MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

May 12, 2014

PERMIT TO INSTALL
182-05C

ISSUED TO
Severstal Dearborn, Inc.

LOCATED AT
4001 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: **December 19, 2013**	
DATE PERMIT TO INSTALL APPROVED: **May 12, 2014**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL
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Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
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_2S	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	ng	Nanogram
MAP	Malfunction Abatement Plan	NO_x	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality (Department)	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM10	PM less than or equal to 10 microns diameter
MSDS	Material Safety Data Sheet	PM2.5	PM less than or equal 2.5 microns diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pound per hour
NSPS	New Source Performance Standards	ppm	Parts per million
NSR	New Source Review	ppmv	Parts per million by volume
PS	Performance Specification	ppmw	Parts per million by weight
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonably Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO_2	Sulfur Dioxide
SC	Special Condition	THC	Total Hydrocarbons
SCR	Selective Catalytic Reduction	tpy	Tons per year
SRN	State Registration Number	µg	Microgram
TAC	Toxic Air Contaminant	VOC	Volatile Organic Compounds
TEQ	Toxicity Equivalence Quotient	yr	Year
VE	Visible Emissions		

* 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. **(R 336.1201(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 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(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 R 336.1210, 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. **(R 336.1201(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. **(R 336.1201(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 R 336.1219 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 R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**

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. **(R 336.1901)**

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). **(R 336.1912)**

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 R 336.1301, 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 R 336.1303. **(R 336.1301)**
    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 R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date/ Modification Date	Flexible Group ID
EUCOALHANDLING	Pulverized coal silo with two bin vent filters. Stack ID: NA	1-1-2008	NA
EUCOKESCRNBLDGDD	Coke screening building DD. Stack ID: SVCOKESCRNBLD	1-1-1950	NA
EUBFURNACE	This emission unit consists of the "B" Blast Furnace proper, a group of 4 stoves with a common stack, the cast house emission control system (collection hoods followed by a baghouse and stack), a blast furnace gas scrubber and dust collector for removal of particulate from blast furnace gas generated by the "B" Blast Furnace, semi-clean bleeder, and a dirty gas bleeder. Stack ID: SVBFSTOVE SVBFBH	1-1-1922	FGB&CFURNACES
EUCFURNACE	This emission unit consists of the "C" Blast Furnace proper, a group of 4 stoves with a common stack, the cast house emission control system (collection hoods followed by a baghouse and stack), a blast furnace gas scrubber and dust collector for removal of particulate from blast furnace gas generated by the "C" Blast Furnace, semi-clean bleeder, and two dirty gas bleeders. Stack ID: SVCFSTOVE SVCFBH	1-1-1948/ 10-01-2007	FGB&CFURNACES
EURELADLINGBOF	Reladling south and north - controlled by a movable hood and secondary baghouse. Stack ID: SVBOFBH	1-1-75	FGBOFSHOP
EUBOFDESULF	Desulfurization operation using lime and magnesium to remove sulfur and skimming of slag into a slag pot, all controlled by a movable hood to a baghouse. Stack ID: SVDESULFBH.	1-1-81	NA
EUDESULFWATERSTN	BOF desulfurization by-product material "desulf" watering station located at the south end of the BOF building. Levy digs the byproduct material with a front-end loader, and brings it to an open area for cooling and fugitive dust control using water spray. After thorough cooling, Levy loads the materials into trucks for processing off site. Stack ID: NA	4-17-95	NA

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date/ Modification Date	Flexible Group ID
EUBOF	Basic oxygen furnace (BOF) including charging, oxygen blowing, tapping and slag tapping. 2 vessels controlled by an electrostatic precipitator and a secondary emissions baghouse. Stack ID: SVBOFESP, SVBOFBH	1-1-64	FGBOFSHOP
EULADLEREFINE1	No. 1 Ladle refining facility controlled by a baghouse Stack ID: SVLADELREFINE1	1-1-90	NA
EULADLEREFINE2	No. 2 Ladle refining facility controlled by a baghouse. Stack ID: SVLADELREFINE2	1-1-95	NA
EUANNEALFURNACES	There are 52 annealing furnaces (composed of 34 hydrogen nitrogen annealing furnaces and 18 hydrogen annealing furnaces) located in the Cold Mill Building. Stack ID: NA	Hydrogen Nitrogen Annealing Furnaces 1935-1972 Hydrogen Annealing Furnaces 1988-1993	FGANNEALFURNACES
EUREHEATFURN1	Slab reheat furnace 1 located in the Hot Strip Mill Building Stack ID: SVHSMREHEAT1-S SVHSMREHEAT1-N	1-1-79	FGHSMFURNACES123
EUREHEATFURN2	Slab reheat furnace 2 located in the Hot Strip Mill Building Stack ID: SVHSMREHEAT2-S SVHSMREHEAT2-N	1-1-74	FGHSMFURNACES123
EUREHEATFURN3	Slab reheat furnace 3 located in the Hot Strip Mill Building Stack ID: SVHSMREHEAT3-S SVHSMREHEAT3-N	1-1-74	FGHSMFURNACES123
EU-ENGCBFTC	A 530 horsepower (hp) natural gas fired emergency engine manufactured in March 2007. Location: C BF Tuyere Cooling. This engine is subject to MACT ZZZZ. Stack ID: SV-ENGCBFTC	2007	FG-ENG2007>500
EU-ENGCBFHS	An 800 horsepower (hp) natural gas fired emergency engine manufactured in July 2007. Location: C BF Hearth/Stave Cooling. This engine is subject to MACT ZZZZ. Stack ID: SV-ENGCBFHS	2007	FG-ENG2007>500
EU-ENGCBFBS	A 250 horsepower (hp) natural gas fired emergency engine manufactured in May 2007. Location: C BF Bosh/Stave Cooling. This engine is subject to MACT ZZZZ. Stack ID: SV-ENGCBFBS	2007	FG-ENG2007<500

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date/ Modification Date	Flexible Group ID
EU-ENGWSAC	A 250 horsepower (hp) natural gas fired emergency engine manufactured in March 2007. Location: WSAC Spray Tower. This engine is subject to MACT ZZZZ. Stack ID: SV-ENGWSAC	2007	FG-ENG2007<500
EU-ENGCBFDM	A 145 horsepower (hp) natural gas fired emergency engine manufactured in May 2007. Location: C BF Drill & Mud Gun. This engine is subject to MACT ZZZZ. Stack ID: SV-ENGCBFDM	2007	FG-ENG2007<500
EU-ENGCBFGS	A 95 horsepower (hp) natural gas fired emergency engine manufactured in February 2007. Location: C BF Gas Scrubber Engine. This engine is subject to MACT ZZZZ. Stack ID: SV-ENGCBFGS	2007	FG-ENG2007<500
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.			

