenance plan. **(40 CFR 63.7824(a)(4))**

**TABLE E-01.04 C BLAST FURNACE CAST HOUSE OPERATIONS  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>12. The permittee may change the operating limits for the baghouse capture system if the following requirements are met: <b>(40 CFR 63.7824(d))</b></p> <ul style="list-style-type: none"> <li>a. Submit a written notification to the Administrator requesting to conduct a new performance test to revise the operating limit. <b>(40 CFR 63.7824(d)(1))</b></li> <li>b. Conduct a performance test to demonstrate compliance with the applicable operating limitation. <b>(40 CFR 63.7824(d)(2))</b></li> <li>c. Establish revised operating limits according to the applicable procedures in 40 CFR 63.7824, paragraphs (a) through (c) for a capture system. <b>(40 CFR 63.7824(d)(3))</b></li> </ul>
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**IV. REPORTING**

<b>Reports and Schedules</b>	<ul style="list-style-type: none"> <li>1. Permittee shall report the results of the initial performance test in the notification of compliance status. <b>(40 CFR 63.7820(a), 40 CFR 63.7825(c) and 40 CFR 63.7840(e))</b></li> <li>2. Permittee shall submit a notification of intent to perform any performance testing under 40 CFR Part 63, Subpart FFFFF at least 60 calendar days before testing is to begin. <b>(40 CFR 63.7840(d))</b></li> <li>3. Any time an action taken by the permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) is not consistent with the procedures in the startup, shutdown, and malfunction plan, the permittee shall comply with all requirements of 63.10(d)(5)(ii). <b>(40 CFR Part 63.7841(c))</b></li> </ul>
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**V. OPERATIONAL PARAMETERS**

	<ul style="list-style-type: none"> <li>1. After completion of C-FCE modification, C Blast Furnace Cast House shall not be operated unless the baghouse is installed, maintained and operated in a satisfactory manner. <b>(R336.1205(1)(a) &amp; (b), R336.1225, R336.1331, R336.1910, 40 CFR 52.21(b)(3))</b></li> <li>2. The permittee shall install a baghouse dust collector for C blast furnace casthouse according to the following schedule:             <ul style="list-style-type: none"> <li>a. Complete construction and place in operation by January 31, 2008 or startup of enhanced C-FCE, whichever is sooner. <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(b)(3))</b></li> </ul> </li> <li>3. The permittee shall keep on file a copy of the CFCE baghouse capture system design plans and a signed certification from the designer, certifying that the baghouse capture system is designed to achieve no less than 98% collection efficiency. <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(b)(3))</b></li> <li>4. The C Blast Furnace Cast House shall be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions. <b>(40 CFR 63.7800(a) and 40 CFR 63.6(e)(1)(i))</b></li> <li>5. The permittee shall develop and implement a written startup, shutdown and malfunction plan for the C Blast Furnace Cast House. <b>(40 CFR 63.7810(c), 40 CFR 63.7835(b) and 40 CFR 63.6(e)(3))</b></li> <li>6. The iron production from C Blast Furnace Casthouse shall not exceed a maximum of 10,000 tons per day based on a calendar week average. <b>(R336.1225, 40 CFR 52.21(c) &amp; (d))</b></li> </ul>
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<b>TABLE E-01.04 C BLAST FURNACE CAST HOUSE OPERATIONS EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>
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<b>VI. OTHER REQUIREMENTS</b>
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| 1. Records required under 40 CFR Part 63, Subpart FFFFF and specified in this table shall be retained for five years. The records must be maintained onsite for the two most recent years of the five year period. Records from the remaining three years of the five year period may be keep offsite. <b>(40 CFR 63.7843(b) and (c))</b> |
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<b>TABLE E-01.05 C BLAST FURNACE STOVE EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>FLEXIBLE GROUPING</b>		FGB&CSTOVES			
<b>Emission Unit/Process Group</b>		EUCFCESTOVE			
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>		Low-NOx technology; venturi scrubber and mechanical collector for blast furnace gas precleaning			
<b>B. Stack/Vent Parameters</b>		NA			
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVCSTOVE	210	129	750	NA	<b>R336.1225, 40 CFR 52.21(c) &amp; (d)</b>
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
NA		NA			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
1. NOx	1. 106.3 lb/hr (R336.1205(1)(a) & (b))				
	2. 439.18 ton/12-month rolling period (R336.1205(1)(a) & (b))				
2. SO2	1. 275.1 lb/hr <sup>1</sup> . (40 CFR 52.21(c) & (d), 40 CFR 52.21(j))				
	2. 1,096.1 ton/12-month rolling period (40 CFR 52.21(j))				
3. CO	1. 2195.5 lb/hr (40 CFR 52.21(d) & (j))				
	2. 8760 ton/12-month rolling period. (40 CFR 52.21(d) & (j))				
4. PM	14.16 lb/hr (40 CFR 52.21(b)(3), R336.1331)				
5. PM-10	14.16 lb/hr (R336.1205(1)(a) & (b))				
6. Mn	0.0154 lb/hr (R336.1225)				
7. Hg	0.000414 lb/hr (R336.1201(3), R336.1228, R336.1901)				
8. Pb	0.0141 lb/hr (40 CFR 52.21(d))				
<sup>1</sup> This limit is based on a 24-hour average.					
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>		Continuous emission monitor for SO2 emissions (R336.1205(1)(a) & (b), 40 CFR 52.21(c), (d), & (j))			
<b>2. Process Monitoring System and Recordkeeping</b>		1. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the SO2 emissions from EUCFCESTOVE on a continuous basis. The permittee shall install and operate each CEM system to meet the timelines, requirements and reporting detailed in Appendix 1.3.1. and shall use the CEM data for determining compliance with Special Conditions II.B.2.1 and II.B.2.2 (R336.1205, 40 CFR 52.21 (c), (d), & (j))			

<b>TABLE E-01.05 C BLAST FURNACE STOVE EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>	
	<p>2. The permittee shall keep, in a satisfactory manner, daily fuel usage records for FGB&amp;CSTOVES. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(b)(3), (c), &amp; (d))</b></p> <p>3. Following the performance testing required in S.C. III.B.3.1 of this table, the permittee shall determine compliance with the emission limits in S.C. II.B.1.2 and II.B.3.2 of this table by establishing emission factors based upon the CFCE stove stack testing and applying these emission factors to the daily fuel usage recorded in S.C. III.A.2.2, as outlined in Appendix 1.7. <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21 (d))</b></p>
<b>3. Other Monitoring and/or Recordkeeping</b>	NA
<b>B. TESTING/RECORDKEEPING</b>	
<b>1. Parameter to be Tested/Recorded</b>	<p>1. NOx</p> <p>2. SO2</p> <p>3. CO</p> <p>4. PM</p> <p>5. PM-10</p> <p>6. Mn</p> <p>7. Hg</p> <p>8. Pb</p>
<b>2. Method/Analysis</b>	Approved method
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	<p>1. Within 180 days after commencement of trial operation, verification of NOx, SO2, CO, PM, PM-10 Mn, Hg, and Pb emission rates from the C-Blast Furnace stove stack, by testing at owner's expense, in accordance with Department requirements, will be required. The permittee shall record the sulfur content of the coal and coke combusted in C blast furnace averaged over the duration of the test. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. <b>(R336.2001, R336.2003, R336.2004, 40 CFR 52.21(c) &amp; (d), 40 CFR 52.21(j))</b></p>
<b>IV. REPORTING</b>	
<b>Reports and Schedules</b>	NA

**TABLE E-01.05 C BLAST FURNACE STOVE  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

**V. OPERATIONAL PARAMETERS**

1. After completion of C-FCE modification, the permittee shall not operate EUCFCESTOVE unless the low-NOx technology is installed, maintained, and operated in a satisfactory manner. **(R336.1205(1)(a) & (b), R336.1910)**
2. The permittee shall not fire blast furnace gas in EUCFCESTOVE unless the venturi scrubber and mechanical collector for pre-combustion gas cleaning are installed, maintained, and operated in a satisfactory manner. **(R336.1205(1)(a) & (b), R336.1910, 40 CFR 52.21(b)(3))**

**VI. OTHER REQUIREMENTS**

1. The permittee shall maintain a complete copy of the coke analysis, including the sulfur content, as supplied by the coke vendor, for each shipment of coke. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R336.1225, 40 CFR 52.21(c) & (d))**
2. The permittee shall maintain a complete copy of the coal analysis, including the sulfur content, as supplied by the coal vendor, for each shipment of coal. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R336.1225, 40 CFR 52.21(c) & (d))**

<b>TABLE E-01.06 RELADLING - BOF EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>EMISSION GROUP</b>	EURELADLINGBOF (includes South and North Reladling)				
<b>Flexible Grouping ID</b>	NA				
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>	Baghouse				
<b>B. Stack/Vent Parameters</b>	NA				
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVBOFBH (After C-FCE modification)	200	222	150	1,000,000	<b>R336.1225</b>
SVRELADLEBAG (until C-FCE modification)	27	69	175	130,000	<b>R336.1225</b>
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>	<b>Maximum Usage Rate</b>				
NA	NA				
<b>B. Pollutant</b>	<b>Maximum Emission Limit</b>				
1. Opacity from hot metal transfer operation stack.	20%	<b>R336.1365(1)</b>			
2. Opacity from fugitive emissions from hot metal transfer operation building or enclosure.	20%	<b>R336.1365(2) and 40 CFR 63.7790(a)(Table 1, Item 12)</b>			
3. PM	1. 0.01 grain per dry standard cubic foot from the reladling south baghouse prior to C-FCE modification ( <b>40 CFR 63.7790(a)(Table 1, Item 10), R336.1331</b> )  2. 6.31 ton per 12 month rolling time period from the roof monitors ( <b>40 CFR 52.21(b)(3)</b> )				
4. PM10	1. 3.22 ton per 12 month rolling time period from the roof monitors ( <b>R336.1205(1)(a) &amp; (b)</b> )				
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>	NA				
<b>2. Process Monitoring System and Recordkeeping</b>					
<b>3. Other Monitoring and/or Recordkeeping</b>	1. The permittee shall maintain a copy of each notification and report submitted under 40 CFR Part 63, Subpart FFFFF, including all documentation supporting the initial notification or notification of compliance status submitted according to 40 CFR 63.10(b)(2)(xiv)). ( <b>40 CFR 63.7842(a)(1)</b> )  2. The permittee shall maintain the records required for startup, shutdown and malfunction under 63.6(e)(3)(iii) through (v). ( <b>40 CFR 63.7842(a)(2)</b> )				

**TABLE E-01.06 RELADLING - BOF**  
**EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

3. The permittee shall maintain records associated with performance tests and performance evaluations as required by 40 CFR 63.10(b)(2)(viii). **(40 CFR 63.7842(a)(3))**
4. Except as allowed in S.C. 7, permittee shall install, operate, and maintain a bag leak detection system meeting the following specifications on the baghouse control:  
**(40 CFR 63.7831(f))**
  - a. Certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic foot (0.0044 grains per actual cubic foot). **(40 CFR 63.7831(f)(1))**
  - b. Provides output of relative changes in particulate matter loadings. **(40 CFR 63.7831(f)(2))**
  - c. Is equipped with an alarm, located such that it is heard by appropriate plant personnel, that sounds an alarm when an increase in relative particulate loadings is detected over a preset level. **(40 CFR 63.7831(f)(3))**
  - d. Initially adjusted by establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and setting the alarm set points and alarm delay time. **(40 CFR 63.7831(f)(5))**
5. Following the initial adjustment of the bag leak detection system, the permittee shall not adjust the sensitivity or range, averaging period, alarm set points or alarm delay time except as specified in the operation and maintenance plan. This requirement does not apply if the permittee installs a COMS as specified in S.C. 7. **(40 CFR 63.7831(f)(6))**
6. If the sensitivity of the bag leak detection system is changed beyond the limits established pursuant to 40 CFR 63.7831(f)(6), a copy of a written certification by a responsible official shall be included in the semiannual compliance report for that period. This requirement does not apply if the permittee installs a COMS as specified in S.C. 7. **(40 CFR 63.7833(c)(2))**
7. If permittee does not install and operate a bag leak detection system, the permittee shall install, operate, and maintain a COMS according to the requirements in 40 CFR Sec. 63.7831(h) and monitor the hourly average opacity of emissions exiting each control device stack according to the requirements in 40 CFR 63.7832. **(40 CFR 63.7832)**
8. The permittee shall monitor the pressure drop across the baghouse compartment daily to ensure that the pressure drop is within the normal operating range identified in the manual. **(40 CFR 63.7830(b)(1))**
9. The permittee shall confirm that dust is being removed from hoppers on a weekly basis through visual observations or other means of determining the proper functioning of the removal mechanisms. **(40 CFR 63.7830(b)(2))**

**TABLE E-01.06 RELADLING - BOF  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>10. The permittee shall perform monthly visual checks of bag tension on the shaker-type baghouse to ensure that bags are not kinked (knead or bent) or lying on their sides. If the shaker-type baghouse uses self-tensioning (spring-loaded) devices, the visual checks are not required. <b>(40 CFR 63.7830(b)(6))</b></p> <p>11. The permittee shall monitor the cleaning cycles of the baghouse to ensure proper operation using appropriate technology. <b>(40 CFR 63.7830(b)(4))</b></p> <p>12. The permittee shall check the bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means. <b>(40 CFR 63.7830(b)(5))</b></p> <p>13. The permittee shall inspect the baghouse to confirm the physical integrity of the baghouse through quarterly inspections of the interior of the baghouse for air leaks. <b>(40 CFR 63.7830(b)(7))</b></p> <p>14. The permittee shall inspect fans for wear, material buildup, and corrosion on a quarterly basis using visual inspections, vibration detectors, or equivalent means. <b>(40 CFR 63.7830(b)(8))</b></p> <p>15. The permittee shall monitor the process as required by this table, except during monitoring malfunctions, out-of-control periods, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments). <b>(40 CFR 63.7832(a))</b></p> <p>16. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used in data averages and calculations used to report emission or operating levels or to fulfill minimum data availability requirements. <b>(40 CFR 63.7832(b))</b></p> <p>17. Using the method shown in Appendix 1.7, the permittee shall calculate and record by the end of each calendar month the following from the BOF roof monitors:</p> <ul style="list-style-type: none"> <li>a. emissions of PM</li> <li>b. emissions of PM-10 <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(b)(3))</b></li> </ul> <p>18. The permittee shall keep a daily record of the amount of iron throughput to the Reladling South and North Operations. <b>(R336.1205(1)(a) &amp; (b), R336.1225)</b></p>
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**B. TESTING/RECORDKEEPING**

<b>1. Parameter to be Tested/Recorded</b>	<p>1. Opacity</p> <p>2. PM</p>
<b>2. Method/Analysis</b>	Approved Method
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	1. Sampling during the performance tests will occur only when the operations being controlled are in operation. <b>(40 CFR 63.7822(h))</b>