The following conditions apply to:
EUCOALHANDLING

DESCRIPTION: Pulverized coal silo

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: Two bin vent filters

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible Emissions	10% opacity	6-minute average	EUCOALHANDLING	SC VI.1 SC VI.2	R 336.1301(1)(c)
2. PM	0.005 gr/dscf	Test Protocol*	EUCOALHANDLING	GC 13	R 336.1205(1)(a) & (b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
3. PM10	0.005 gr/dscf	Test Protocol*	EUCOALHANDLING	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
4. PM2.5	0.005 gr/dscf	Test Protocol*	EUCOALHANDLING	GC 13	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
*Test Protocol specifies averaging time					

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EUCOALHANDLING unless both bin vent filters are installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1301(c), R 336.1331(1)(c), R 336.2801(ee), R 336.2802(4), R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall perform a Method 9 certified visible emission observation of each bin vent filter 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. **(R 336.1301(1)(c), R 336.1910)**

2. Permittee shall periodically inspect each bin vent filter to determine the operational and physical condition of each bin vent filter at least semiannually, and immediately after observing visible emissions in excess of the applicable limitation. Each bin vent filter shall be inspected as necessary immediately after a malfunction or failure of the bin vent filter 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. **(R 336.1301(1)(c), R 336.1910)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

The following conditions apply to:
EUCOKESCRNBLDGDD

DESCRIPTION Coke screening building DD

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT Baghouse

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Visible Emissions	5%	6-minute average	EUCOKESCRNBLDGDD	SC VI.1	R336.1301(1)(c)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate the EUCOKESCRNBLDGDD unless the baghouse is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1301(1)(c), R 336.1331(1)(c), R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years.

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years.

1. The permittee shall conduct visible emission readings by a certified Method 9 observer of visible emissions from the coke screening building baghouse stack at least once a month during coke screening activities. 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. **(R 336.1301(1)(c), R 336.1910)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVCOKESCRNBLD	36	82	R 336.1225 R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The Coke Screening Building DD shall be evacuated through a baghouse. **(SIP No. 30-1993, Exhibit A, Section 5(B), Paragraphs (1) and (2))**

2. All coke handling conveyors shall be totally enclosed or covered with a 180 degree cover. **(SIP No. 30-1993, Exhibit A, Section 5(F), Paragraph (1))**

The following conditions apply to:
EUBFURNACE

DESCRIPTION: This emission unit consists of the "B" Blast Furnace proper, a group of 4 stoves with a common stack, the cast house emission control system (collection hoods followed by a baghouse and stack), a blast furnace gas scrubber and dust collector for removal of particulate from blast furnace gas generated by the "B" Blast Furnace, semi-clean bleeder, and a dirty gas bleeder.

Flexible Group ID: FGB&CFURNACES

POLLUTION CONTROL EQUIPMENT: B Blast furnace is controlled by a baghouse. Stoves have Low-NOx technology; mechanical collector and venturi scrubber for blast furnace gas pre-cleaning.

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible Emissions	10% Opacity	6-minute average	EUBFURNACE Baghouse stack	SC V.8 SC VI.2	R 336.1361
2. Visible Emissions	20% Opacity	6-minute average	EUBFURNACE Secondary emissions exiting any opening	SC V.1 SC V.2 SC V.4 SC V.6	40 CFR 63.7790(a)
3. Visible Emissions	20% Opacity	6-minute average	EUBFURNACE Roof monitors	SC V.8 SC VI.3	R 336.1358
4. PM	0.003 gr/dscf	Test Protocol*	EUBFURNACE Baghouse stack	SC V.8	R 336.1331(1)(c) R 336.2802(4) 40 CFR 52.21 (a)(2)
5. PM	0.01 gr/dscf	Test Protocol*	EUBFURNACE Baghouse stack	SC V.1 SC V.2 SC V.4	40 CFR 63.7790(a)
6. PM	6.1 pph	Test Protocol*	EUBFURNACE Baghouse stack	SC V.8	R 336.1205(1)(a) & (b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
7. PM	3.0 pph	Test Protocol*	EUBFURNACE Stove stack	SC V.9	R 336.1205(1)(a) & (b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
8. PM10	7.6 pph	Test Protocol*	EUBFURNACE Baghouse stack	SC V.8	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
9. PM10	8.13 pph	Test Protocol*	EUBFURNACE Stove stack	SC V.9	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
10. PM2.5	7.6 pph	Test Protocol*	EUBFURNACE Baghouse stack	SC V.8	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
11. PM2.5	8.13 pph	Test Protocol*	EUBFURNACE Stove stack	SC V.9	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
12. SO_2	71.9 pph	Calendar day average	EUBFURNACE Baghouse stack	SC VI.6	R 336.2803, R 336.2804
13. SO_2	38.75 pph	Calendar day average	EUBFURNACE Stove stack	SC VI.6	R 336.2803 R 336.2804 R 336.2810
14. SO_2	77.8 pph	Calendar day average	EUBFURNACE (baghouse and stove stacks combined)	VI.6	R 336.2803, R 336.2804
15. SO_2	340 tpy	12-month rolling time period as determined at the end of each calendar month	EUBFURNACE (baghouse and stove stacks combined)	SC VI.29	R 336.2801(ee) R 336.2803, R 336.2804
16. CO	705 pph	Test Protocol*	EUBFURNACE Stove stack	SC V.9	R 336.2804
17. NOx	2.65 pph	Test Protocol*	EUBFURNACE Baghouse stack	SC V.8	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
18. NOx	36.0 pph	Test Protocol*	EUBFURNACE Stove stack	SC V.9	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803 R 336.2804
19. Mn	0.005 pph [1]	Test Protocol*	EUBFURNACE Stove stack	SC V.9	R 336.1225
*Test protocol specifies averaging time					

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Iron Production	3,200 tons per day	Calendar Day	EUBFURNACE	SC VI.25	R 336.1225 R 336.2803, R 336.2804
2. Natural Gas	40.2 MMSCF per year	12-month rolling time period basis as determined at the end of each calendar month	EUBFURNACE Limited natural gas suppression system	SC VI.26	R 336.1205(1)(a)&(b) R 336.1225 R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The EUBFURNACE shall be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions. **(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 EUBFURNACE. The plan shall include proper operating procedures to minimize bleeder emissions. **(R 336.1911, 40 CFR 63.7810(c), 40 CFR 63.7835(b) and 40 CFR 63.6(e)(3))**

3. The permittee shall not operate the stoves in EUBFURNACE unless a malfunction abatement plan (MAP) as described in Rule 911(2) has been submitted to the AQD District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. **(R 336.1911, R 336.1912, R 336.2802)**

4. The permittee shall develop site-specific monitoring plans for "B" Blast Furnace Casthouse Emission Control Baghouse and make the plan available to the permitting authority upon request. The plan shall contain the following information: **(40 CFR 63.7831(a))**

   a. Installation of a continuous parameter monitoring system (CPMS) sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions; **(40 CFR 63.7831(a)(1))**
   b. Performance and equipment specification 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 40 CFR 63.8(c)(1), (3), 4(iii), (7) and (8); **(40 CFR 63.7831(a)(4))**
   e. Ongoing data quality assurance procedures in accordance with 40 CFR 63.8(d); (**40 CFR 63.7831(a)(5))**
   f. Ongoing recordkeeping and reporting procedures in accordance with 40 CFR 63.10(c), (e)(1) and (e)(2)(i). **(40 CFR 63.7831(a)(6))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The EUBFURNACE shall not be operated unless the baghouse is installed, maintained and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1331(c), R 336.1910, R 336.2801(ee), R 336.2802(4), MDEQ Consent Order AQD No. 6-2006 Paragraph 10.B)**

2. Within 90 days prior to installation of the EUBFURNACE baghouse capture system, the permittee shall provide the design plans and a signed certification from the designer, certifying that the EUBFURNACE baghouse capture system is designed to achieve no less than 98% collection efficiency to the AQD District Supervisor. The permittee shall keep on file a copy of the EUBFURNACE 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 the EUBFURNACE emissions. **(R 336.1205(1)(a) & (b), R 336.1301, R 336.1331, R 336.1910, R 336.2801(ee), R 336.2802(4), 40 CFR 52.21(a)(2), R 336.1911, R 336.2803, R 336.2804)**

3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the SO_2 emissions and flow from each EUBFURNACE baghouse stack and stove stack on a continuous basis. **(R 336.2803, R 336.2804)**

4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the natural gas usage of the natural gas suppression system for EUBFURNACE. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

5. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the monthly natural gas usage rate and blast furnace gas usage rate of the stoves of EUBFURNACE. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804, R 336.2902(2), 40 CFR 51 (Appendix S))**

6. The permittee shall not operate EUBFURNACE with more than one taphole. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2801(ee), R 336.2802(4))**

7. The permittee shall not operate the stove portion of EUBFURNACE unless the low-NOx technology is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

8. The permittee shall not fire blast furnace gas in the stoves of EUBFURNACE unless the scrubber and mechanical collector for pre-combustion gas cleaning are installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2802(4), R 336.2801(ee), R 336.2803, R 336.2804)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days of startup of EUBFURNACE, 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 section. **(40 CFR 63.7820(a))**

2. Permittee shall conduct performance tests for particulate matter emissions and opacity at least once every five years. **(40 CFR 63.7821)**

3. The permittee shall sample for an integral number of furnace tapping operations to obtain at least one hour of sampling for each test run. **(40 CFR 63.7822(e))**

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. The permittee shall demonstrate compliance with the opacity limitation in SC I.2 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. **(40 CFR 63.7823(c)(1) and (2))**

6. 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))**

7. The permittee may change the operating limits for the baghouse capture system if the following requirements are met: **(40 CFR 63.7824(c))**

   a. Submit a written notification to the Administrator requesting to conduct a new performance test to revise the operating limit. **(40 CFR 63.7824(c)(1))**
   b. Conduct a performance test to demonstrate compliance with the applicable operating limitation. **(40 CFR 63.7824(c)(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(c)(3))**

8. Within 180 days after start-up of EUBFURNACE, the permittee shall verify visible emissions, PM, PM10, PM2.5 and NOx emission rates from EUBFURNACE baghouse stack, by testing at owner's expense, in accordance with Department requirements. Subsequent testing will be required once every three years from the completion of the previous stack test. No less than 45 days prior to testing, a complete test plan shall be submitted to the AQD Technical Programs Unit and the District Office. 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. **(R 336.1205(1)(a) & (b), R 336.1301, R 336.1361, R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

9. Within 180 days after start-up of EUBFURNACE, the permittee shall verify PM, PM10, PM2.5, NOx, CO, and Mn emission rates from the stove stack, by testing at owner's expense, in accordance with Department requirements. Subsequent testing will be required once every three years from the completion of the previous stack test. Testing must be performed at normal operating conditions for EUBFCESTOVE. No less than 45 days prior to testing, a complete test plan shall be submitted to the AQD Technical Programs Unit and the District Office. 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. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

10. Within 180 days after start-up of EUBBFCASTHOUSE, verification of the slag silt content, by testing at owner's expense, in accordance with Department requirements will be required. The permittee must complete the test once every quarter for four quarters and then annually, thereafter. The permittee shall submit a complete copy of the test results to the AQD within 60 days following the last date of the test (measured by the fourth quarterly sample for the first year). **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall perform a Method 9 certified visible emission observation for the blast furnace EUBFURNACE baghouse stack at least once every month during blast furnace processing activity for a minimum of one hour. 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. **(R 336.1361)**

3. The permittee shall perform a Method 9 certified visible emission observation for the EUBFURNACE roof monitors at least once a week during casting for a minimum of one hour. 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. **(R 336.1358)**

4. The permittee shall perform a non-certified visible emission observation for a minimum of 15 minutes for the EUBFURNACE bleeders at least once per month during planned blast furnace start up or shut down activities and a Method 9 certified visible emission observation of the EUBFURNACE bleeder at least once per quarter during planned blast furnace start up or shut down activities. Additionally, the permittee shall perform a Method 9 certified visible emission observation of the EUBFURNACE bleeder during all unplanned openings that last for more than thirty minutes. The permittee shall record each occurrence of bleeder stack opening, and the record shall include the date, start and stop time, and reason for each opening. 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 including date, start time and stop time. **(R 336.1301)**

5. The permittee shall perform a Method 9 certified visible emission observation for the EUBFURNACE stove stack at least once a week during operation for a minimum of one hour. 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. **(R 336.1301)**

6. Within 180 days after start-up, the permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the SO_2 emissions and flow from EUBFURNACE baghouse stack and stove stack on a continuous basis. The permittee shall install and operate each CERM system to meet the timelines, requirements and reporting detailed in Appendix 1.3.1 and shall use the CERM data for determining compliance with Special Conditions SC I.12, I.13, and I.14. **(R 336.2803, R 336.2804)**

7. The permittee shall prepare and operate at all times according to a written operation and maintenance plans for “B” Blast Furnace Casthouse Emission Control Baghouse. Each plan must address the following:

    a. Monthly inspections of the equipment that is important to the performance of the total capture system (*e.g.,* pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (*e.g.,* presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection.
    b. Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
    c. Operating limits for the “B” Blast Furnace Casthouse Emission Control System. The permittee must establish the operating limits according to the following requirements:.
        (i) Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. This shall, at a minimum, include appropriate 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.

(ii) For each operating limit parameter selected, the value or setting for the parameter at which the capture system operates during the process operation shall be designated. If the operation allows for more than one process to be operating simultaneously, designate the value or setting for the parameter at which the capture system operates during each possible configuration that may be used.