**TABLE E-01.06 RELADLING - BOF  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

2. The permittee shall maintain records of the time corrective action was initiated, the corrective action taken, and the date when corrective actions were completed in response to a bag leak detection system alarm. **(40 CFR 63.7842(d) and 40 CFR 63.7833(c)(1))**
3. The permittee shall demonstrate compliance with the opacity limitation in II.B.2. with a certified observer of Method 9 visible emissions using Method 9 with the following exceptions: **(40 CFR 63.7823(d)(1)(i))**
  - a. Record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles rather than using the procedure specified in Section 2.4 of Method 9. **(40 CFR 63.7823(d)(1)(ii))**
  - b. Determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals. **(40 CFR 63.7823(d)(1)(iii))**
4. Performance tests for visible emissions shall be conducted such that the opacity observations overlap with the performance tests for particulate. **(40 CFR 63.7823(b))**
5. Permittee shall conduct performance tests for particulate matter emissions and opacity at least once per permit term. **(40 CFR 63.7821)**

**IV. REPORTING**

**Reports and Schedules**

1. Permittee shall submit a notification of intent to perform any performance testing under 40 CFR Part 63, Subpart FFFFF at least 60 calendar days before testing is to begin. **(40 CFR 63.7840(d))**
2. When actions taken by the permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are not consistent with the procedures in the startup, shutdown, and malfunction plan, the permittee shall comply with the requirements of 63.10(d)(5)(ii). **(40 CFR Part 63.7841(c))**

**V. OPERATIONAL PARAMETERS**

1. The Reladling South Operation and the associated baghouse shall be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR Part 63, Subpart FFFFF. **(40 CFR 63.7800(a) and 40 CFR 63.6(e)(1)(i))**
2. The permittee shall develop and implement a written startup, shutdown and malfunction plan for the Reladling South Operation and the associated emission control system and operate in accordance with the plan during periods of startup, shutdown, and malfunction. **(40 CFR 63.7810(c), 40 CFR 63.7835(b), and 40 CFR 63.6(e)(3))**
3. Until the modification of C-FCE, the permittee shall not operate Reladling South Operation unless the baghouse dust collector is installed, maintained, and operated in a satisfactory manner. After modification of C-FCE, the permittee shall not operate Reladling South Operation unless the emissions are directed to the

**TABLE E-01.06 RELADLING - BOF  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

BOF baghouse secondary dust collector and the BOF baghouse secondary dust collector is installed, maintained, and operated in a satisfactory manner. **(R336.1205(1)(a) & (b), R336.1225, R336.1910, 40 CFR 52.21(b)(3))**

4. Upon rerouting the Reladling South Operations exhaust to the BOF baghouse secondary dust collector, Special Conditions II.B.1, II.B.3.1, III.A.3.4 through III.A.3.16, and III.B.1.2 of this table shall no longer apply. Thereafter the permittee shall comply with the identical or more stringent emission, monitoring, testing, and recordkeeping requirements of Table F-01.03 that supersede the above Special Conditions. **(40 CFR 63 Subpart FFFFF)**
5. The permittee shall not use the Reladling North Operations (i.e. the North Hole) of the Basic Oxygen Furnace Shop for emergency hot metal transfer, hot metal desulfurization, or beaching of molten iron, without installation and operation of appropriate control technology which prevents emissions in excess of the applicable Michigan SIP Rule or additional requirements that are promulgated under Section 112 of the Clean Air Act, 42 U.S.C. Section 7412, or are incorporated in a permit. **(USEPA Civil Action Nos. 0075452 and 0075454 Consent Decree, Paragraph 16)**
6. Unless necessary for emergency, health or safety reasons, including to allow for safe shutdown of operations, the permittee shall not use the North Hole of the Basic Oxygen Furnace Shop for emergency hot metal transfer, hot metal desulfurization, or beaching of molten iron, without installation and operation of appropriate control technology which prevents emissions in excess of the applicable Michigan SIP Rule or additional requirements that are promulgated under Section 112 of the Clean Air Act, 42 U.S.C. Section 7412, or are incorporated in a permit. If the North Hole is used for emergency reasons, the permittee shall report any such use in its next semiannual report. The report shall include the following information for each such prohibited use of the North Hole without the appropriate control technology:
  - a. date
  - b. start time
  - c. stop time
  - d. duration of use
  - e. reason for use.**(R336.1201(3))**
7. Upon routing the Reladling North Operations exhaust to the new BOF baghouse secondary dust collector, the permittee may utilize the Reladling North Operations in compliance with the applicable requirements of Table E-01.06, and with the emission, monitoring, testing, and recordkeeping requirements of Table F-01.03 **(40 CFR 63 Subpart FFFFF)**

**VI. OTHER REQUIREMENTS**

1. The permittee shall comply with the emission limitations and operation and maintenance requirements from 40 CFR Part 63, Subpart FFFFF specified in Table E-01.06, except during periods of startup, shutdown and malfunction. **(40 CFR 63.7810(a))**
2. Records required under 40 CFR Part 63, Subpart FFFFF and specified in this table shall be retained for five years. The records must be maintained onsite for the two most recent years of the five year period. Records from the remaining three years of the five year period may be keep offsite. **(40 CFR 63.7843(b) and (c))**

<b>TABLE E-01.07 DESULFURIZATION OPERATION EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>EMISSION GROUP</b>		EUDESULFURIZATION			
<b>Flexible Grouping ID</b>		NA			
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>		Baghouse			
<b>B. Stack/Vent Parameters</b>		NA			
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVDESULF	37	66	225	94,500	<b>R336.1225</b>
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
1. Opacity from desulfurization stack.		20% <b>(R336.1366(1))</b>			
2. Opacity from fugitive emissions from desulfurization operations.		20% <b>(R336.1366(2))</b>			
3. Opacity from BOF Shop Building		20% (three minute average) <b>(40 CFR 63.7790(a)(Table 1, Item 12))</b>			
4. PM		1. 0.01 grain per dry standard cubic foot from baghouse <b>(40 CFR 52.21(b)(3), 40 CFR 63.7790(a)(Table 1, Item 10), R336.1331)</b> 2. 2.09 lb/hr from baghouse <b>(40 CFR 52.21(b)(3))</b> 3. 36.2 ton per 12-month rolling time period from roof monitors <b>(40 CFR 52.21(b)(3))</b>			
5. PM10		1. 0.0074 grain per dry standard cubic foot from baghouse <b>(R336.1205(1)(a) &amp; (b))</b> 2. 1.55 lb/hr from baghouse <b>(R336.1205(1)(a) &amp; (b))</b> 3. 6.88 ton per 12-month rolling time period from roof monitors <b>(R336.1205(1)(a) &amp; (b))</b>			
6. Manganese		1. 0.00064 lb/hr from baghouse stack <b>(R336.1225)</b>			
7. Pb		1. 0.000278 lb/hr from baghouse stack <b>(40 CFR 52.21(d))</b>			
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>		NA			

**TABLE E-01.07 DESULFURIZATION OPERATION  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

<p><b>2. Process Monitoring System and Recordkeeping</b></p>	<p>NA</p>
<p><b>3. Other Monitoring and/or Recordkeeping</b></p>	<ol style="list-style-type: none"> <li>1. The permittee shall maintain a copy of each notification and report submitted under 40 CFR Part 63, Subpart FFFFF, including all documentation supporting the initial notification or notification of compliance status submitted according to 40 CFR 63.10(b)(2)(xiv). <b>(40 CFR 63.7842(a)(1))</b></li> <li>2. The permittee shall maintain the records required for startup, shutdown and malfunction under 63.6(e)(3)(iii) through (v). <b>(40 CFR 63.7842(a)(2))</b></li> <li>3. The permittee shall maintain records associated with performance tests and performance evaluations as required by 40 CFR 63.10(b)(2)(viii). <b>(40 CFR 63.7842(a)(3))</b></li> <li>4. Except as allowed in S.C. 7, permittee shall install, operate, and maintain a bag leak detection system meeting the following specifications on the baghouse control: <b>(40 CFR 63.7831(f))</b> <ol style="list-style-type: none"> <li>a. Certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic foot (0.0044 grains per actual cubic foot). <b>(40 CFR 63.7831(f)(1))</b></li> <li>b. Provides output of relative changes in particulate matter loadings. <b>(40 CFR 63.7831(f)(2))</b></li> <li>c. Is equipped with an alarm, located such that it is heard by appropriate plant personnel, that sounds an alarm when an increase in relative particulate loadings is detected over a preset level. <b>(40 CFR 63.7831(f)(3))</b></li> <li>d. Initially adjusted by establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and setting the alarm set points and alarm delay time. <b>(40 CFR 63.7831(f)(5))</b></li> </ol> </li> <li>5. Following the initial adjustment of the bag leak detection system, the permittee shall not adjust the sensitivity or range, averaging period, alarm set points or alarm delay time except as specified in the operation and maintenance plan. This requirement does not apply if the permittee installs a COMS as specified in S.C. 7. <b>(40 CFR 63.7831(f)(6))</b></li> <li>6. If the sensitivity of the bag leak detection system is changed beyond the limits established pursuant to 40 CFR 63.7831(f)(6), a copy of a written certification by a responsible official shall be included in the semiannual compliance report for that period. This requirement does not apply if the permittee installs a COMS as specified in S.C. 7. <b>(40 CFR 63.7833(c)(2))</b></li> </ol>

**TABLE E-01.07 DESULFURIZATION OPERATION**  
**EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

7. If permittee does not install and operate a bag leak detection system, the permittee shall install, operate, and maintain a COMS according to the requirements in 40CFR Sec. 63.7831(h) and monitor the hourly average opacity of emissions exiting each control device stack according to the requirements in 40 CFR 63.7832. **(40 CFR 63.7832)**
8. The permittee shall monitor the pressure drop across each baghouse compartment daily to ensure that the pressure drop is within the normal operating range identified in the manual. **(40 CFR 63.7830(b)(1))**
9. The permittee shall confirm that dust is being removed from hoppers on a weekly basis through visual observations or other means of determining the proper functioning of the removal mechanisms. **(40 CFR 63.7830(b)(2))**
10. The permittee shall perform monthly visual checks of bag tension on the shaker-type baghouse to ensure that bags are not kinked (kneed or bent) or lying on their sides. If the shaker-type baghouse uses self-tensioning (spring-loaded) devices, the visual checks are not required. **(40 CFR 63.7830(b)(6))**
11. The permittee shall monitor the cleaning cycles of the baghouse to ensure proper operation using appropriate technology. **(40 CFR 63.7830(b)(4))**
12. The permittee shall check the bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means. **(40 CFR 63.7830(b)(5))**
13. The permittee shall inspect the baghouse to confirm the physical integrity of the baghouse through quarterly inspections of the interior of the baghouse for air leaks. **(40 CFR 63.7830(b)(7))**
14. The permittee shall inspect fans for wear, material buildup, and corrosion on a quarterly basis using visual inspections, vibration detectors, or equivalent means. **(40 CFR 63.7830(b)(8))**
15. The permittee shall monitor the process as required by this table, except during monitoring malfunctions, out-of-control periods, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments). **(40 CFR 63.7832(a))**
16. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used in data averages and calculations used to report emission or operating levels or to fulfill minimum data availability requirements. **(40 CFR 7832(b))**

**TABLE E-01.07 DESULFURIZATION OPERATION  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>17. The permittee shall obtain an analysis of the Desulfurization baghouse dust once per calendar month during the 1<sup>st</sup> year after the modification of C blast furnace and quarterly thereafter, or less frequently if approved in writing by the Air Quality Division. The analysis shall determine the percentage of Pb and Mn in the collected PM dust from the baghouse. The permittee shall submit an acceptable protocol for baghouse dust sampling and analysis methods to the Air Quality Division, at least 60 days prior the initial performance emission test. <b>(R336.1225, R336.1228, 40 CFR 52.21(b)(3))</b></p> <p>18. Using the method shown in Appendix 1.7, the permittee shall calculate and record by the end of each calendar month the following from the BOF roof monitors:</p> <ul style="list-style-type: none"> <li>a. emissions of PM</li> <li>b. emissions of PM-10 <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(b)(3))</b></li> </ul> <p>19. The permittee shall keep a daily record of the amount of iron throughput to the Desulfurization Operations. <b>(R336.1205(1)(a) &amp; (b), R336.1225)</b></p>
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**B. TESTING/RECORDKEEPING**

<b>1. Parameter to be Tested/Recorded</b>	<ul style="list-style-type: none"> <li>1. Opacity</li> <li>2. PM</li> <li>3. PM-10</li> <li>4. Mn</li> <li>5. Pb</li> </ul>
<b>2. Method/Analysis</b>	Approved method.
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	<ul style="list-style-type: none"> <li>1. Sampling during the performance tests will occur only when the operations being controlled are in operation. <b>(40 CFR 63.7822(h))</b></li> <li>2. The permittee shall maintain records of the time corrective action was initiated, the corrective action taken, and the date when corrective actions were completed in response to a bag leak detection system alarm. <b>(40 CFR 63.7842(d) and 40 CFR 63.7833(c)(1))</b></li> <li>3. The permittee shall demonstrate compliance with the opacity limitation in II.B.3. with a certified observer of Method 9 visible emissions using Method 9 with the following exceptions: <b>(40 CFR 63.7823(d)(1)(i))</b> <ul style="list-style-type: none"> <li>a. Record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles rather than using the procedure specified in Section 2.4 of Method 9. <b>(40 CFR 63.7823(d)(1)(ii))</b></li> <li>b. Determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals. <b>(40 CFR 63.7823(d)(1)(iii))</b></li> </ul> </li> </ul>

**TABLE E-01.07 DESULFURIZATION OPERATION  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>4. Performance tests for visible emissions shall be conducted such that the opacity observations overlap with the performance tests for particulate. <b>(40 CFR 63.7823(b))</b></p> <p>5. Within 60 days of achieving the maximum production rate, but not later than 180 days after commencement of trial operation, the permittee shall verify and quantify Mn and Pb emission rates from the desulfurization operation and the ratio of Mn and Pb concentrations in the baghouse dust to the actual amount of Mn and Pb emitted from the desulfurization operation, by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. <b>(R336.1225, R336.1228, R336.2001, R336.2003, R336.2004, 40 CFR 52.21(b)(3))</b></p> <p>6. Within 180 days after commencement of trial operation, the permittee shall verify PM and PM10 emission rates from the Desulfurization operation by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. <b>(R336.1205(1)(a) &amp; (b), R336.2001, R336.2003, R336.2004, 40 CFR 52.21(b)(3))</b></p> <p>7. Permittee shall conduct performance tests for particulate matter emissions and opacity at least once per permit term. <b>(40 CFR 63.7821)</b></p>
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**IV. REPORTING**