(iii) Include documentation in the plan to support the selection of the operating limits established for the capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why the parameter was chosen, a description of the method used to monitor the parameter according to the requirements of 40 CFR 63.7830(a), and the data used to set the value or setting for the parameter for each process configuration.

d. Corrective action procedures for the "B" Blast Furnace Casthouse Emission Control Baghouse. In the event a bag leak detection system alarm is triggered, corrective action must be initiated to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Corrective actions may include, but are not limited to:

(i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.
(ii) Sealing off defective bags or filter media.
(iii) Replacing defective bags or filter media or otherwise repairing the control device.
(iv) Sealing off a defective baghouse compartment.
(v) Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system.
(vi) Shutting down the process producing the particulate emissions. **(40 CFR 63.7800(b))**

8. 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))**

9. 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))**

10. The permittee shall conduct inspections of the B Blast Furnace Casthouse Baghouse at the specified frequencies according to the requirements in paragraphs (a) through (h) below. The permittee shall maintain records needed to document conformance with these requirements:

a. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
b. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
c. Check the compressed air supply for pulse-jet baghouses each day.
d. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
e. Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.
f. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.
g. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
h. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means. **(40 CFR 63.7830(b)(4), 40 CFR 63.7833(c))**

11. 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: **(40 CFR 63.7831(b) and (d))**

    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; **(40 CFR 63.7831(b)(1))**
    b. Provide valid hourly data for at least 95 percent of every averaging period; and **(40 CFR 63.7831(b)(2))**
    c. Determine and record the hourly average of all recorded readings. **(40 CFR 63.7831(b)(3))**

12. Except as allowed in SC VI.14 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))**

13. 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 COMS as specified in SC VI.14. **(40 CFR 63.7831(f)(6))**

14. 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 63.7830(b))**

15. The permittee shall monitor the process as required by 40 CFR 63, Subpart FFFFF, 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 63.7832(b))**

17. 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. **(40 CFR 63.7833(b))**

18. 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 COMS as specified in SC VI.14. **(40 CFR 63.7833(c)(1))**

19. 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))**

20. 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))**

21. 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))**

22. The permittee shall maintain records of visible emissions observations in SC I.2 required by 40 CFR Part 63, Subpart FFFFF. **(40 CFR 63.7842(c))**

23. 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)(4))**

24. Records required under 40 CFR Part 63, Subpart FFFFF 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 kept offsite. **(40 CFR 63.7843(b) and (c))**

25. The permittee shall monitor and record, in a satisfactory manner, the iron production for EUBBCASTHOUSE on a daily, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

26. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for the natural gas suppression system of EUBFURNACE on a monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

27. The permittee shall periodically inspect the installed stove burners of the EUBFURNACE stoves, and the venturi scrubber and mechanical collector for pre-combustion gas cleaning of the EUBFURNACE stove to determine its operational and physical condition at least once every 6 months. Written records of each inspection and corrective action taken, if any, shall be maintained. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2902(2), 40 CFR 51 (Appendix S), R 336.2803, R 336.2804)**

28. The permittee shall monitor and record, in a satisfactory manner, blast furnace gas and natural gas usage records for EUBFURNACE stove on a monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2902(2),40 CFR 51 (Appendix S), R 336.2803, R 336.2804)**

29. The permittee shall keep, in a satisfactory manner, hourly, calendar day average, monthly and previous 12-month rolling time period records of SO_2 emission calculations for EUBFURNACE, using actual emissions data obtained from the CERMS installed on the stove stack and the baghouse stack. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.2803, R 336.2804)**

30. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. ((**R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2804)**

31. The permittee shall perform preventative maintenance on the EUBBFCASTHOUES baghouse as specified in the operation and maintenance plan for the baghouse. **(40 CFR 63.7834(a)(2))**

VII. REPORTING

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))**

4. The permittee shall maintain a current copy of the operation and maintenance plan required under III.3 onsite and available for inspection upon request. **(40 CFR 63.7834(b))**

5. The permittee shall retain copies of old operation and maintenance plans for the life of the source subject to 40 CFR Part 63, Subpart FFFFF or until the source is no longer subject to the requirements of 40 CFR Part 63, Subpart FFFFF. **(40 CFR 63.7834(b))**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBBFROOFMON	NA	75.2	R 336.1225 R 336.2803, R 336.2804
2. SVBFBH	111	200	R 336.1225 R 336.2803, R 336.2804
3. SVBFSTOVE	99	190	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart FFFFF for Integrated Iron and Steel Manufacturing by the initial compliance date. **(40 CFR Part 63 Subparts A and Subpart FFFFF)**

The following conditions apply to:
EUCFURNACE

DESCRIPTION: This emission unit consists of the "C" Blast Furnace proper, a group of 4 stoves with a common stack, the cast house emission control system (collection hoods followed by a baghouse and stack), a blast furnace gas dust collector and venturi scrubber for removal of particulate from blast furnace gas generated by the "C" Blast Furnace, , a semi-clean bleeder, and two dirty gas bleeders.

Flexible Group ID: FGB&CFURNACES

POLLUTION CONTROL EQUIPMENT:
C Blast furnace is controlled by a baghouse. Stove for Low-NOx technology; mechanical collector and venturi scrubber for blast furnace gas precleaning

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible Emissions	10% Opacity	6-minute average	EUCFURNACE Baghouse stack	SC V.7 SC VI.2	R 336.1361
2. Visible Emissions	20% Opacity	6-minute average	EUCFURNACE Secondary emissions exiting any opening	SC V.1 SC V.3 SC V.4 SC V.5	40 CFR 63.7790(a)
3. Visible Emissions	20% Opacity	6-minute average	EUCFURNACE Roof monitors	SC V.7 SC VI.3	R 336.1358
4. PM	0.003 gr/dscf	Test Protocol*	EUCFURNACE Baghouse stack	SC V.7	R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
5. PM	0.01 gr/dscf	Test Protocol*	EUCFURNACE Baghouse stack	SC V.1	40 CFR 63.7790(a)
6. PM	13.87 pph	Test Protocol*	EUCFURNACE Baghouse stack	SC V.7	R 336.1205(1)(a) & (b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
7. PM	6.98 pph	Test Protocol*	EUCFURNACE Stove stack	SC V.8	R 336.1205(1)(a) & (b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
8. PM10	18.24 pph	Test Protocol*	EUCFURNACE Baghouse stack	SC V.7	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
9. PM10	19.72 pph	Test Protocol*	EUCFURNACE Stove stack	SC V.8	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
10. PM2.5	18.24 pph	Test Protocol*	EUCFURNACE Baghouse stack	SC V.7	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
11. PM2.5	19.72 pph	Test Protocol*	EUCFURNACE Stove stack	SC V.8	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
12. SO_2	179.65 pph	Calendar day average	EUCFURNACE Baghouse stack	SC VI.6	R 336.2810 R 336.2803, R 336.2804
13. SO_2	193.6 pph	Calendar day average	EUCFURNACE Stove stack	SC VI.6	R 336.2810 R 336.2803, R 336.2804
14. SO_2	271.4 pph	Calendar day average	EUCFURNACE Stove stack and baghouse stack combined	SC VI.6	R 336.2802 R 336.2803, R 336.2804 R 336.2810
15. SO_2	1,188 tpy	12-month rolling time period as determined at the end of each calendar month	EUCFURNACE (baghouse and stove stacks combined)	SC VI.29	R 336.2801(ee) R 336.2803, R 336.2804
16. CO	56.25 pph	Test Protocol*	EUCFURNACE Baghouse stack	SC V.7	R 336.2810 R 336.2804
17. CO	1,756 pph	Test Protocol*	EUCFURNACE Stove stack	SC V.8	R 336.2810 R 336.2804
18. NOx	5.46 pph	Test Protocol*	EUCFURNACE Baghouse stack	SC V.7	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4)
19. NOx	106.3 pph	Test Protocol*	EUCFURNACE Stove stack	SC V.8	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803 R 336.2804
20. VOC	9.92 pph	Test Protocol*	EUCFURNACE Baghouse stack	SC V.7	R 336.1205(1)(a) & (b) R 336.1702
21. Pb	0.0077 pph	Test Protocol*	EUCFURNACE Baghouse stack	SC V.7	R 336.2804
22. Pb	0.011 pph	Test Protocol*	EUCFURNACE Stove stack	SC V.8	R 336.2804
23. Mn	0.042 pph [1]	Test Protocol*	EUCFURNACE Baghouse stack	SC V.7	R 336.1225
24. Mn	0.012 pph [1]	Test Protocol*	EUCFURNACE Stove stack	SC V.8	R 336.1225
25. Hg	0.003 pph [1]	Test Protocol*	EUCFURNACE Stove stack	SC V.8	R 336.1225
*Test protocol specifies averaging time					