<b>Reports and Schedules</b>	<p>1. Permittee shall submit a notification of intent to perform any performance testing under 40 CFR Part 63, Subpart FFFFF at least 60 calendar days before testing is to begin. <b>(40 CFR 63.7840(d))</b></p> <p>2. When actions taken by the permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are not consistent with the procedures in the startup, shutdown, and malfunction plan, the permittee shall comply with the requirements of 63.10(d)(5)(ii). <b>(40 CFR Part 63.7841(c))</b></p>
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**V. OPERATIONAL PARAMETERS**

<p>1. The permittee shall operate and maintain the desulfurization control system in a manner as to control emissions from the desulfurization operation in compliance with the opacity limits. <b>(R336.1910)</b></p> <p>2. The Desulfurization Operation and the associated baghouse shall be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR Part 63, Subpart FFFFF. <b>(40 CFR 63.7800(a) and 40 CFR 63.6(e)(1)(i))</b></p>	
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**TABLE E-01.07 DESULFURIZATION OPERATION  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

3. The permittee shall develop and implement a written startup, shutdown and malfunction plan for the Desulfurization Operation and the associated emission control system and operate in accordance with the plan during periods of startup, shutdown, and malfunction. **(40 CFR 63.7810(c), 40 CFR 63.7835(b), and 40 CFR 63.6(e)(3))**
4. The permittee shall not operate the Desulfurization Operation unless the baghouse dust collector is installed, maintained, and operated in a satisfactory manner. **(R336.1205(1)(a) & (b), R336.1225, R336.1910, 40 CFR 52.21(b)(3))**

**VI. OTHER REQUIREMENTS**

1. The permittee shall comply with the emission limitations and operation and maintenance requirements from 40 CFR Part 63, Subpart FFFFF specified in Table E-01.07, except during periods of startup, shutdown and malfunction. **(40 CFR 63.7810(a))**
2. Records required under 40 CFR Part 63, Subpart FFFFF and specified in this table shall be retained for five years. The records must be maintained onsite for the two most recent years of the five year period. Records from the remaining three years of the five year period may be keep offsite. **(40 CFR 63.7843(b) and (c))**

<b>TABLE E-01.08 BASIC OXYGEN FURNACE (BOF) EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>EMISSION GROUP</b>		EUBOF			
<b>Flexible Grouping ID</b>		NA			
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>		Electrostatic Precipitator, Baghouse			
<b>B. Stack/Vent Parameters</b>		NA			
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVBOFESP	213	204	300	841,000	<b>R336.1225</b>
SVBOFBH	200	222	150	1,000,000	<b>R336.1225</b>
<b>C. Other Design Parameters</b>					
1. Permittee shall not operate the basic oxygen furnace (BOF) controlled by an electrostatic precipitator control system unless each transformer-rectifier set of the electrostatic precipitator is equipped with a saturable core reactor, silicon-controlled rectifier linear reactor, or equivalent type automatic control system approved by the AQD District Supervisor. <b>(R336.1330(1))</b>					
2. Each automatic controller shall be set to provide maximum power, or optimal power if operating in a sparking mode, from its respective transformer-rectifier set. <b>(R336.1330(1))</b>					
3. Each transformer-rectifier set shall be capable of operating in a spark-limited mode and shall meter and display the primary RMS voltage and amperage, the average secondary amperage, and the average spark rate. <b>(R336.1330(2))</b>					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
NA		NA			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
1. PM.		1. 0.0152 gr/dscf from ESP stack <b>(R336.1331, 40 CFR 63.7790(a), 40 CFR 52.21(b)(3))</b>			
		2. 50.94 lb/hr from ESP stack <b>(40 CFR 52.21(b)(3))</b>			
		3. 15.88 ton per 12-month rolling time period from roof monitors <b>(40 CFR 52.21(b)(3))</b>			
2. PM-10.		1. 0.0113 gr/dscf from ESP stack <b>(R336.1205(1)(a) &amp; (b))</b>			
		2. 37.70 lb/hr from ESP stack <b>(R336.1205(1)(a) &amp; (b))</b>			
		3. 7.25 ton per 12-month rolling time period from roof monitors <b>(R336.1205(1)(a) &amp; (b))</b>			
3. Opacity from roof monitors		20% <b>(R336.1364(2))</b>			
4. Opacity from BOF Shop Building		20% (3 minute average) <b>(R336.1364(2), (40 CFR 63.7790(a))</b>			
5. Opacity from ESP stack		No greater than 10% on an hourly average basis <b>(40 CFR 63.7790(b)(3))</b>			
6. NOx		1. 52.94 lb/hr from the ESP stack. <b>(R336.1205(1)(a) &amp; (b))</b>			
7. CO		1. 3,057.4 lb/hr from ESP stack <b>(40 CFR 52.21(d))</b>			

<b>TABLE E-01.08 BASIC OXYGEN FURNACE (BOF) EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>	
<b>III. COMPLIANCE EVALUATION</b>	
Records of all of the following shall be maintained on file for a period of 5 years.	
<b>A. MONITORING/RECORDKEEPING</b>	
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>	1. Continuous opacity monitor on ESP stack. <b>(R36.1301(1)(c), 40 CFR 63.7830(d))</b>
<b>2. Process Monitoring System and Recordkeeping</b>	<p>1. The permittee shall install, operate and maintain a continuous opacity monitor on the ESP stack and monitor the hourly average opacity of the stack continuously when the process is in operation. The COMS shall provide valid 1 hour averages for at least 95 percent of process operating hours for every quarterly reporting period. The permittee shall operate the COM system to meet the timelines, requirements and reporting detailed in Appendix 1.3.2. <b>(R336.1301(1)(c), 40 CFR 63.7830(d), 40 CFR 63.7831(h), and 40 CFR 63.7832(a))</b></p> <p>2. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used in data averages and calculations used to report emission or operating levels or to fulfill minimum data availability requirements. All other data collected during all other periods must be used in assessing compliance. <b>(40 CFR 63.7832(b))</b></p>
<b>3. Other Monitoring and/or Recordkeeping</b>	<p>1. Prior to installation of the BOF secondary emissions collection baghouse, the permittee shall perform a Method 9 certified visible emission observation of roof monitors at least once a week during BOF operation for a minimum of one complete heat. After installation of the BOF secondary emissions collection baghouse, the permittee shall perform non-certified visible emission observation for the BOF roof monitors (including reladling and desulfurization operations) at least once a week during BOF operations and a Method 9 certified visible emission observation of the BOF roof monitors (including reladling and desulfurization operations) at least once every month during BOF operations. The permittee shall initiate corrective action upon observation of visible emissions in excess of the applicable visible emission limitation and shall keep a written record of each required observation and corrective action taken. <b>(R336.1364(2))</b></p> <p>2. The permittee shall maintain a copy of each notification and report submitted under 40 CFR Part 63, Subpart FFFFF, including all documentation supporting the initial notification or notification of compliance status submitted according to 40 CFR 63.10(b)(2)(xiv)). <b>(40 CFR 63.7842(a)(1))</b></p> <p>3. The permittee shall maintain the records required for startup, shutdown and malfunction under 63.6(e)(3)(iii) through (v). <b>(40 CFR 63.7842(a)(2))</b></p> <p>4. The permittee shall maintain records associated with performance tests, performance evaluations, and opacity observations as required by 40 CFR 63.10(b)(2)(viii). <b>(40 CFR 63.7842(a)(3))</b></p>

**TABLE E-01.08 BASIC OXYGEN FURNACE (BOF)  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

5. The permittee shall maintain records of the following for the continuous opacity monitor:
  - a. Periods when the monitor is malfunctioning or inoperative; **(40 CFR 63.7842(b)(1) and 40 CFR 63.10(b)(2)(vi))**
  - b. All required measurements necessary to demonstrate compliance with a standard (including, but not limited to, 15-minute averages of monitoring data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report); **(40 CFR 63.7842(b)(1) and 40 CFR 63.10(b)(2)(vii))**
  - c. All results of performance tests, monitor performance evaluations and opacity and visible emission observations; **(40 CFR 63.7842(b)(1) and 40 CFR 63.10(b)(2)(viii))**
  - d. All measurements necessary to determine the conditions of performance tests and evaluations; **(40 CFR 63.7842(b)(1), 40 CFR 63.10(b)(2)(ix))**
  - e. All monitor calibration checks; **(40 CFR 63.7842(b)(1) and 40 CFR 63.10(b)(2)(x))**
  - f. All adjustments and maintenance performed on the continuous monitor; **(40 CFR 63.7842(b)(1) and 40 CFR 63.10(b)(2)(xi))**
  - g. Monitoring data produced during performance testing; **(40 CFR 63.7842(b)(2))**
  - h. Superseded versions of the performance evaluation plan; and **(40 CFR 63.7842(b)(3) and 40 CFR 63.8(d)(3))**
  - i. The date and time each deviation started and stopped and whether the deviation occurred during a period of startup, shutdown, malfunction, or during another period. **(40 CFR 63.7842(b)(4))**
6. The permittee shall perform preventative maintenance on the ESP as specified in the operation and maintenance plan for the ESP. **(40 CFR 63.7834(a)(2))**
7. The permittee shall comply with the recordkeeping requirement as specified in 40 CFR Part 63 Subpart FFFFF 63.7842(a), (b), (c) and (d). **(40 CFR 63.7842(a), (b), (c) and (d))**
8. The permittee shall monitor the process as required by this table, except during monitoring malfunctions, out-of-control periods, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments). **(40 CFR 63.7832(a))**
9. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used in data averages and calculations used to report emission or operating levels or to fulfill minimum data availability requirements. **(40 CFR 63.7832(b))**

**TABLE E-01.08 BASIC OXYGEN FURNACE (BOF)  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>10. The permittee shall keep 12-month rolling time period records of the amount of scrap and fragmented scrap charged to the BOF. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. <b>(R336.1201(3), R336.1225, R336.1228, R336.1901)</b></p> <p>11. The permittee shall obtain an analysis of the BOF ESP dust once per calendar month during the 1<sup>st</sup> year after the modification of C blast furnace and quarterly thereafter, or less frequently if approved in writing by the Air Quality Division. The analysis shall determine the percentage of Pb, Hg, and Mn in the collected PM dust from the ESP. The permittee shall submit an acceptable protocol for baghouse dust sampling and analysis methods to the Air Quality Division, at least 60 days prior the initial performance emission test. <b>(R336.1225, R336.1228, 40 CFR 52.21(d))</b></p> <p>12. Using the method shown in Appendix 1.7, the permittee shall calculate and record by the end of each calendar month the following from the BOF roof monitors:                  a. emissions of PM                  b. emissions of PM-10 <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(b)(3))</b></p> <p>13. The permittee shall keep a daily record of the amount of steel produced in the Basic Oxygen Furnace. <b>(R336.1205(1)(a) &amp; (b), R336.1225)</b></p>
<b>B. TESTING/RECORDKEEPING</b>	
<p><b>1. Parameter to be Tested/Recorded</b></p>	<p>1. Opacity                  2. PM                  3. PM-10                  4. NOx                  5. CO</p>
<p><b>2. Method/Analysis</b></p>	<p>Approved method.</p>
<p><b>3. Frequency and Schedule of Testing/Recordkeeping</b></p>	<p>1. The permittee shall demonstrate compliance with the opacity limitation for the BOF Shop Building in II.B.4. with a certified observer of Method 9 visible emissions using Method 9 with the following exceptions: <b>(40 CFR 63.7823(d)(1)(i))</b>                  a. Record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles rather than using the procedure specified in Section 2.4 of Method 9. <b>(40 CFR 63.7823(d)(1)(ii))</b>                  b. Determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals. <b>(40 CFR 63.7823(d)(1)(iii))</b></p>

**TABLE E-01.08 BASIC OXYGEN FURNACE (BOF)  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<ol style="list-style-type: none"> <li>2. Opacity observations from the roof monitors must cover at least three steel production cycles. A production cycle begins when scrap is charged and ends three minutes after slag is emptied from the vessel into the slag pot. <b>(40 CFR 63.7823(d)(4))</b></li> <li>3. Permittee shall determine and record the starting and stopping times of the steel production cycle. <b>(40 CFR 63.7823(d)(5))</b></li> <li>4. The permittee shall maintain a copy of the current operation and maintenance plans required in this table onsite and available for inspection. <b>(40 CFR 63.7834(b))</b></li> <li>5. The permittee shall maintain records of the monitoring data from the continuous opacity monitor. <b>(40 CFR 63.7842(d))</b></li> <li>6. Within 180 days after commencement of trial operation, the permittee shall verify PM, PM10, NOx, and CO emission rates from the ESP stack by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. <b>(R336.1205(1)(a) &amp; (b), R336.2001, R336.2003, R336.2004, 40 CFR 52.21(b)(3), 40 CFR 52.21(d))</b></li> <li>7. Permittee shall conduct overlapping performance tests for particulate matter emissions and opacity from the BOF roof monitor at least twice per permit term. <b>(40 CFR 63.7821)</b></li> </ol>
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**IV. REPORTING**

<b>Reports and Schedules</b>	<ol style="list-style-type: none"> <li>1. Permittee shall report the results of the initial performance test in the notification of compliance status. <b>(40 CFR 63.7820(a), 40 CFR 63.7825(c) and 40 CFR 63.7840(e))</b></li> <li>2. Permittee shall submit a notification of intent to perform any performance testing under 40 CFR Part 63, Subpart FFFFFF at least 60 calendar days before testing is to begin. <b>(40 CFR 63.7840(d))</b></li> <li>3. Any time an action taken by the permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) is not consistent with the procedures in the startup, shutdown, and malfunction plan, the permittee shall comply with all requirements of 63.10(d)(5)(ii). <b>(40 CFR Part 63.7841(c))</b></li> </ol>
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**V. OPERATIONAL PARAMETERS**

<ol style="list-style-type: none"> <li>1. The permittee shall not operate the Basic Oxygen Furnace unless the electrostatic precipitator (ESP) dust collector is installed and operating properly. <b>(R336.1301, R336.1331(c), R336.1910)</b></li> <li>2. After completion of C-FCE modification, the permittee shall not operate the Basic Oxygen Furnace unless the baghouse secondary emission dust collector is installed, maintained, and operated in a satisfactory manner. <b>(R336.1205(1)(a) &amp; (b), R336.1225, R336.1910, 40 CFR 52.21(b)(3))</b></li> </ol>
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**TABLE E-01.08 BASIC OXYGEN FURNACE (BOF)  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

3. The Basic Oxygen Furnace off-gas conditioning system which provides additional air-atomized water spray, shall be maintained as part of the off gas conditioning system. **(R336.1910)**
4. The BOF vessels and ESP shall be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR Part 63, Subpart FFFFF. **(40 CFR 63.7800(a) and 40 CFR 63.6(e)(1)(i))**
5. The permittee shall operate the BOF vessels and ESP according to an operation and maintenance plan that meets the requirements of 40 CFR 63.7800(b)(1)-(5). **(40 CFR 63.7800(b) and 40 CFR 63.6(e)(3))**
6. The permittee shall develop and implement a written startup, shutdown and malfunction plan for the BOF vessels and the associated emission control system. **(40 CFR 63.7810(c), 40 CFR 63.7835(b) and 40 CFR 63.6(e)(3))**
7. The permittee shall not produce more than 12,200 tons of steel per day based on a calendar week average nor 4,052,230 tons of steel per 12-month rolling time period from the BOF **(R336.1205(1)(a) & (b), R336.1225, 40 CFR 52.21(b)(3))**
8. The permittee shall not charge more than 21,882 tons of fragmented scrap in the BOF per 12-month rolling time period. **(R336.1201(3), R336.1228, R336.1901)**