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Iron Production	8,000 tons per day	Calendar Day	EUCFURNACE	SC VI.24	R 336.1225 R 336.2803, R 336.2804
2. Natural Gas	118.3 MMSCF per year	12-month rolling time period basis as determined at the end of each calendar month	EUCFURNACE Limited natural gas suppression system	SC VI.25	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The EUCFURNACE shall be operated and maintained in a manner consistent with good air pollution control practices for minimizing emissions. **(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 EUCFURNACE. The plan shall include proper operating procedures to minimize bleeder emissions. **(R 336.1911, 40 CFR 63.7810(c), 40 CFR 63.7835(b) and 40 CFR 63.6(e)(3))**

3. Within in 90 days of issuance of this permit, the permittee shall not operate the stoves in EUCFURNACE unless a malfunction abatement plan (MAP) as described in Rule 911(2) has been submitted to the AQD District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. **(R 336.1911, R 336.1912, R 336.2802)**

4. The permittee shall develop site-specific monitoring plans for “C” Blast Furnace Casthouse Emission Control Baghouse and make the plan available to the permitting authority upon request. The plan shall contain the following information: **(40 CFR 63.7831(a))**

    a. Installation of a continuous parameter monitoring system (CPMS) sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions; **(40 CFR 63.7831(a)(1))**
    b. Performance and equipment specification 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 40 CFR 63.8(c)(1), (3), 4(iii), (7) and (8); **(40 CFR 63.7831(a)(4))**
    e. Ongoing data quality assurance procedures in accordance with 40 CFR 63.8(d); (**40 CFR 63.7831(a)(5))**
    f. Ongoing recordkeeping and reporting procedures in accordance with 40 CFR 63.10(c), (e)(1) and (e)(2)(i). **(40 CFR 63.7831(a)(6))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The EUCFURNACE shall not be operated unless the baghouse is installed, maintained and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1331(c), R 336.1910, R 336.2801(ee), R 336.2802(4), R 336.2804,, MDEQ Consent Order AQD No. 6-2006 Paragraph 10.B)**

2. The permittee shall keep on file a copy of the EUCFURNACE 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 the EUCFURNACE emissions. **(R 336.1205(1)(a) & (b), R 336.1301, R 336.1331, R 336.1910, R 336.1911, R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804,)**

3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the SO_2 emissions and flow from each EUCFURNACE baghouse stack and stove stack on a continuous basis. **(R 336.2803, R 336.2804, R 336.2810)**

4. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the natural gas usage rate of the natural gas suppression system for EUCFURNACE. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702, R 336.2801(ee), R 336.2802(4)R 336.2803, R 336.2804)**

5. The permittee shall not operate EUCFURNACE with more than two tapholes. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2801(ee), R 336.2802(4))**

6. The permittee shall not operate the stove of EUCFURNACE unless the low-NOx technology is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

7. The permittee shall not fire blast furnace gas in the stove of EUCFURNACE unless the venturi scrubber and mechanical collector for pre-combustion gas cleaning are installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2801(ee), R 336.2802(4))R 336.2803, R 336.2804)**

8. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the natural gas usage rate of the stoves. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

9. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the blast furnace gas usage rate of the stoves. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), 40 CFR 51 (Appendix S), R 336.2803, R 336.2804)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall conduct performance tests for particulate matter emissions and opacity at least once every five years. **(40 CFR 63.7821)**

2. The permittee shall sample for an integral number of furnace tapping operations to obtain at least one hour of sampling for each test run. **(40 CFR 63.7822(e))**

3. 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))**

4. The permittee shall demonstrate compliance with the opacity limitation in SC I.2 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. **(40 CFR 63.7823(c)(1) and (2))**

5. 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))**

6. The permittee may change the operating limits for the baghouse capture system if the following requirements are met: **(40 CFR 63.7824(c))**

   a. Submit a written notification to the Administrator requesting to conduct a new performance test to revise the operating limit. **(40 CFR 63.7824(c)(1))**
   b. Conduct a performance test to demonstrate compliance with the applicable operating limitation. **(40 CFR 63.7824(c)(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(c)(3))**

7. Within three years of the issuance of this permit, the permittee shall verify visible emissions, PM, PM10, PM2.5, NOx, VOC, Pb, and Mn emission rates from EUCFURNACE baghouse stack by testing at owner's expense, in accordance with Department requirements. Subsequent testing will be required once every three years from the completion of the previous stack test. In addition, at the time of the first testing after the date of issuance of this permit, the permittee shall obtain Pb and Mn dust concentrations in the EUCFURNACE baghouse hoppers. Subsequent Pb and Mn sampling of the baghouse dust is not required. No less than 45 days prior to testing, a complete test plan shall be submitted to the AQD Technical Programs Unit and the District Office. 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, including baghouse dust analysis for Mn and Pb, to the AQD within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1301, R 336.1361, R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

8. Within three years of the issuance of this permit, the permittee shall verify PM, PM10, PM2.5, NOx, CO, Pb, Mn, and total Hg emission rates from the EUCFURNACE stove stack, by testing at owner's expense, in accordance with Department requirements. Subsequent testing will be required once every three years from the completion of the previous stack test. Testing must be performed at normal operating conditions for EUCFCESTOVE. No less than 45 days prior to testing, a complete test plan shall be submitted to the AQD Technical Programs Unit and the District Office. 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. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

9. Within 180 days after issuance of this permit EUCFURNACE, verification of the slag silt content, by testing at owner's expense, in accordance with Department requirements will be required. The permittee must complete the test once every quarter for four quarters and then annually, thereafter. The permittee shall submit a complete copy of the test results to the AQD within 60 days following the last date of the test (measured by the fourth quarterly sample for the first year). **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804, R 336.2810)**

2. The permittee shall perform a Method 9 certified visible emission observation for the blast furnace EUCFURNACE baghouse stack at least once every month during blast furnace processing activity for a minimum of one hour. 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. **(R 336.1361)**

3. The permittee shall perform a Method 9 certified visible emission observation for the EUCFURNACE roof monitors at least once a week during casting for a minimum of least one hour. 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. **(R 336.1358)**