**VI. OTHER REQUIREMENTS**

1. The permittee shall comply with the emission limitations and operation and maintenance requirements from 40 CFR Part 63, Subpart FFFFF specified in Table E-01.08, except during periods of startup, shutdown and malfunction. **(40 CFR 63.7810(a))**
2. Records required under 40 CFR Part 63, Subpart FFFFF and specified in this table shall be retained for five years. The records must be maintained onsite for the two most recent years of the five year period. Records from the remaining three years of the five year period may be keep offsite. **(40 CFR 63.7843(b) and (c))**
3. If the hourly average opacity of the electrostatic precipitator exceeds the operating limit in S.C. II.B.5, the permittee shall implement the following procedures: **(40 CFR 63.7833(g))**
  - a. Permittee shall initiate corrective action to determine the cause of the exceedance within 1 hour. During any period of corrective action, the permittee shall continue to monitor and record all required operating parameters for equipment that remains in operation. Within 24 hours of the exceedance, the permittee shall measure and record the hourly average operating parameter value for the emission unit on which corrective action was taken. If the hourly average parameter value meets the applicable operating limit, then the corrective action was successful and the emission unit is in compliance with the applicable operating limit. **(40 CFR 63.7833(g)(1))**
  - b. If the initial corrective action required in paragraph (a) of this condition was not successful, the permittee shall complete additional corrective action within the next 24 hours (48 hours from the time of the exceedance). During any period of corrective action, the permittee shall continue to monitor and record all required operating parameters for equipment that remains in operation. After this second 24-hour period, the permittee shall again measure and record the hourly average operating parameter value for the emission unit on which corrective action was taken. If the hourly average parameter value meets the applicable operating limit, then the corrective action was successful and the emission unit is in compliance with the applicable operating limit. **(40 CFR 63.7833(g)(2))**

**TABLE E-01.08 BASIC OXYGEN FURNACE (BOF)  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

- c. For purposes of paragraphs (a) and (b) of this condition, in the case of an exceedance of the hourly average opacity operating limit for the electrostatic precipitator, measurements of the hourly average opacity based on visible emission observations in accordance with Method 9 (40 CFR part 60, appendix A) may be taken to evaluate the effectiveness of corrective action. **(40 CFR 63.7833(g)(3))**
  - d. If the second attempt at corrective action required in paragraph (b) of this condition was not successful, the permittee shall report the exceedance as a deviation in the next semiannual compliance report according to 40 CFR 63.7841(b). **(40 CFR 63.7833(g)(4))**
4. The permittee shall not increase the iron production rate of FGB&CCASTHOUSE to more than 8125 tons of liquid iron per day based on a calendar week average unless the on-site screening procedure and material management plan, or alternate plan(s) are approved in writing by the AQD District Supervisor. The plan(s) shall be implemented and maintained immediately after approval. The on-site screening procedure and material management plan will facilitate the permittee's efforts in controlling mercury and/or other toxics and VOC emissions by eliminating unacceptable scrap and eliminating or reducing scrap with mercury contaminated materials. The permittee shall require all suppliers document that mercury-containing devices and switches have been removed from the scrap. **(R336.1201(3), R336.1228, R336.1901)**
  5. The permittee shall record the specific information as required in the on-site screening procedure and scrap management plan. All such records shall be kept on file for a period of at least five years and made available to the Air Quality Division upon request. **(R336.1201(3), R336.1228, R336.1901)**

<b>TABLE E-01.09 BOF DESULFURIZATION BY-PRODUCTS “DESULF” PROCESS EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>EMISSION GROUP</b>	<b>EUDESULFWATERINGSTATION</b> BOF desulfurization by-product material “desulf” watering station located at the south end of the BOF building. Levy or any other winning bidder in the future for the service, digs the desulf materials with a front-end loader, brings them to an open area for cooling using water spray and for fugitive dust control. After thorough cooling, Levy or any other winning bidder in the future for the service, loads the materials into trucks for processing off site. Note: Levy currently has the contract to buy this material and, consequently, currently operates the Desulf Watering Station.				
<b>Flexible Grouping ID</b>	NA				
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>	Water spray system				
<b>B. Stack/Vent Parameters</b>	NA				
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
NA	NA	NA	NA	NA	NA
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>	<b>Maximum Usage Rate</b>				
NA	NA				
<b>B. Pollutant</b>	<b>Maximum Emission Limit</b>				
1. Opacity of fugitive dust emissions from sources other than roads, lots, or storage pile	20% (3 minute average)				<b>(R324.5524(2))</b>
2. Opacity of fugitive dust emissions from material handling activities at a storage pile and from building openings other than roof monitors	10% (3 minute average)				<b>(R324.5524(8), R336.1301(c))</b>
3. Opacity of fugitive dust emissions from roof monitors	20%				<b>(R336.1301)</b>
<b>III. COMPLIANCE EVALUATION</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>	NA				
<b>2. Process Monitoring System and Recordkeeping</b>	NA				

<b>TABLE E-01.09 BOF DESULFURIZATION BY-PRODUCTS “DESULF” PROCESS EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>	
<b>3. Other Monitoring and/or Recordkeeping</b>	The permittee shall perform a Method 9D certified visible emission observation of the desulf watering station at least once every two weeks for a minimum of 15 minutes during the dumping, watering and loading operation. The permittee shall initiate corrective action upon observation of visible emissions in excess of the applicable visible emission limitation and shall keep a written record of each required observation and corrective action taken. <b>(R336.1213(3), R336.1910)</b>
<b>B. TESTING/RECORDKEEPING</b>	
<b>1. Parameter to be Tested/Recorded</b>	NA
<b>2. Method/Analysis</b>	NA
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	NA
<b>IV. REPORTING</b>	
<b>Reports and Schedules</b>	NA
<b>V. OPERATIONAL PARAMETERS</b>	
To control fugitive dust when processing the desulf material, the permittee shall not process the desulf material outside the BOF building without cooling off the material thoroughly with the water spray system. <b>(R336.1910, R336.1901)</b>	
<b>VI. OTHER REQUIREMENTS</b>	
NA	

<b>TABLE E-01.10 LADLE REFINING FACILITY No. 1 EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>EMISSION GROUP</b>		EULADLEREFINE1			
<b>Flexible Grouping ID</b>		NA			
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>		Baghouse			
<b>B. Stack/Vent Parameters</b>		NA			
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVLADLEREFINE1	148	108	150	175,000	NA
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
NA		NA			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
1. Opacity from ladle refining facility roof monitors.		1. 0% <b>40 CFR 63.7790(a)</b>		<b>(R336.1301(c),</b>	
2. Opacity from ladle refining facility baghouse.		5%.		<b>(R336.1301(c))</b>	
3. PM from ladle refining facility baghouse.		1. 0.005 grains per dry standard cubic foot <b>52.21(b)(3), 40 CFR 63.7790(a)</b>		<b>(R336.1331(c), 40 CFR</b>	
		2. 6.8 lb/hr		<b>(R336.1331(c), 40 CFR 52.21(b)(3))</b>	
4. PM10		1. 0.005 grains per dry standard cubic foot		<b>(R336.1205(1)(a) &amp; (b))</b>	
		2. 6.8 lb/hr.		<b>(R336.1205(1)(a) &amp; (b))</b>	
5. Pb		1. 0.0224 lb/hr.		<b>(40 CFR 52.21(d))</b>	
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>		NA			
<b>2. Process Monitoring System and Recordkeeping</b>		NA			
<b>3. Other Monitoring and/or Recordkeeping</b>		1. The permittee shall maintain a copy of each notification and report submitted under 40 CFR Part 63, Subpart FFFFF, including all documentation supporting the initial notification or notification of compliance status submitted according to 40 CFR 63.10(b)(2)(xiv). <b>(40 CFR 63.7842(a)(1))</b>  2. The permittee shall maintain the records required for startup, shutdown and malfunction under 63.6(e)(3)(iii) through (v). <b>(40 CFR 63.7842(a)(2))</b>  3. The permittee shall maintain records associated with performance tests, and performance evaluations as required by 40 CFR 63.10(b)(2)(viii). <b>(40 CFR 63.7842(a)(3))</b>			

**TABLE E-01.10 LADLE REFINING FACILITY No. 1**  
**EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

4. Except as allowed in S.C. 7, permittee shall install, operate, and maintain a bag leak detection system meeting the following specifications on the baghouse control: **(40 CFR 63.7831(f))**
  - a. Certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic foot (0.0044 grains per actual cubic foot). **(40 CFR 63.7831(f)(1))**
  - b. Provides output of relative changes in particulate matter loadings. **(40 CFR 63.7831(f)(2))**
  - c. Is equipped with an alarm, located such that it is heard by appropriate plant personnel, that sounds an alarm when an increase in relative particulate loadings is detected over a preset level. **(40 CFR 63.7831(f)(3))**
  - d. Initially adjusted by establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and setting the alarm set points and alarm delay time. **(40 CFR 63.7831(f)(5))**
5. Following the initial adjustment of the bag leak detection system, the permittee shall not adjust the sensitivity or range, averaging period, alarm set points or alarm delay time except as specified in the operation and maintenance plan. This requirement does not apply if the permittee installs a COMS as specified in S.C. 7. **(40 CFR 63.7831(f)(6))**
6. If the sensitivity of the bag leak detection system is changed beyond the limits established pursuant to 40 CFR 63.7831(f)(6), a copy of a written certification by a responsible official shall be included in the semiannual compliance report for that period. This requirement does not apply if the permittee installs a COMS as specified in S.C. 7. **(40 CFR 63.7833(c)(2))**
7. If permittee does not install and operate a bag leak detection system, the permittee shall install, operate, and maintain a COMS according to the requirements in 40 CFR Sec. 63.7831(h) and monitor the hourly average opacity of emissions exiting each control device stack according to the requirements in 40 CFR 63.7832. **(40 CFR 63.7832)**
8. The permittee shall monitor the pressure drop across each baghouse compartment daily to ensure that the pressure drop is within the normal operating range identified in the manual. **(40 CFR 63.7830(b)(1))**
9. The permittee shall confirm that dust is being removed from hoppers on a weekly basis through visual observations or other means of determining the proper functioning of the removal mechanisms. **(40 CFR 63.7830(b)(2))**
10. The permittee shall confirm that the compressed air supply to the pulse-jet baghouse is operating properly on a daily basis. **(40 CFR 63.7830(b)(3))**
11. The permittee shall monitor the cleaning cycles of the baghouse to ensure proper operation using appropriate technology. **(40 CFR 63.7830(b)(4))**

**TABLE E-01.10 LADLE REFINING FACILITY No. 1  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>12. The permittee shall check the bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means. <b>(40 CFR 63.7830(b)(5))</b></p> <p>13. The permittee shall inspect the baghouse to confirm the physical integrity of the baghouse through quarterly inspections of the interior of the baghouse for air leaks. <b>(40 CFR 63.7830(b)(7))</b></p> <p>14. The permittee shall inspect fans for wear, material buildup, and corrosion on a quarterly basis using visual inspections, vibration detectors, or equivalent means. <b>(40 CFR 63.7830(b)(8))</b></p> <p>15. The permittee shall monitor the process as required by this table, except during monitoring malfunctions, out-of-control periods, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments). <b>(40 CFR 63.7832(a))</b></p> <p>16. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used in data averages and calculations used to report emission or operating levels or to fulfill minimum data availability requirements. <b>(40 CFR 63.7832(b))</b></p>
<b>B. TESTING/RECORDKEEPING</b>	
<b>1. Parameter to be Tested/Recorded</b>	<p>1. Opacity</p> <p>2. PM</p> <p>3. PM-10</p> <p>4. Pb</p>
<b>2. Method/Analysis</b>	Approved method.
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	<p>1. Sampling during the performance tests will occur only when the operations being controlled are in operation. <b>(40 CFR 63.7822(h))</b></p> <p>2. The permittee shall maintain records of the time corrective action was initiated, the corrective action taken, and the date when corrective actions were completed in response to a bag leak detection system alarm. <b>(40 CFR 63.7842(d) and 40 CFR 63.7833(c)(1))</b></p> <p>3. The permittee shall demonstrate compliance with the opacity limitation in II.B.1 with a certified observer of Method 9 visible emissions using Method 9 with the following exceptions: <b>(40 CFR 63.7823(d)(1)(i))</b></p> <p style="padding-left: 20px;">a. Record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles rather than using the procedure specified in Section 2.4 of Method 9. <b>(40 CFR 63.7823(d)(1)(ii))</b></p> <p style="padding-left: 20px;">b. Determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals. <b>(40 CFR 63.7823(d)(1)(iii))</b></p> <p>4. Performance tests for visible emissions shall be conducted such that the opacity observations overlap with the performance tests for particulate. <b>(40 CFR 63.7823(b))</b></p>

**TABLE E-01.10 LADLE REFINING FACILITY No. 1  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>5. Within 180 days after commencement of trial operation, the permittee shall verify PM, PM10, and Pb emission rates from the Ladle Refining Facility No. 1 by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. <b>(R336.1205(1)(a) &amp; (b), R336.2001, R336.2003, R336.2004, 40 CFR 52.21(b)(3))</b></p> <p>6. Permittee shall conduct performance tests for particulate matter emissions and opacity at least once per permit term. <b>(40 CFR 63.7821)</b></p>
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**IV. REPORTING**

<b>Reports and Schedules</b>	<p>1. Permittee shall submit a notification of intent to perform any performance testing under 40 CFR Part 63, Subpart FFFFF at least 60 calendar days before testing is to begin. <b>(40 CFR 63.7840(d))</b></p> <p>2. When actions taken by the permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are not consistent with the procedures in the startup, shutdown, and malfunction plan, the permittee shall comply with the requirements of 63.10(d)(5)(ii). <b>(40 CFR Part 63.7841(c))</b></p>
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**V. OPERATIONAL PARAMETERS**

<p>1. The Ladle Refining Facility No. 1 shall not be operated unless the main baghouse is installed and operating properly. <b>(R336.1331(c), R336.1910, R336.1201(3))</b></p> <p>2. Ladle Refining Facility No. 1 and associated baghouse shall be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR Part 63, Subpart FFFFF. <b>(40 CFR 63.7800(a) and 40 CFR 63.6(e)(1)(i))</b></p> <p>3. The permittee shall develop and implement a written startup, shutdown and malfunction plan for the Ladle Refining Facility No. 1 and the associated emission control system and operate in accordance with the plan during periods of startup, shutdown, and malfunction. <b>(40 CFR 63.7810(c), 40 CFR 63.7835(b), and 40 CFR 63.6(e)(3))</b></p>
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**VI. OTHER REQUIREMENTS**