4. The permittee shall perform a non-certified visible emission observation for a minimum of 15 minutes for the EUCFURNACE bleeders at least once per month during planned blast furnace start up or shut down activities and a Method 9 certified visible emission observation of the EUCFURNACE bleeder at least once per quarter during planned blast furnace start up or shut down activities. Additionally, the permittee shall perform a Method 9 certified visible emission observation of the EUCFURNACE bleeder during all unplanned openings that last for more than thirty minutes. The permittee shall record each occurrence of bleeder stack opening, and the record shall include the date, start and stop time, and reason for each opening. 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 including date, start time and stop time. **(R 336.1301)**

5. The permittee shall perform a Method 9 certified visible emission observation for the EUCFURNACE stove stack at least once a week during operation for a minimum of at least one hour. 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. **(R 336.1301)**

6. Within 180 days of the issuance of this permit, the permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the SO_2 emissions and flow from EUCFURNACE baghouse stack and stove stack on a continuous basis. The permittee shall install and operate each CERM system to meet the timelines, requirements and reporting detailed in Appendix 1.3.2 and shall use the CERM data for determining compliance with Special Conditions SC I.12, I.13, and I.14. **(R 336.2810, R 336.2803, R 336.2804)**

7. The permittee shall prepare and operate at all times according to a written operation and maintenance plans for “C” Blast Furnace Casthouse Emission Control Baghouse. Each plan must address the following:

    a. Monthly inspections of the equipment that is important to the performance of the total capture system (*e.g.,* pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (*e.g.,* presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection.
    b. Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.
    c. Operating limits for the “C” Blast Furnace Casthouse Emission Control System. The permittee must establish the operating limits according to the following requirements:.

(i) Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. This shall, at a minimum, include appropriate 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.

(ii) For each operating limit parameter selected, the value or setting for the parameter at which the capture system operates during the process operation shall be designated. If the operation allows for more than one process to be operating simultaneously, designate the value or setting for the parameter at which the capture system operates during each possible configuration that may be used.

(iii) Include documentation in the plan to support the selection of the operating limits established for the capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why the parameter was chosen, a description of the method used to monitor the parameter according to the requirements of 40 CFR 63.7830(a), and the data used to set the value or setting for the parameter for each process configuration.

d. Corrective action procedures for the “C” Blast Furnace Casthouse Emission Control Baghouse. In the event a bag leak detection system alarm is triggered, corrective action must be initiated to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Corrective actions may include, but are not limited to:

(i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.
(ii) Sealing off defective bags or filter media.
(iii) Replacing defective bags or filter media or otherwise repairing the control device.
(iv) Sealing off a defective baghouse compartment.
(v) Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system.
(vi) Shutting down the process producing the particulate emissions.**(40 CFR 63.7800(b))**

8. 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))**

9. The permittee shall conduct inspections of the C Blast Furnace Casthouse Baghouse at the specified frequencies according to the requirements in paragraphs (a) through (h) below. The permittee shall maintain records needed to document conformance with these requirements.

a. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
b. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
c. Check the compressed air supply for pulse-jet baghouses each day.
d. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
e. Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.
f. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.
g. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
h. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means. **(40 CFR 63.7830(b)(4), 40 CFR 63.7833(c)(3))**

10. 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: **(40 CFR 63.7831(b) and (d))**

    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; **(40 CFR 63.7831(b)(1))**
    b. Provide valid hourly data for at least 95 percent of every averaging period; and **(40 CFR 63.7831(b)(2))**
    c. Determine and record the hourly average of all recorded readings. **(40 CFR 63.7831(b)(3))**

11. Except as allowed in SC VI.13, the 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, which 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))**

12. 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 COMS as specified in SC VI.13. **(40 CFR 63.7831(f)(6))**

13. 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 63.7830(b))**

14. The permittee shall monitor the process as required by 40 CFR 63, Subpart FFFFF, 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))**

15. 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))**

16. 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. **(40 CFR 63.7833(b))**

17. 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 COMS as specified in SC VI.13. **(40 CFR 63.7833(c)(1))**

18. 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))**

19. 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))**

20. 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))**

21. The permittee shall maintain records of visible emissions observations in SC I.2 required by 40 CFR Part 63, Subpart FFFFF. **(40 CFR 63.7842(c)**

22. 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)(4))**

23. Records required under 40 CFR Part 63, Subpart FFFFF 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))**

24. The permittee shall monitor and record, in a satisfactory manner, the iron production for EUCBCASTHOUSE on a daily, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

25. The permittee shall monitor and record, in a satisfactory manner, the natural gas usage for the natural gas suppression system of EUCFURNACE on a monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

26. The permittee shall periodically inspect the installed stove burners of the EUCFURNACE stove, and the venturi scrubber and mechanical collector for pre-combustion gas cleaning of the stoves to determine its operational and physical condition at least once every six months. Written records of each inspection and corrective action taken, if any, shall be maintained. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4)R 336.2803, R 336.2804)**

27. The permittee shall monitor and record, in a satisfactory manner, blast furnace gas and natural gas usage records for EUCFURNACE stove on a monthly, and 12-month rolling time period basis. The permittee shall keep, in a satisfactory manner, all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4)R 336.2803, R 336.2804)**

28. The permittee shall maintain records of all information necessary to demonstrate compliance with the emission limits of this permit. ((**R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2804)**

29. The permittee shall keep, in a satisfactory manner, hourly, calendar day average, monthly and previous 12-month rolling time period records of SO_2 emission calculations for EUCFURNACE, using actual emissions data obtained from the CERMS installed on EUCFURNACE stove stack and baghouse stack. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.2802, R 336.2803, R 336.2804, R 336.2810)**

30. The permittee shall perform preventative maintenance on the EUCFURNACE baghouse as specified in the operation and maintenance plan for the baghouse. **(40 CFR 63.7834(a)(2))**

VII. REPORTING

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. 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))**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVCBFROOFMONEAST	NA	75.2	R 336.1225 R 336.2803, R 336.2804,
2. SVCBFROOFMONNORTH	NA	75.2	R 336.1225 R 336.2803, R 336.2804,
3. SVCFBH	153	200	R 336.1225 R 336.2803, R 336.2804,
4. SVCFSTOVE	129	210	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart FFFFF for Integrated Iron and Steel Manufacturing by the initial compliance date. **(40 CFR Part 63, Subparts A and Subpart FFFFF)**

2. The permittee shall maintain a current copy of the operation and maintenance plan required under III.3 onsite and available for inspection upon request. **(40 CFR 63.7834(b))**

3. The permittee shall retain copies of old operation and maintenance plans for the life of the source subject to 40 CFR Part 63, Subpart FFFFF or until the source is no longer subject to the requirements of 40 CFR Part 63, Subpart FFFFF. **(40 CFR 63.7834(b))**

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rules 201(1)(b).