<p>1. The permittee shall comply with the emission limitations and operation and maintenance requirements from 40 CFR Part 63, Subpart FFFFF specified in Table E-01.10, except during periods of startup, shutdown and malfunction. <b>(40 CFR 63.7810(a))</b></p> <p>2. Records required under 40 CFR Part 63, Subpart FFFFF and specified in this table shall be retained for five years. The records must be maintained onsite for the two most recent years of the five year period. Records from the remaining three years of the five year period may be keep offsite. <b>(40 CFR 63.7843(b) and (c))</b></p>
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<b>TABLE E-01.11 LADLE REFINING FACILITY No.2</b>					
<b>EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>EMISSION GROUP</b>	EULADLEREFINE2				
<b>Flexible Grouping ID</b>	NA				
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>	Baghouse				
<b>B. Stack/Vent Parameters</b>	Exhaust gases shall be discharged unobstructed vertically upwards unless otherwise noted.				
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
1. SVLADLEREFINE2	150	72	150	100,000	<b>R336.1225</b>
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
NA		NA			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
1. PM		1. 0.005 grains per dry standard cubic foot <b>(R336.1331(c), 40 CFR 52.21(b)(3), 40 CFR 63.7790(a))</b>			
		2. 3.87 lb/hr <b>(R336.1331(c), 40 CFR 52.21(b)(3))</b>			
2. Visible emissions from baghouse stack		1. Shall not exceed a 6-minute average of 5% opacity. <b>(R336.1201(3))</b>			
3. Opacity from the Ladle Refining No. 2 Building		1. 0% <b>(R336.1301(c), 40 CFR 63.7790(a))</b>			
4. PM10		1. 0.005 grains per dry standard cubic foot <b>(R336.1205(1)(a) &amp; (b))</b>			
		2. 3.87 lb/hr. <b>(R336.1205(1)(a) &amp; (b))</b>			
5. Pb		1. 0.0128 lb/hr. <b>(40 CFR 52.21(d))</b>			
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>		NA			
<b>2. Process Monitoring System and Recordkeeping</b>		NA			
<b>3. Other Monitoring and/or Recordkeeping</b>		1. The permittee shall maintain a copy of each notification and report submitted under 40 CFR Part 63, Subpart FFFFF, including all documentation supporting the initial notification or notification of compliance status submitted according to 40 CFR 63.10(b)(2)(xiv)). <b>(40 CFR 63.7842(a)(1))</b>  2. The permittee shall maintain the records required for startup, shutdown and malfunction under 63.6(e)(3)(iii) through (v). <b>(40 CFR 63.7842(a)(2))</b>			

**TABLE E-01.11 LADLE REFINING FACILITY No.2**  
**EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

3. The permittee shall maintain records associated with performance tests and performance evaluations as required by 40 CFR 63.10(b)(2)(viii). **(40 CFR 63.7842(a)(3))**
4. Except as allowed in S.C. 7, permittee shall install, operate, and maintain a bag leak detection system meeting the following specifications on the baghouse control: **(40 CFR 63.7831(f))**
  - a. Certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic foot (0.0044 grains per actual cubic foot). **(40 CFR 63.7831(f)(1))**
  - b. Provides output of relative changes in particulate matter loadings. **(40 CFR 63.7831(f)(2))**
  - c. Is equipped with an alarm, located such that it is heard by appropriate plant personnel, that sounds an alarm when an increase in relative particulate loadings is detected over a preset level. **(40 CFR 63.7831(f)(3))**
  - d. Initially adjusted by establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and setting the alarm set points and alarm delay time. **(40 CFR 63.7831(f)(5))**
5. Following the initial adjustment of the bag leak detection system, the permittee shall not adjust the sensitivity or range, averaging period, alarm set points or alarm delay time except as specified in the operation and maintenance plan. This requirement does not apply if the permittee installs a COMS as specified in S.C. 7. **(40 CFR 63.7831(f)(6))**
6. If the sensitivity of the bag leak detection system is changed beyond the limits established pursuant to 40 CFR 63.7831(f)(6), a copy of a written certification by a responsible official shall be included in the semiannual compliance report for that period. This requirement does not apply if the permittee installs a COMS as specified in S.C. 7. **(40 CFR 63.7833(c)(2))**
7. If permittee does not install and operate a bag leak detection system, the permittee shall install, operate, and maintain a COMS according to the requirements in 40CFR Sec. 63.7831(h) and monitor the hourly average opacity of emissions exiting each control device stack according to the requirements in 40 CFR 63.7832. **(40 CFR 63.7832)**
8. The permittee shall monitor the pressure drop across each baghouse compartment daily to ensure that the pressure drop is within the normal operating range identified in the manual. **(40 CFR 63.7830(b)(1))**
9. The permittee shall confirm that dust is being removed from hoppers on a weekly basis through visual observations or other means of determining the proper functioning of the removal mechanisms. **(40 CFR 63.7830(b)(2))**

**TABLE E-01.11 LADLE REFINING FACILITY No.2  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>10. The permittee shall confirm that the compressed air supply to the pulse-jet baghouse is operating properly on a daily basis. <b>(40 CFR 63.7830(b)(3))</b></p> <p>11. The permittee shall monitor the cleaning cycles of the baghouse to ensure proper operation using appropriate technology. <b>(40 CFR 63.7830(b)(4))</b></p> <p>12. The permittee shall check the bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means. <b>(40 CFR 63.7830(b)(5))</b></p> <p>13. The permittee shall inspect the baghouse to confirm the physical integrity of the baghouse through quarterly inspections of the interior of the baghouse for air leaks. <b>(40 CFR 63.7830(b)(7))</b></p> <p>14. The permittee shall inspect fans for wear, material buildup, and corrosion on a quarterly basis using visual inspections, vibration detectors, or equivalent means. <b>(40 CFR 63.7830(b)(8))</b></p> <p>15. The permittee shall monitor the process as required by this table, except during monitoring malfunctions, out-of-control periods, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments). <b>(40 CFR 63.7832(a))</b></p> <p>16. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used in data averages and calculations used to report emission or operating levels or to fulfill minimum data availability requirements. <b>(40 CFR 7832(b))</b></p>
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**B. TESTING/RECORDKEEPING**

<b>1. Parameter to be Tested/Recorded</b>	<p>1. Opacity</p> <p>2. PM</p> <p>3. PM-10</p> <p>4. Pb</p>
<b>2. Method/Analysis</b>	Approved method.
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	<p>1. Sampling during the performance tests will occur only when the operations being controlled are in operation. <b>(40 CFR 63.7822(h))</b></p> <p>2. The permittee shall maintain records of the time corrective action was initiated, the corrective action taken, and the date when corrective actions were completed in response to a bag leak detection system alarm. <b>(40 CFR 63.7842(d) and 40 CFR 63.7833(c)(1))</b></p> <p>3. The permittee shall demonstrate compliance with the opacity limitation in II.B.3.1. with a certified observer of Method 9 visible emissions using Method 9 with the following exceptions:  <b>(40 CFR 63.7823(d)(1)(i))</b></p>

**TABLE E-01.11 LADLE REFINING FACILITY No.2  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>a. Record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles rather than using the procedure specified in Section 2.4 of Method 9. <b>(40 CFR 63.7823(d)(1)(ii))</b></p> <p>b. Determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals. <b>(40 CFR 63.7823(d)(1)(iii))</b></p> <p>4. Performance tests for visible emissions shall be conducted such that the opacity observations overlap with the performance tests for particulate. <b>(40 CFR 63.7823(b))</b></p> <p>5. Within 180 days after commencement of trial operation, the permittee shall verify PM, PM10, and Pb emission rates from the Ladle Refining Facility No. 2 by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. <b>(R336.1205(1)(a) &amp; (b), R336.2001, R336.2003, R336.2004, 40 CFR 52.21(b)(3))</b></p> <p>6. Permittee shall conduct performance tests for particulate matter emissions and opacity at least once per permit term. <b>(40 CFR 63.7821)</b></p>
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**IV. REPORTING**

<b>Reports and Schedules</b>	<p>1. Permittee shall submit a notification of intent to perform any performance testing under 40 CFR Part 63, Subpart FFFFF at least 60 calendar days before testing is to begin. <b>(40 CFR 63.7840(d))</b></p> <p>2. When actions taken by the permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are not consistent with the procedures in the startup, shutdown, and malfunction plan, the permittee shall comply with the requirements of 63.10(d)(5)(ii). <b>(40 CFR Part 63.7841(c))</b></p>
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**V. OPERATIONAL PARAMETERS**

<p>1. The permittee shall not operate the Ladle Refining Facility No. 2 unless the 100,000 ACFM baghouse dust collector is installed and operating properly. <b>(R336.1201(3), R336.1331(c), R336.1910)</b></p> <p>2. Ladle Refining Facility No. 2 and the associated baghouse shall be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR Part 63, Subpart FFFFF. <b>(40 CFR 63.7800(a) and 40 CFR 63.6(e)(1)(i))</b></p> <p>3. The permittee shall develop and implement a written startup, shutdown and malfunction plan for the Ladle Refining Facility No. 2 and the associated emission control system and operate in accordance with the plan during periods of startup, shutdown, and malfunction. <b>(40 CFR 63.7810(c), 40 CFR 63.7835(b), and 40 CFR 63.6(e)(3))</b></p>	
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**TABLE E-01.11 LADLE REFINING FACILITY No.2**  
**EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

**VI. OTHER REQUIREMENTS**

1. The permittee shall comply with the emission limitations and operation and maintenance requirements from 40 CFR Part 63, Subpart FFFFF specified in Table E-01.11, except during periods of startup, shutdown and malfunction. **(40 CFR 63.7810(a))**
2. Records required under 40 CFR Part 63, Subpart FFFFF and specified in this table shall be retained for five years. The records must be maintained onsite for the two most recent years of the five year period. Records from the remaining three years of the five year period may be keep offsite. **(40 CFR 63.7843(b) and (c))**

<b>TABLE E-01.12 ANNEALING FURNACES FLEXIBLE GROUPING REQUIREMENTS</b>					
<b>FLEXIBLE GROUPING</b>	NA				
<b>Emission Unit / Process Group</b>	EUANNEALFURNACES				
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>	NA				
<b>B. Stack/Vent Parameters</b>	NA				
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
NA	NA	NA	NA	NA	NA
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>	<b>Maximum Usage Rate</b>				
NA	NA				
<b>B. Pollutant</b>	<b>Maximum Emission Limit</b>				
Nitrogen Oxide	1. 140 lb/ MMscf natural gas fired				<b>(R336.1205(1)(a) &amp; (b))</b>
PM	1. 10 lb/MMscf natural gas fired.				<b>(40 CFR 52.21(b)(3))</b>
PM10	1. 10 lb/MMscf natural gas fired.				<b>(R336.1205(1)(a) &amp; (b))</b>
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>	NA				
<b>2. Process Monitoring System and Recordkeeping</b>	The permittee shall keep a record of the following for the annealing furnaces: 1. Total natural gas consumption per month. <b>(R336.1205(1)(a) &amp; (b))</b>				
<b>3. Other Monitoring and/or Recordkeeping</b>	NA				
<b>B. TESTING/RECORDKEEPING</b>					
<b>1. Parameter to be Tested/ Recorded</b>	1. NOx 2. PM 3. PM-10				
<b>2. Method/Analysis</b>	Approved method				

<b>TABLE E-01.12 ANNEALING FURNACES FLEXIBLE GROUPING REQUIREMENTS</b>	
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	Within 180 days after commencement of trial operation, the permittee shall verify NOx, PM, and PM-10 emission rates from a representative annealing furnace from EUANNEALFURNACES by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. <b>(R336.1205(1)(a) &amp; (b), R336.1331, R336.2001, R336.2003, R336.2004, 40 CFR 52.21(b)(3))</b>
<b>IV. REPORTING</b>	
<b>Reports and Schedules</b>	NA
<b>V. OPERATIONAL PARAMETERS</b>	
1. Oil shall not be used as fuel in the annealing furnaces.	<b>(R336.1205(1)(a) &amp; (b))</b>
<b>VI. OTHER REQUIREMENTS</b>	
NA	

<b>TABLE F-01.01 B &amp; C BLAST FURNACE CASTHOUSE OPERATIONS</b>					
<b>EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>FLEXIBLE GROUPING</b>	FGB&CBFCASTHOUSES				
<b>Emission Unit/Process Group</b>	EUBBFCASTHOUSE, EUCBFCASTHOUSE				
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>	Baghouse control of fugitive emissions (one for each operating casthouse)				
<b>B. Stack/Vent Parameters</b>	NA				
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVBBFROOFMONEAST	75.2	NA	NA	NA	<b>R336.1225</b>
SVBBFROOFMONWEST	75.2	NA	NA	NA	<b>R336.1225</b>
SVBFCE (baghouse)	200	111	150	250,000	<b>R336.1225</b>
SVCBFROOFMONEAST	75.2	NA	NA	NA	<b>R336.1225</b>
SVCBFROOFMONWEST	75.2	NA	NA	NA	<b>R336.1225</b>
SVCFCE (baghouse)	200	153	150	500,000	<b>R336.1225</b>
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>	<b>Maximum Usage Rate</b>				
NA	NA				
<b>B. Pollutant</b>	<b>Maximum Emission Limit</b>				
1. PM	1. 19.93 tpy <sup>1</sup> from roof monitors <b>(40 CFR 52.21(b)(3))</b>				
2. PM-10	1. 10.16 tpy <sup>1</sup> from roof monitors <b>(R336.1205(1)(a) &amp; (b))</b>				
3. SO2 from baghouse stacks	1. 29.94 lb/hr <b>(40 CFR 52.21 (c) &amp; (d), 40 CFR 52.21 (j))</b> 2. 91.79 ton per 12-month rolling time period <b>(40 CFR 52.21 (c), (d), &amp; (j))</b>				
4. NOx from baghouse stacks	1. 3.19 lb/hr <b>(R336.1205(1)(a) &amp; (b))</b> 2. 9.77 ton per 12-month rolling time period <b>(R336.1205(1)(a) &amp; (b))</b>				
5. VOC from baghouse stacks	1. 8.81 lb/hr <b>(R336.1702(a))</b>				
6. Mn	1. 0.00385 lb/hr total from baghouse stacks <b>(R336.1225)</b> 2. 0.0060 <sup>2</sup> lb/hr from roof monitors <b>(R336.1225)</b>				
7. Pb	1. 0.000223 lb/hr total from baghouse stacks <b>(40 CFR 52.21(d))</b> 2. 0.000087 <sup>1</sup> lb/hr from roof monitors <b>(40 CFR 52.21(d))</b>				
<sup>1</sup> These limits are based on a 12-month rolling time period.					
<sup>2</sup> This limit is based on a daily time period					
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>	NA				
<b>2. Process Monitoring System and Recordkeeping</b>	NA				

**TABLE F-01.01 B & C BLAST FURNACE CASTHOUSE OPERATIONS  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

<p><b>3. Other Monitoring and/or Recordkeeping</b></p>	<p>1. Using the method shown in Appendix 1.7, the permittee shall calculate and record by the end of each calendar month the following from the casthouse roof monitors:</p> <ul style="list-style-type: none"> <li>a. emissions of PM</li> <li>b. emissions of PM-10</li> <li>c. emissions of Mn</li> <li>d. emissions of Pb</li> </ul> <p><b>(R336.1205(1)(a) &amp; (b), R336.1225, 40 CFR 52.21(b)(3), 40 CFR 52.21(d))</b></p> <p>2. The permittee shall keep a daily record of the amount of iron cast from each furnace individually and combined. <b>(R336.1205(1)(a) &amp; (b), R336.1225)</b></p> <p>3. Using the method shown in Appendix 1.7, the permittee shall calculate records of SO<sub>2</sub>, NO<sub>x</sub>, VOC, Mn, and Pb emissions for FGB&amp;CBFCASTHOUSES (baghouses) using emission factors developed during the testing required in S.C. III.B.3.1 and S.C. III.B.3.10 of Table E-01.04, and other factors, as specified in Appendix 1.7. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(c) and (d))</b></p>
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**B. TESTING/RECORDKEEPING**

<p><b>1. Parameter to be Tested/Recorded</b></p>	<p>NA</p>
<p><b>2. Method/Analysis</b></p>	<p>NA</p>
<p><b>3. Frequency and Schedule of Testing/Recordkeeping</b></p>	<p>NA</p>

**IV. REPORTING**

<p><b>Reports and Schedules</b></p>	<p>1. Permittee shall report the results of the initial performance test in the notification of compliance status. <b>(40 CFR 63.7820(a), 40 CFR 63.7825(c) and 40 CFR 63.7840(e))</b></p>
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**V. OPERATIONAL PARAMETERS**

<p>1. The iron production from FGB&amp;CBFCASTHOUSES shall not exceed a combined maximum of 10,000 ton/day based on a calendar week average. <b>(R336.1205(1)(a) &amp; (b), R336.1225, 40 CFR 52.21(b)(3))</b></p>
<p>2. The iron production from FGB&amp;CBFCASTHOUSES shall not exceed a combined maximum of 3,321,500 tons per 12-month rolling period. <b>(R336.1205(1)(a) &amp; (b), R336.1225, 40 CFR 52.21(b)(3))</b></p>

**VI. OTHER REQUIREMENTS**

<p>NA</p>
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<b>TABLE F-01.02 B AND C BLAST FURNACE STOVES FLEXIBLE GROUPING REQUIREMENTS</b>					
<b>FLEXIBLE GROUPING</b>	FGB&CSTOVES				
<b>Emission Unit/Process Group</b>	EUBFCESTOVE, EUCFCESTOVE				
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>	Low-NOx technology, mechanical collectors and scrubbers for blast furnace gas precleaning				
<b>B. Stack/Vent Parameters</b>	NA				
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
NA	NA	NA	NA	NA	NA
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
NA		NA			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
1. NOx	439.18 ton/12-month rolling period		<b>(R336.1205(1)(a) &amp; (b))</b>		
2. SO2	1,096.1 ton/12-month rolling period		<b>(40 CFR 52.21(j))</b>		
3. CO	8,760 ton/12-month rolling period.		<b>(40 CFR 52.21(d) &amp; (j))</b>		
4. PM	14.16 lb/hr		<b>(40 CFR 52.21(b)(3))</b>		
5. PM-10	14.16 lb/hr		<b>(R336.1205(1)(a) &amp; (b))</b>		
6. Mn	0.0154 lb/hr		<b>(R336.1225)</b>		
7. Total Hg	0.000414 lb/hr		<b>(R336.1201(3), R336.1228, R336.1901)</b>		
8. Pb	0.0141 lb/hr		<b>(40 CFR 52.21(d))</b>		
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>	NA				
<b>2. Process Monitoring System and Recordkeeping</b>	<ol style="list-style-type: none"> <li>1. The permittee shall keep, in a satisfactory manner, daily fuel usage records for FGB&amp;CSTOVES. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. <b>(R336.1205(1)(a) &amp; (b), 40 CFR 52.21(b)(3), (c), &amp; (d))</b></li> <li>2. Following the performance testing required in S.C. III.B.3.1 of Table E-01.03 and S.C. III.B.3.1 of Table E-01.05, the permittee shall determine compliance with emission limits in S.C. II.B.1, II.B.3, II.B.4, II.B.5, II.B.6, II.B.7, and II.B.8 of this table by establishing emission factors based up on the BFCE and CFCE stove stack testing and applying these emission factors to the daily fuel usage recorded in S.C. III.A.2.1, as outlined in Appendix 1.7. <b>(R336.1205(1)(a) &amp; (b), R336.1225, R336.1228, R336.1901, 40 CFR 52.21(b)(3), (c), &amp; (d))</b></li> </ol>				

<b>TABLE F-01.02 B AND C BLAST FURNACE STOVES FLEXIBLE GROUPING REQUIREMENTS</b>	
	3. Utilizing the CEMS for SO2 emissions from the C Blast Furnace stoves, the permittee shall determine compliance with the emission limits in S.C. II.B.2 by determining daily emission factors and applying these emission factors to the daily fuel usage recorded in S.C. III.A.2.1, as outlined in Appendix 1.7. <b>(40 CFR 52.21 (c), &amp; (d))</b>
<b>3. Other Monitoring and/or Recordkeeping</b>	NA
<b>B. TESTING/RECORDKEEPING</b>	
<b>1. Parameter to be Tested/Recorded</b>	NA
<b>2. Method/Analysis</b>	NA
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>	NA
<b>IV. REPORTING</b>	
<b>Reports and Schedules</b>	NA
<b>V. OPERATIONAL PARAMETERS</b>	
NA	
<b>VI. OTHER REQUIREMENTS</b>	
NA	

<b>TABLE F-01.03 BASIC OXYGEN FURNACE (BOF)/RELADLING SOUTH &amp; NORTH BOF EMISSION UNIT/PROCESS GROUP REQUIREMENTS</b>					
<b>EMISSION GROUP</b>		EUBOF, EURELADLINGBOF			
<b>Flexible Grouping ID</b>		FGBOFSHOP			
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>		Baghouse			
<b>B. Stack/Vent Parameters</b>		NA			
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
SVBOFESP	213	204	300	841,000	<b>R336.1225</b>
SVBOFBH	200	222	150	1,000,000	<b>R336.1225</b>
<b>C. Other Design Parameters</b>					
1. NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
NA		NA			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
1. PM.		1. 0.003 gr/dscf from baghouse stack <b>(R336.1331(c), 40 CFR 63.7790(a), 40 CFR 52.21(b)(3))</b>			
		2. 7.45 lb/hr from baghouse stack <b>(40 CFR 52.21(b)(3))</b>			
2. PM-10.		1. 0.00135 gr/dscf from baghouse stack. <b>(R336.1205(1)(a) &amp; (b))</b>			
		2. 3.35 lb/hr from baghouse stack <b>(R336.1205(1)(a) &amp; (b))</b>			
3. NO <sub>x</sub>		1. 10.17 lb/hr from the baghouse stack. <b>(R336.1205(1)(a) &amp; (b))</b>			
4. Manganese		1. 0.101 lb/hr from baghouse and ESP stacks combined. <b>(R336.1225)</b>			
		2. 0.0709 lb/hr from the baghouse stack. <b>(R336.1225)</b>			
5. Total Mercury		1. 0.0125 lb/hr from the baghouse and ESP stacks combined. <b>(R336.1201(3), R336.1228, R336.1901)</b>			
6. Lead		1. 0.067 lb/hr from the baghouse and ESP stacks combined. <b>(40 CFR 52.21(d))</b>			
7. Opacity from baghouse stack.		1. 20% <b>(R336.1364(1), R336.1365(1))</b>			
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>		NA			
<b>2. Process Monitoring System and Recordkeeping</b>		1. If applicable, the permittee shall install, maintain, and operate a Continuous Parametric Monitoring System (CPMS) for the baghouse capture system according to the requirements of 40 CFR 63.7830(a) and 40 CFR 63.7831(e). <b>(40 CFR 63.7830(a))</b>			
<b>3. Other Monitoring and/or Recordkeeping</b>		1. The permittee shall maintain a copy of each notification and report submitted under 40 CFR Part 63, Subpart FFFFF, including all			

**TABLE F-01.03 BASIC OXYGEN FURNACE (BOF)/RELADLING SOUTH & NORTH BOF  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

- documentation supporting the initial notification or notification of compliance status submitted according to 40 CFR 63.10(b)(2)(xiv)). **(40 CFR 63.7842(a)(1))**
2. The permittee shall maintain the records required for startup, shutdown and malfunction under 63.6(e)(3)(iii) through (v). **(40 CFR 63.7842(a)(2))**
  3. The permittee shall maintain records associated with performance tests, performance evaluations, and opacity observations as required by 40 CFR 63.10(b)(2)(viii). **(40 CFR 63.7842(a)(3))**
  4. The permittee shall comply with the recordkeeping requirement as specified in 40 CFR Part 63 Subpart FFFFF 63.7842(a), (b), (c) and (d). **(40 CFR 63.7842(a), (b), (c) and (d))**
  5. Except as allowed in S.C. 8, permittee shall install, operate, and maintain a bag leak detection system meeting the following specifications on the baghouse control, if applicable: **(40 CFR 63.7831(f))**
    - a. Certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic foot (0.0044 grains per actual cubic foot). **(40 CFR 63.7831(f)(1))**
    - b. Provides output of relative changes in particulate matter loadings. **(40 CFR 63.7831(f)(2))**
    - c. Is equipped with an alarm, located such that it is heard by appropriate plant personnel, that sounds an alarm when an increase in relative particulate loadings is detected over a preset level. **(40 CFR 63.7831(f)(3))**
    - d. Initially adjusted by establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device and setting the alarm set points and alarm delay time. **(40 CFR 63.7831(f)(5))**
  6. Following the initial adjustment of the bag leak detection system, the permittee shall not adjust the sensitivity or range, averaging period, alarm set points or alarm delay time except as specified in the operation and maintenance plan, if applicable. This requirement does not apply if the permittee installs a COMS as specified in S.C. 8. **(40 CFR 63.7831(f)(6))**
  7. If the sensitivity of the bag leak detection system is changed beyond the limits established pursuant to 40 CFR 63.7831(f)(6), a copy of a written certification by a responsible official shall be included in the semiannual compliance report for that period, if applicable. This requirement does not apply if the permittee installs a COMS as specified in S.C. 8. **(40 CFR 63.7833(c)(2))**
  8. If permittee does not install and operate a bag leak detection system, the permittee shall install, operate, and maintain a COMS according to the requirements in 40CFR Sec. 63.7831(h) and monitor the hourly average opacity of emissions exiting each control device stack according to the requirements in 40 CFR 63.7832. **(40 CFR 63.7832)**

**TABLE F-01.03 BASIC OXYGEN FURNACE (BOF)/RELADLING SOUTH & NORTH BOF  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

9. The permittee shall monitor the pressure drop across each baghouse compartment daily to ensure that the pressure drop is within the normal operating range identified in the manual, if applicable. **(40 CFR 63.7830(b)(1))**
10. The permittee shall confirm that dust is being removed from hoppers on a weekly basis through visual observations or other means of determining the proper functioning of the removal mechanisms, if applicable. **(40 CFR 63.7830(b)(2))**
11. The permittee shall confirm that the compressed air supply to the pulse-jet baghouse is operating properly on a daily basis, if applicable. **(40 CFR 63.7830(b)(3))**
12. The permittee shall monitor the cleaning cycles of the baghouse to ensure proper operation using appropriate technology, if applicable. **(40 CFR 63.7830(b)(4))**
13. The permittee shall check the bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means, if applicable. **(40 CFR 63.7830(b)(5))**
14. The permittee shall inspect the baghouse to confirm the physical integrity of the baghouse through quarterly inspections of the interior of the baghouse for air leaks, if applicable. **(40 CFR 63.7830(b)(7))**
15. The permittee shall inspect fans for wear, material buildup, and corrosion on a quarterly basis using visual inspections, vibration detectors, or equivalent means, if applicable. **(40 CFR 63.7830(b)(8))**
16. The permittee shall monitor the process as required by this table, except during monitoring malfunctions, out-of-control periods, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments). **(40 CFR 63.7832(a))**
17. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used in data averages and calculations used to report emission or operating levels or to fulfill minimum data availability requirements. **(40 CFR 63.7832(b))**
18. The permittee shall obtain an analysis of the BOF baghouse dust once per calendar month during the 1<sup>st</sup> year after the modification of C blast furnace and quarterly thereafter, or less frequently if approved in writing by the Air Quality Division. The analysis shall determine the percentage of Pb, Hg, and Mn in the collected PM dust from the baghouse. The permittee shall submit an acceptable protocol for baghouse dust sampling and analysis methods to the Air Quality Division, at least 60 days prior the initial performance emission test. **(R336.1225, R336.1228, 40 CFR 52.21(d))**

**TABLE F-01.03 BASIC OXYGEN FURNACE (BOF)/RELADLING SOUTH & NORTH BOF  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

19. The permittee shall prepare, and operate at all times according to, a written operation and maintenance plan for the baghouse capture system. The plan shall address each of the following: **(40 CFR 63.7800(b))**
  - a. Weekly inspections of the equipment that is important to the performance of the total capture system, including, but not limited to, observations of the physical appearance of the equipment and requirements to repair any defect or deficiency in the capture system before the next scheduled inspection; **(R336.1301, R336.1364(1), 40 CFR 63.7800(b)(1))**
  - b. Operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system including, but not limited to, operating limit parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to, volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure. **(40 CFR 63.7800(b)(3))**
20. If applicable, the permittee shall monitor the hourly average actual volumetric flow rate through each separately ducted hood for each steel production cycle and the average total volumetric flow rate at the inlet to the baghouse for each steel production cycle according to the requirements in 40 CFR 63.7832. **(40 CFR 63.7830(a))**
21. If applicable, the permittee shall develop and make available for inspection upon request by AQD a site-specific monitoring plan that addresses all of the following requirements for the baghouse capture system: **(40 CFR 63.7831(a))**
  - a. Installation of the CPMS sampling probe or other interface at a measurement location relative to each hooded emission point such that the measurement is representative of capture of the exhaust emissions; **(40 CFR 63.7831(a)(1))**
  - b. Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system; **(40 CFR 63.7831(a)(2))**
  - c. Performance evaluation procedures and acceptance criteria; **(40 CFR 63.7831(a)(3))**
  - d. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1), (c)(3), (c)(4)(ii), (c)(7), and (c)(8); **(40 CFR 63.7831(a)(4))**
  - e. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d); and **(40 CFR 63.7831(a)(5))**
  - f. Ongoing recordkeeping and reporting procedures in accordance the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i). **(40 CFR 63.7831(a)(6))**