The following conditions apply to:
EURELADLINGBOF

DESCRIPTION: Reladling South & North – BOF

Flexible Group ID: FGBOFSHOP

POLLUTION CONTROL EQUIPMENT: BOF secondary emissions baghouse

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	20% Opacity	3-minute average	EURELADLINGBOF Fugitive emissions from hot metal transfer operation building or enclosure	See Note below*	R 336.1365(2)
2. Visible emissions	20% Opacity	3-minute average	EURELADLINGBOF Fugitive emissions from hot metal transfer operation building or enclosure	SC V.1 SC V.2 SC V.3	40 CFR 63.7790(a) Table 1, Item 12
3. PM	6.3 tpy	12-month rolling time period as determined at the end of each calendar month	EURELADLINGBOF Roof monitors	SC VI.6	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4)
4. PM10	3.6 tpy	12-month rolling time period as determined at the end of each calendar month	EURELADLINGBOF Roof monitors	SC VI.6	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
5. PM2.5	1.84 tpy	12-month rolling time period as determined at the end of each calendar month	EURELADLINGBOF Roof monitors	SC VI.6	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
* Note: Compliance with Rule 356(2) shall be demonstrated through Method 9 readings as specified in SC VI.4 of the EUBOF section.					

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The EURELADLINGBOF and the BOF secondary 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 EURELADLINGBOF and the BOF secondary baghouse 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. The permittee shall not operate EURELADLINGBOF unless the emissions are directed to the BOF secondary baghouse and the BOF secondary baghouse is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.1910, R 336.2802(4))**

4. 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. **(R 336.1201(3))**

5. Upon routing the Reladling North Operations exhaust to the BOF secondary baghouse, the permittee may utilize the Reladling North Operations in compliance with the applicable requirements of EURELADLINGBOF, and with the emission, monitoring, testing, and recordkeeping requirements of FGBOFSHOP. **(40 CFR 63 Subpart FFFFF)**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Permittee shall conduct performance tests for opacity and PM no less frequently than once during the ROP renewal period. **(40 CFR 63.7821)**

2. Performance tests for visible emissions shall be conducted such that the opacity observations overlap with the performance tests for particulate of the BOF secondary baghouse. Performance testing for particulate is contained in the FGBOFSHOP section. **(40 CFR 63.7823(b))**

3. The permittee shall demonstrate compliance with the opacity limitation in SC I.2 with a certified observer according to Method 9 except for the following: **(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))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2803, R 336.2804)**

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. The permittee shall keep monthly records of the amount of iron throughput to the Reladling South and North Operations, separately. The permittee shall keep the records on file at the facility and make them available to the department upon request. **(R 336.1205(1)(a)&(b), R 336.2801(ee), R 336.2802(4))**

6. Using the method shown in Appendix 1.7, the permittee shall calculate monthly and 12-month rolling time period PM, PM10, and PM2.5 emission rates from the EURELADLINGBOF roof monitors. The permittee shall keep the records on file at the facility and make them available to the department upon request. **(R 336.1205(1)(a)&(b), R 336.2801(ee), R 336.2802(4))**

VII. REPORTING

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))**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOFBH	222	200	R 336.1225 R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. The permittee shall comply with the emission limitations and operation and maintenance requirements from 40 CFR Part 63, Subpart FFFFF, except during periods of startup, shutdown and malfunction. **(40 CFR 63.7810(a))**

2. Records required under 40 CFR Part 63, Subpart FFFFF 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. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart FFFFF for Integrated Iron and Steel Manufacturing by the initial compliance date. **(40 CFR Part 63, Subparts A and Subpart FFFFF)**

The following conditions apply to:
EUBOFDESULF

DESCRIPTION: Desulfurization operation using lime and magnesium to remove sulfur and skimming of slag into a slag pot, all controlled by a movable hood to a baghouse.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: Baghouse

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	20% Opacity	3-minute average	EUBOFDESULF Baghouse stack	SC III.1 SC VI.2	R 336.1366(1)
2. Visible emissions	20% Opacity	3-minute average	EUBOFDESULF BOF Shop Building	SC III.1 See Note below**	R 336.1366(2)
3. Visible emissions	20% Opacity	3-minute average	EUBOFDESULF BOF Shop Building	SC V.1 SC V.2 SC V.4	40 CFR 63.7790(a) Table 1, Item 12
4. PM	0.01 gr/dscf	Test Protocol*	EUBOFDESULF Baghouse stack	SC V.5	R 336.1205(1)(a)&(b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4) 40 CFR 63.7790(a) Table 1, Item 10
5. PM	7.7 pph	Test Protocol*	EUBOFDESULF Baghouse stack	SC V.5	R 336.1205(1)(a)&(b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
6. PM	126.72 tpy	12-month rolling time period as determined at the end of each calendar month	EUBOFDESULF Roof monitor	SC VI.15	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4)
7. PM10	3.6 pph	Test Protocol*	EUBOFDESULF Baghouse stack	SC V.5	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
8. PM10	24.38 tpy	12-month rolling time period as determined at the end of each calendar month	EUBOFDESULF Roof monitor	SC VI.15	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
9. PM2.5	3.6 pph	Test Protocol*	EUBOFDESULF Baghouse stack	SC V.5	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
10. PM2.5	14.25 tpy	12-month rolling time period as determined at the end of each calendar month	EUBOFDESULF Roof monitor	SC VI.15	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
11. Pb	0.0016 pph	Test Protocol*	EUBOFDESULF Baghouse stack	SC V.5	R 336.2804
12. Mn	0.013 pph [1]	Test Protocol*	EUBOFDESULF Baghouse stack	SC V.5	R 336.1225
*Test Protocol will specify averaging time. ** Note: Compliance with Rule 366(2) shall be demonstrated through Method 9 readings as specified in SC VI.4 of the EUBOF section.					

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. EUBOFDESULF 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 EUBOFDESULF 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. The permittee shall not operate EUBOFDESULF unless the baghouse dust collector is installed, maintained, and operated in a satisfactory manner. **(R 336.1225, R 336.1331, R 336.1910, R 336.2801(ee), R 336.2802(4),R 336.2803, R 336.2804)**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Permittee shall conduct performance tests for particulate matter emissions and opacity at least once every 5 years. **(40 CFR 63.7821)**

2. Sampling during the performance tests will occur only when the operations being controlled are in operation. **(40 CFR 63.7822(h))**

3. 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))**

4. The permittee shall demonstrate compliance with the opacity limitation in SC I.3 with a certified observer according to Method 9 except for the following: **(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))**

5. Within three years of the issuance of this permit, the permittee shall verify the PM, PM10, PM2.5, Pb, and Mn emission rates from EUBOFDESULF baghouse stack, by testing at owner's expense, in accordance with Department requirements. Subsequent testing will be required once every three years from the completion of the previous stack test. In addition, at the time of the first testing after the date of issuance of this permit, the permittee shall obtain Pb and Mn dust concentrations in the EUBOFDESULF baghouse hoppers. Subsequent Pb and Mn sampling of the baghouse dust is not required. No less than 45 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the District Office. 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. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1228, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall perform a Method 9 certified visible emission observation for the EUBOFDESULF baghouse stack at least once every month during EUBOFDESULF processing activity for a minimum of one complete heat. 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. **(R 336.1366(1))**