**TABLE F-01.03 BASIC OXYGEN FURNACE (BOF)/RELADLING SOUTH & NORTH BOF  
 EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

	<p>22. If applicable, the permittee shall operate and maintain the capture system CPMS in continuous operation according to the site-specific monitoring plan. Unless otherwise specified, the CPMS shall: <b>(40 CFR 63.7831(b))</b></p> <ul style="list-style-type: none"> <li>a. Complete a minimum of one cycle of operation for each successive 15-minute period and collect a minimum of three of the required four data points to constitute a valid hour of data; <b>(40 CFR 63.7831(b)(1))</b></li> <li>b. Provide valid hourly data for at least 95 percent of every averaging period; and <b>(40 CFR 63.7831(b)(2))</b></li> <li>c. Determine and record the hourly average of all recorded readings. <b>(40 CFR 63.7831(b)(3))</b></li> </ul> <p>23. The permittee shall operate the baghouse capture system at or above the lowest value or settings established for the operating limits in the operation and maintenance plan and collect, reduce, and record the monitoring data for each of the operating limit parameters. <b>(40 CFR 63.7833(b))</b></p>
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**B. TESTING/RECORDKEEPING**

<p><b>1. Parameter to be Tested/Recorded</b></p>	<ul style="list-style-type: none"> <li>1. Opacity</li> <li>2. PM</li> <li>3. PM-10</li> <li>4. NOx</li> <li>5. Mn</li> <li>6. Speciated Hg</li> <li>7. Pb</li> </ul>
<p><b>2. Method/Analysis</b></p>	<p>Approved method.</p>
<p><b>3. Frequency and Schedule of Testing/Recordkeeping</b></p>	<ul style="list-style-type: none"> <li>1. The permittee shall conduct a performance test to demonstrate initial compliance with the applicable emission and opacity limitations of 40 CFR Part 63, Subpart FFFFFF contained in this table within 180 days of startup of the baghouse. <b>(40 CFR 63.7820(a))</b></li> <li>2. Performance tests shall occur when the operations are at maximum routine operating conditions. <b>(R336.2003, 40 CFR 63.7822(g) &amp; (h))</b></li> <li>3. Permittee shall determine and record the starting and stopping times of the steel production cycle. <b>(40 CFR 63.7823(d)(5))</b></li> <li>4. The permittee shall maintain a copy of the current operation and maintenance plans required in this table onsite and available for inspection. <b>(40 CFR 63.7834(b))</b></li> </ul>

**TABLE F-01.03 BASIC OXYGEN FURNACE (BOF)/RELADLING SOUTH & NORTH BOF  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

5. The permittee shall maintain records of the time corrective action was initiated, the corrective action taken, and the date when corrective actions were completed in response to a bag leak detection system alarm, if applicable. **(40 CFR 63.7842(d) and 40 CFR 63.7833(c)(1))**
6. Within 60 days of achieving the maximum production rate, but not later than 180 days after commencement of trial operation, the permittee shall verify and quantify Mn, Pb, and speciated Hg emissions rates from the FGBOFSHOP (baghouse and ESP simultaneously) and the ratio of Mn, Pb, and Hg concentrations in both the ESP dust and the baghouse dust to the actual amount of Mn, Pb, and Hg emitted from the baghouse and ESP, by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R336.1225, R336.1228, R336.2001, R336.2003, R336.2004, 40 CFR 52.21(d))**
7. The permittee shall certify that the baghouse capture system operated during the performance test at the site-specific operating limits established in the operation and maintenance plan using the following procedures: **(40 CFR 63.7824(a))**
  - a. Concurrent with all opacity observations, measure and record values for each of the operating limit parameters in the capture system operation and maintenance plan according to the monitoring requirements specified in 40 CFR 63.7830(a). **(40 CFR 63.7824(a)(1))**
  - b. For any dampers that are manually set and remain at the same position at all times the capture system is operating, the damper position shall be visually checked and recorded at the beginning and end of each opacity observation period segment. **(40 CFR 63.7824(a)(2))**
  - c. Review and record the monitoring data and identify and explain any times the capture system operated outside the applicable operating limits. **(40 CFR 63.7824(a)(3))**
  - d. Certify in the performance test report that during all observation period segments, the capture system was operating at the values or settings established in the capture system operation and maintenance plan. **(40 CFR 63.7824(a)(4))**
8. The permittee may change the operating limits for the baghouse capture system if the following requirements are met: **(40 CFR 63.7824(d))**
  - a. Submit a written notification to the Administrator requesting to conduct a new performance test to revise the operating limit. **(40 CFR 63.7824(d)(1))**
  - b. Conduct a performance test to demonstrate compliance with the applicable operating limitation. **(40 CFR 63.7824(d)(2))**
  - c. Establish revised operating limits according to the applicable procedures in 40 CFR 63.7824, paragraphs (a) through (c) for a capture system. **(40 CFR 63.7824(d)(3))**

**TABLE F-01.03 BASIC OXYGEN FURNACE (BOF)/RELADLING SOUTH & NORTH BOF  
EMISSION UNIT/PROCESS GROUP REQUIREMENTS**

9. Within 180 days after commencement of trial operation, the permittee shall verify NOx, PM, and PM10 emission rates from the baghouse stack by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R336.1205(1)(a) & (b), R336.2001, R336.2003, R336.2004, 40 CFR 52.21(b)(3))**
10. Permittee shall conduct overlapping performance tests for particulate matter emissions from the BOF secondary baghouse and opacity from the BOF roof monitor at least once per permit term. **(40 CFR 63.7821)**

**IV. REPORTING**

**Reports and Schedules**

1. Permittee shall report the results of the initial performance test in the notification of compliance status. **(40 CFR 63.7820(a), 40 CFR 63.7825(c) and 40 CFR 63.7840(e))**
2. Permittee shall submit a notification of intent to perform any performance testing under 40 CFR Part 63, Subpart FFFFF at least 60 calendar days before testing is to begin. **(40 CFR 63.7840(d))**
3. Any time an action taken by the permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) is not consistent with the procedures in the startup, shutdown, and malfunction plan, the permittee shall comply with all requirements of 63.10(d)(5)(ii). **(40 CFR Part 63.7841(c))**

**V. OPERATIONAL PARAMETERS**

1. The permittee shall install a baghouse dust collector for BOF secondary emissions according to the following schedule:
  - a. Complete construction and place in operation by January 31, 2008, or startup of enhanced C-FCE, whichever is sooner. **(R336.1205(1)(a) & (b), 40 CFR 52.21(b)(3))**
2. After completion of C-FCE modification, the permittee shall not operate the Basic Oxygen Furnace or the Reladling South Operation unless the baghouse secondary emission dust collector is installed, maintained, and operated in a satisfactory manner. **(R336.1205(1)(a) & (b), R336.1225, R336.1331(c), R336.1910, 40 CFR 52.21(b)(3))**
3. The permittee shall keep on file a copy of the BOF secondary baghouse capture system design plans and a signed certification from the designer, certifying that the baghouse capture system is designed to achieve no less than 98% collection efficiency for both the BOF secondary emissions and the reladling south emissions. These design plans shall include a range of BOF vessel angles to achieve optimum emission capture. **(R336.1205(1)(a) & (b), 40 CFR 52.21(b)(3))**

**VI. OTHER REQUIREMENTS**

1. Records required under 40 CFR Part 63, Subpart FFFFF and specified in this table shall be retained for five years. The records must be maintained onsite for the two most recent years of the five year period. Records from the remaining three years of the five year period may be keep offsite. **(40 CFR 63.7843(b) and (c))**

<b>TABLE F-01.04 SLAB REHEAT FURNACES 1, 2 &amp; 3 AT HOT STRIP MILL BUILDING FLEXIBLE GROUPING REQUIREMENTS</b>					
<b>FLEXIBLE GROUPING</b>	FGSREHEATFURNACE123				
<b>Emission Unit / Process Group</b>	EUSREHEATFURNACE1, EUSREHEATFURNACE2, EUSREHEATFURNACE3				
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>	NA				
<b>B. Stack/Vent Parameters</b>	NA				
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
NA	NA	NA	NA	NA	NA
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>	<b>Maximum Usage Rate</b>				
NA	NA				
<b>B. Pollutant</b>	<b>Maximum Emission Limit</b>				
Opacity	20% <b>(R336.1301)</b>				
Nitrogen Oxide	1. 0.11 lb/mmBTU <b>(R336.1205(1)(a) &amp; (b), R336.1801(4))</b>				
PM	1. 10 lb/MMscf natural gas fired. <b>(40 CFR 52.21(b)(3), R336.1331(c))</b>				
PM10	1. 10 lb/MMscf natural gas fired. <b>(R336.1205(1)(a) &amp; (b))</b>				
<b>III. COMPLIANCE EVALUATION</b>					
<b>Records of all of the following shall be maintained on file for a period of 5 years.</b>					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>	NA				
<b>2. Process Monitoring System and Recordkeeping</b>	The permittee shall keep a record of the following for furnaces 1, 2, and 3: 1. Total natural gas consumption per month. <b>(R336.1205(1)(a) &amp; (b))</b>				
<b>3. Other Monitoring and/or Recordkeeping</b>	NA				
<b>B. TESTING/RECORDKEEPING</b>					
<b>1. Parameter to be Tested/Recorded</b>	1. Opacity 2. NOx 3. PM 4. PM-10				
<b>2. Method/Analysis</b>	Approved method				

**TABLE F-01.04 SLAB REHEAT FURNACES 1, 2 & 3 AT HOT STRIP MILL BUILDING  
FLEXIBLE GROUPING REQUIREMENTS**

**3. Frequency and Schedule of  
Testing/Recordkeeping**

1. Within 180 days after commencement of trial operation, the permittee shall verify NOx, PM, and PM-10 emission rates from a representative furnace from Slab reheat furnaces 1, 2, and 3 by testing at owner's expense, in accordance with Department requirements. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. (R336.1205(1)(a) & (b), R336.1331, R336.2001, R336.2003, R336.2004, 40 CFR 52.21(b)(3))

**IV. REPORTING**

**Reports and Schedules** NA

**V. OPERATIONAL PARAMETERS**

1.

**VI. OTHER REQUIREMENTS**

NA

<b>TABLE F-01.05 FGFACILITY FLEXIBLE GROUPING REQUIREMENTS</b>					
<b>FLEXIBLE GROUPING</b>		FGFACILITY			
<b>Emission Unit / Process Group</b>		All equipment at the stationary source including equipment covered by other permits, grandfathered equipment and exempt equipment.			
<b>I. DESIGN PARAMETERS</b>					
<b>A. Pollution Control Equipment</b>		NA			
<b>B. Stack/Vent Parameters</b>		NA			
<b>Stack/Vent ID</b>	<b>a. Minimum Height (feet)</b>	<b>b. Maximum Exhaust Dimension (inches)</b>	<b>c. Temp. (°F)</b>	<b>d. Air Flow Rate (acfm)</b>	<b>Applicable Requirement</b>
NA	NA	NA	NA	NA	NA
<b>C. Other Design Parameters</b>					
NA					
<b>II. MATERIAL USAGE/EMISSION LIMITS</b>					
<b>A. Material</b>		<b>Maximum Usage Rate</b>			
NA		NA			
<b>B. Pollutant</b>		<b>Maximum Emission Limit</b>			
NA		NA			
<b>III. COMPLIANCE EVALUATION</b>					
Records of all of the following shall be maintained on file for a period of 5 years.					
<b>A. MONITORING/RECORDKEEPING</b>					
<b>1. Continuous Emission Monitoring (CEM) System and Recordkeeping</b>		NA			
<b>2. Process Monitoring System and Recordkeeping</b>		NA			
<b>3. Other Monitoring and/or Recordkeeping</b>		NA			
<b>B. TESTING/RECORDKEEPING</b>					
<b>1. Parameter to be Tested/Recorded</b>		NA			
<b>2. Method/Analysis</b>		NA			
<b>3. Frequency and Schedule of Testing/Recordkeeping</b>		NA			
<b>IV. REPORTING</b>					
<b>Reports and Schedules</b>		NA			
<b>V. OPERATIONAL PARAMETERS</b>					
NA					
<b>VI. OTHER REQUIREMENTS</b>					
This Permit to Install shall become effective on May 22, 2007, unless the permittee files a timely request for review with the Administrator of the United States Environmental Protection Agency pursuant to 40 CFR 124.15 and 124.19. <b>(40 CFR 124.15 and 124.19)</b>					

### **Appendix 1.3. Monitoring Requirements**

#### **1.3.1 SO<sub>2</sub> Monitoring Continuous Emission Monitoring System (CEMS) Requirements**

1. Within 60 calendar days of the issuance of this permit, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required CEMS.
2. Within 150 calendar days of the issuance of this permit, the permittee shall submit two copies of a complete test plan for the CEMS to the AQD for approval.
3. Prior to restarting the blast furnace after completion of the CFCE modification, the permittee shall complete the installation of the CEMS and complete testing within 180 days of restarting the blast furnace.
4. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS complies with the requirements of Performance Specification (PS) 2.
5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.
6. The CEMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 2 of Appendix B, 40 CFR Part 60.
7. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR Part 60. Within 30 days following the end of each calendar quarter, the permittee shall submit the results to the AQD in the format of the data assessment report (Figure 1, Appendix F)
8. In accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and summary report in an acceptable format to the AQD, within 30 days following the end of each calendar quarter. The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:
  - a) A report of each exceedance above the limits specified in the conditions of this permit. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
  - b) A report of all periods of CEMS downtime and corrective action.
  - c) A report of the total operating time of the EUCFCESTOVE during the reporting period.
  - d) A report of any periods that the CEMS exceeds the instrument range.
  - e) If no exceedances or CEMS downtime occurred during the reporting period, the permittee shall report that fact.

All monitoring data shall be kept on file for a period of at least five years and made available to the AQD upon request.

### 1.3.2 Continuous Opacity Monitoring System (COMS) Requirements

1. Within 30 calendar days of the issuance of this permit, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval.
2. Within 150 calendar days of the issuance of this permit, the permittee shall submit two copies of a complete test plan for the COMS to the AQD for approval.
3. Within 180 calendar days of the issuance of this permit, the permittee shall complete the testing of the COMS.
4. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the COMS complies with the requirements of Performance Specification (PS) 1.
5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.
6. The COMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 1 of Appendix B, 40 CFR Part 60.
7. The permittee shall perform an annual audit of the COMS using the procedures set forth in USEPA Publication 450/4-92-010, "Performance Audits Procedures for Opacity Monitors", or a procedure acceptable to AQD. Within 30 days after the completion of the audit, the results of the annual audit shall be submitted to the AQD.
8. In accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and summary report in an acceptable format to Air Quality Division, within 30 days following the end of each calendar quarter. The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:
  - a) A report of each exceedance above the hourly average limits as specified in the MACT regulations, Section 63.7833(e) and (g). This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
  - b) A report of all periods of COMS downtime and corrective action.
  - c) A report of the total operating time of the EUBOF during the reporting period.
  - d) If no exceedances or COMS downtime occurred during the reporting period, the permittee shall report that fact.
9. Within 180 days of permit issuance, Severstal shall do the following: for each day that the ESP opacity monitor indicates a one hour average opacity above 10%, Severstal shall keep records of the total power input (voltage and secondary current) of the ESP fields and verify that the water flow to the evaporation chamber is within standard operating levels. For each day that the ESP opacity monitor indicates a one hour average opacity above 10%: if the total power input of the ESP fields exceeds 90% of the established baseline value, and water flow to the evaporation chamber is within standard operational levels, no further investigation of the cause of the exceedance is required. If the total power input of the ESP fields is less than 90% of the established baseline, or if the total power input of the ESP fields exceeds 90% of the established baseline value and water flow to the evaporation chamber is below standard operational levels, Severstal will initiate an investigation as to the cause of the exceedance. This investigation may include such factors as the reason for the lower total power input, the potential for condensation in the exhaust stack causing a false opacity exceedance (by checking parameters which may include the temperature of the exhaust gas at the COMS, the rate of water to the evaporation chamber, outside ambient temperature, operating stage of EUBOF) and performing method 9 opacity observations of the ESP stack. The ESP total power input baseline and standard operational evaporation

chamber water input shall be established within 90 days of permit issuance. Upon approval by the MDEQ District Office, Severstal may change the parameter used to establish a baseline value, establish a new baseline value, and/or use a different trigger percentage of the baseline value to initiate the corrective actions described in this paragraph.

All monitoring data is shall be kept on file for a period of at least five years and made available to the AQD upon request.

## Appendix 1.7. Emission Calculations

**Any changes proposed to this Appendix shall be submitted to the AQD Southeast Michigan District Office and approved, in writing, before the change is implemented.**

**The permittee shall use the following calculations to determine compliance with the recordkeeping requirements referenced in Table E-01.03 (B-FCE Stoves):**

**NO<sub>x</sub> Monthly Stove emissions** =  $BFG_{BM} \times NO_x \text{ Test Factor (pound NO}_x \text{ per mmcf of BFG)} / 2,000 \text{ lb/ton}$

**NO<sub>x</sub> Annual Stove emissions** =  $BFG_{BA} \times NO_x \text{ Test Factor (pound NO}_x \text{ per mmcf of BFG)} / 2,000 \text{ lb/ton}$

**CO Hourly Stove emissions** =  $BFG_{BD} \times CO \text{ Test Factor (pound CO per mmcf of BFG)} / 24 \text{ hours}$

Where:

NO<sub>x</sub> Test Factor is an emission factor based upon site specific stack test data for B-FCE and the CO Test Factor is an emission factor based upon available site specific stack test data for C-FCE. Permit data will also be evaluated in determining the appropriateness of these factors.

$BFG_{BD}$  = actual total Blast Furnace Gas combustion rate on a daily basis, based on a calendar week average, in mmcf BFG for B-FCE.

$BFG_{BM}$  = actual total Blast Furnace Gas combustion rate for the previous month in mmcf BFG for B-FCE.

$BFG_{BA}$  = actual total Blast Furnace Gas combustion rate for the previous 12-month rolling time period in mmcf BFG for B-FCE.

**The permittee shall use the following calculations to determine compliance with the recordkeeping requirements referenced in Table E-01.04 (C-FCE Casthouse):**

**SO<sub>2</sub> Monthly emissions from baghouse** =  $CR_{CM} \times SO_2 \text{ Test Factor (pound SO}_2 \text{ per ton of iron)} / 2,000 \text{ lb/ton}$

**SO<sub>2</sub> Annual emissions from baghouse** =  $CR_{CA} \times SO_2 \text{ Test Factor (pound SO}_2 \text{ per ton of iron)} / 2,000 \text{ lb/ton}$

**NO<sub>x</sub> Monthly emissions from baghouse** =  $CR_{CM} \times NO_x \text{ Test Factor (pound NO}_x \text{ per ton of iron)} / 2,000 \text{ lb/ton}$

**NO<sub>x</sub> Annual emissions from baghouse** =  $CR_{CA} \times NO_x \text{ Test Factor (pound NO}_x \text{ per ton of iron)} / 2,000 \text{ lb/ton}$

Where:

SO<sub>2</sub> and NO<sub>x</sub> Test Factors are emission factors based upon site specific stack test data for C-FCE Casthouse Baghouse. Permit data will also be evaluated in determining the appropriateness of these factors.

$CR_{CM}$  = actual casting rate for the previous month in tons of iron for C-FCE.

$CR_{CA}$  = actual casting rate for the previous 12-month rolling time period in tons of iron for C-FCE.

**The permittee shall use the following calculations to determine compliance with the recordkeeping requirements referenced in Table E-01.05 (C-FCE Stoves):**

**NO<sub>x</sub>** Monthly Stove emissions =  $BFG_{CM} \times NO_x \text{ Test Factor (pound NO}_x \text{ per mmcf of BFG)} / 2,000 \text{ lb/ton}$

**NO<sub>x</sub>** Annual Stove emissions =  $BFG_{CA} \times NO_x \text{ Test Factor (pound NO}_x \text{ per mmcf of BFG)} / 2,000 \text{ lb/ton}$

**CO** Monthly Stove emissions =  $BFG_{CM} \times CO \text{ Test Factor (pound CO per mmcf of BFG)} / 2,000 \text{ lb/ton}$

**CO** Annual Stove emissions =  $BFG_{CA} \times CO \text{ Test Factor (pound CO per mmcf of BFG)} / 2,000 \text{ lb/ton}$

Where:

NO<sub>x</sub> and CO Test Factors are emission factors based upon site specific stack test data for C-FCE. Permit data will also be evaluated in determining the appropriateness of these factors.

$BFG_{CM}$  = actual total Blast Furnace Gas combustion rate for the previous month in mmcf BFG for C-FCE.

$BFG_{CA}$  = actual total Blast Furnace Gas combustion rate for the previous 12-month rolling time period in mmcf BFG for C-FCE.

**The permittee shall use the following calculations to determine compliance with the recordkeeping requirements referenced in Table E-01.06 (Reladling – BOF):**

**PM** roof monitor Annual emissions =  $RLD \times 0.0038 \text{ pound PM per ton of iron} / 2,000 \text{ lb/ton}$

**PM-10** roof monitor Annual emissions =  $RLD \times 0.0019 \text{ pound PM-10 per ton of iron} / 2,000 \text{ lb/ton}$

Where:

RLD = actual throughput for the previous 12-month rolling time period in tons of iron for reladling operations.

**The permittee shall use the following calculations to determine compliance with the recordkeeping requirements referenced in Table E-01.07 (Desulfurization Operation):**

**PM** roof monitor Annual emissions =  $DSF \times 0.0218 \text{ pound PM per ton of iron} / 2,000 \text{ lb/ton}$

**PM-10** roof monitor Annual emissions =  $DSF \times 0.0041 \text{ pound PM-10 per ton of iron} / 2,000 \text{ lb/ton}$

Where:

DSF = actual throughput for the previous 12-month rolling time period in tons of iron for desulfurization operations.

**The permittee shall use the following calculations to determine compliance with the recordkeeping requirements referenced in Table E-01.08 (EUBOF):**

**PM** roof monitor Annual emissions =  $BOF_C \times 0.006$  pound PM per ton metal charged +  $BOF_S \times 0.0026$  pound PM per ton slag tapped +  $BOF_T \times 0.0026$  pound PM per ton steel tapped / 2,000 lb/ton

**PM-10** roof monitor Annual emissions =  $BOF_C \times 0.00276$  pound PM-10 per ton metal charged +  $BOF_S \times 0.0012$  pound PM-10 per ton slag tapped +  $BOF_T \times 0.0012$  pound PM-10 per ton steel tapped / 2,000 lb/ton

Where:

$BOF_C$  = actual charging rate for the previous 12-month rolling time period in tons of metal for the BOF.

$BOF_S$  = actual tapping rate for the previous 12-month rolling time period in tons of slag for the BOF.

$BOF_T$  = actual tapping rate for the previous 12-month rolling time period in tons of steel for the BOF.

**The permittee shall use the following calculations to determine compliance with the recordkeeping requirements referenced in Table F-01.01 (FG B&C Furnace Casthouses):**

**PM** Roof Monitor emissions =  $CR_{TA} \times 0.012$  pound PM per ton of iron / 2,000 lb/ton

**PM-10** Roof Monitor emissions =  $CR_{TA} \times 0.0061$  pound PM-10 per ton of iron / 2,000 lb/ton

**Manganese** Roof Monitor emissions =  $CR_{TD} \times 0.000011$  pound manganese per ton of iron / 24 hours

**Lead** Roof Monitor emissions =  $CR_{TA} \times 0.00000016$  pound lead per ton of iron / 8760 hours per 12-month rolling time period

**SO2** Hourly baghouse emissions =  $CR_{TD} \times SO_2$  Test Factor (in pound SO<sub>2</sub> per ton of iron) / 24 hours

**SO2** Monthly baghouse emissions =  $CR_{TM} \times SO_2$  Test Factor (pound SO<sub>2</sub> per ton of iron) / 2,000 lb/ton

**SO2** Annual baghouse emissions =  $CR_{TA} \times SO_2$  Test Factor (pound SO<sub>2</sub> per ton of iron) / 2,000 lb/ton

**NOx** Hourly baghouse emissions =  $CR_{TD} \times NO_x$  Test Factor (in pound NO<sub>x</sub> per ton of iron) / 24 hours

**NOx** Monthly baghouse emissions =  $CR_{TM} \times NO_x$  Test Factor (pound NO<sub>x</sub> per ton of iron) / 2,000 lb/ton

**NOx** Annual baghouse emissions =  $CR_{TA} \times NO_x$  Test Factor (pound NO<sub>x</sub> per ton of iron) / 2,000 lb/ton

**VOC** Hourly baghouse emissions =  $CR_{TD} \times VOC$  Test Factor (in pound VOC per ton of iron) / 24 hours

**Manganese** baghouse emissions =  $CR_{TD} \times Mn$  Test Factor (in pound manganese per ton of iron) / 24 hours

**Lead** baghouse emissions =  $CR_{TA} \times \text{Pb Test Factor (in pound lead per ton of iron)} / 8760 \text{ hours per 12-month rolling time period}$

Where:

SO<sub>2</sub>, NO<sub>x</sub>, VOC, Mn and Pb Test Factors are the casthouse baghouse emission factors based upon available site specific stack test data for the C-FCE Casthouse Baghouse. Permit data will also be evaluated in determining the appropriateness of these factors.

$CR_{TD}$  = actual total casting rate on a daily basis, based on a calendar week average, in tons of iron for B-FCE and C-FCE combined.

$CR_{TM}$  = actual total casting rate for the previous month in tons of iron for B-FCE and C-FCE combined.

$CR_{TA}$  = actual total casting rate for the previous 12-month rolling time period in tons of iron for B-FCE and C-FCE combined.

**The permittee shall use the following calculations to determine compliance with the recordkeeping requirements referenced in Table F-01.02 (FG B&C Furnace Stoves - except SO<sub>2</sub>):**

**NO<sub>x</sub>** Annual Stove emissions =  $[(BFG_{BA} \times \text{B-FCE NO}_x \text{ Test Factor (lb NO}_x \text{ per mmcf of BFG)}) + (BFG_{CA} \times \text{C-FCE NO}_x \text{ Test Factor (lb NO}_x \text{ per mmcf of BFG)})] / 2,000 \text{ lb/ton}$

**CO** Annual Stove emissions =  $BFG_{TA} \times \text{CO Test Factor (pound CO per mmcf of BFG)} / 2,000 \text{ lb/ton}$

**PM** Hourly Stove emissions =  $BFG_{TD} \times \text{PM Test Factor (in pound PM per mmcf of BFG)} / 24 \text{ hours}$

**PM-10** Hourly Stove emissions =  $BFG_{TD} \times \text{PM10 Test Factor (in pound PM10 per mmcf of BFG)} / 24 \text{ hours}$

**Manganese** Hourly Stove emissions =  $BFG_{TD} \times \text{Mn Test Factor (in pound Mn mmcf BFG)} / 24 \text{ hours}$

**Mercury** Hourly Stove emissions =  $BFG_{TA} \times \text{Hg Test Factor (in pound mercury per mmcf BFG)} / 8760 \text{ hours per 12-month rolling time period}$

**Lead** Hourly Stove emissions =  $BFG_{TA} \times \text{Pb Test Factor (in pound Pb per mmcf BFG)} / 8760 \text{ hours per 12-month rolling time period}$

Where:

NO<sub>x</sub> Test Factors are individual stove emission factors based on B-FCE and C-FCE stack test results.

CO, PM, PM-10, Mn, Pb, and Hg Test Factors are emission factors based upon available site specific stack test data for C-FCE. Permit data will also be evaluated in determining the appropriateness of these factors.

$BFG_{BA}$  = actual total Blast Furnace Gas combustion rate for the previous 12-month rolling time period in mmcf BFG for B-FCE.

$BFG_{CA}$  = actual total Blast Furnace Gas combustion rate for the previous 12-month rolling time period in mmcf BFG for C-FCE.

$BFG_{TD}$  = actual total Blast Furnace Gas combustion rate on a daily basis, based on a calendar week average, in mmcf BFG for B-FCE and C-FCE combined.

$BFG_{TM}$  = actual total Blast Furnace Gas combustion rate for the previous month in mmcf BFG for B-FCE and C-FCE combined.

$BFG_{TA}$  = actual total Blast Furnace Gas combustion rate for the previous 12-month rolling time period in mmcf BFG for B-FCE and C-FCE combined.

**The permittee shall use the following calculations to determine compliance with the recordkeeping requirements referenced in Table F-01.02 (FG B&C Furnace Stoves - for SO<sub>2</sub> emissions):**

**SO<sub>2</sub> Hourly** Stove emissions =  $BFG_{TD} \times SO_2$  Daily Emission Factor / 24 hours

**SO<sub>2</sub> Annual** Stove emissions =  $\sum_{i=1}^{n=365} (BFG_{TD} \times SO_2 \text{ Daily Emission Factor}) / 2,000 \text{ lb/ton}$

Where:

$BFG_{TD}$  = actual daily total of BFG (in mmcf) combusted in B-FCE and C-FCE combined

SO<sub>2</sub> Daily Emission Factor = SO<sub>2</sub> Emission Factor derived on a daily basis from the SO<sub>2</sub> CEMS data provided by the SO<sub>2</sub> CEMS on the C-FCE stoves.

The factor will be in pound SO<sub>2</sub> per mmcf BFG and will be calculated either directly by the CEMS or by taking the daily pounds of SO<sub>2</sub> from C-FCE stoves (from the CEMS) and dividing this by the amount of BFG (in mmcf) combusted in C-FCE in the same day.