3. The permittee shall conduct inspections of the Desulfurization Baghouse at the specified frequencies according to the requirements in paragraphs (a) through (h) below. The permittee shall maintain records needed to document conformance with these requirements.

   a. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
   b. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
   c. Check the compressed air supply for pulse-jet baghouses each day.
   d. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
   e. Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.
   f. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.
   g. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
   h. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means. **(40 CFR 63.7830(b)(4), 40 CFR 63.7833(c))**

4. Except as allowed in SC VI.6, the 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 COMS as specified in S.C. VI.6. **(40 CFR 63.7831(f)(6))**

6. 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 63.7830(b))**

7. The permittee shall monitor the process as required by 40 CFR 63, Subpart FFFFF, 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))**

8. 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))**

9. 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 63.7833(c)(4) and 40 CFR 63.7842(d))**

10. 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 COMS as specified in S.C. VI.6. **(40 CFR 63.7833(c)(1))**

11. 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))**

12. 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))**

13. 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))**

14. The permittee shall keep monthly records of the amount of iron throughput to EUBOFDESULF. The permittee shall keep the records on file at the facility and make them available to the department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

15. Using the method shown in Appendix 1.7, the permittee shall calculate monthly and 12-month rolling time period PM, PM10, and PM2.5 emission rates from the EUBOFDESULF roof monitor. The permittee shall keep the records on file at the facility and make them available to the department upon request. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

VII. REPORTING

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))**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVDESULFBH	66	37	R 336.1225 R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. The permittee shall comply with the emission limitations and operation and maintenance requirements from 40 CFR Part 63, Subpart FFFFF, except during periods of startup, shutdown and malfunction. **(40 CFR 63.7810(a))**

2. Records required under 40 CFR Part 63, Subpart FFFFF 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. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart FFFFF for Integrated Iron and Steel Manufacturing by the initial compliance date. **(40 CFR Part 63, Subparts A and Subpart FFFFF)**

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rules 201(1)(b).

The following conditions apply to:
EUDESULFWATERSTN

DESCRIPTION: BOF desulfurization by-product material (desulf) watering station located at the south end of the BOF building. Levy digs the byproduct material with a front-end loader, and brings it to an open area for cooling and fugitive dust control using water spray. After thorough cooling, Levy loads the materials into trucks for processing off site.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: Water spray system

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	5% Opacity	3-minute average	EUDESULFWATERSTN Fugitive dust from any road, lot, storage pile, or material handling activity at a storage outside the BOF building	SC VI.2	R 324.5524(2)
2. Visible Emissions	20% Opacity	3-minute average	EUDESULFWATERSTN Fugitive dust from any other source outside the BOF building	SC VI.2	R 324.5524(2)
3. Visible emissions	10% Opacity	3-minute average	EUDESULFWATERSTN fugitive dust emissions from material handling activities at indoor storage pile and from building openings other than roof monitors	SC VI.2	R 324.5524(8) R 336.1301(c) R 336.1366(2)
4. Visible emissions	20% Opacity	3-minute average	EUDESULFWATERSTN fugitive dust emissions from roof monitors	SC VI.2	R 336.1301(c) R 336.1364

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. 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. **(R 336.1910, R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EUDESULFWATERSTN unless the water spray system is installed and operating properly. **(R 336.1301, R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 324.5524, R 336.1301, R 336.1364)**

2. 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. **(R 336.1301(c), R 336.1364, R 336.1366(2), R 336.1910, R 324.5524(2), R 324.5524(8))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

The following conditions apply to:
EUBOF

DESCRIPTION: Basic oxygen furnace (BOF) including charging, oxygen blowing, tapping and slag tapping. Two vessels controlled by an electrostatic precipitator and a secondary emissions baghouse.

Flexible Group ID: FGBOFSHOP

POLLUTION CONTROL EQUIPMENT: One Electrostatic Precipitator for both BOF Vessels, BOF Secondary Baghouse for fugitive emissions and reladeling

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	10% Opacity, as a trigger for corrective action	Hourly average	EUBOF ESP stack	SC. VI.2 SC VI.10	40 CFR 63.7790(b)(3), 40 CFR 63.7833(g)
2. Visible emissions	20% Opacity	3-minute average	EUBOF Shop building	SC V.2 SC V.3 SC V.4 SC V.5	40 CFR 63.7790(a)
3. Visible emissions	20% Opacity	3-minute average	EUBOF Roof monitor	SC. VI.4 SC. VI.5	R 336.1364(2)
4. PM	0.0152 gr/dscf	Test Protocol*	EUBOF ESP stack	SC V.7	R 336.1331(1)(c) R 336.2802(4) 40 CFR 52.21 (a)(2)
5. PM	0.02 gr/dscf	Test Protocol*	EUBOF ESP stack	SC V.1 SC V.2 SC V.3	40 CFR 63.7990(a)
6. PM	62.6 pph	Test Protocol*	EUBOF ESP stack	SC V.7	R 336.1205(1)(a)&(b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
7. PM	61.9 tpy	12-month rolling time period as determined at the end of each calendar month	EUBOF Roof monitor	SC VI.34	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4)
8. PM10	47.5pph	Test Protocol*	EUBOF ESP stack	SC V.7	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
9. PM10	28.3 tpy	12-month rolling time period as determined at the end of each calendar month	EUBOF Roof monitor	SC VI.34	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
10. PM2.5	46.85 pph	Test Protocol*	EUBOF ESP stack	SC V.7	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
11. PM2.5	20.2 tpy	12-month rolling time period as determined at the end of each calendar month	EUBOF Roof monitor	SC VI.34	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
12. NOx	52.9 pph	Test Protocol*	EUBOF ESP stack	SC V.7	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
13. NOx	162.1 tpy	12-month rolling time period as determined at the end of each calendar month	EUBOF ESP stack	SC VI.33	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
14. CO	7,048 pph	Test Protocol*	EUBOF ESP stack	SC V.7	R 336.2804
*Test Protocol will specify averaging time.					

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Steel Production	12,200 tons per day	Calendar Day	EUBOF	SC VI.31 SC VI.32	R 336.1225 R 336.2803, R 336.2804
2. Steel Production	4,052,230 tons per year	12-month rolling time period basis as determined at the end of each calendar month	EUBOF	SC VI.31 SC VI.32	R 336.1205(1)(a)&(b) R 336.1225 R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The EUBOF off-gas conditioning system which provides additional air-atomized water spray, shall be maintained as part of the off gas conditioning system and shall be included in the operation and maintenance plan for the BOF ESP. **(R 336.1910)**

2. 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))**

3. The permittee shall operate the BOF capture system and ESP according to an operation and maintenance plan that meets the requirements as follows:

   (a) The permittee shall prepare and operate at all times according to a written operation and maintenance plan for each capture system or control device subject to an operating limit in §63.7790(b). Each plan must address the elements in paragraphs (b)(1) through (7) of this section.

(1) Monthly inspections of the equipment that is important to the performance of the total capture system (*e.g.,* pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (*e.g.,* presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection.

(2) Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

(3) Operating limits for each capture system applied to emissions from a sinter plant discharge end or blast furnace casthouse or to secondary emissions from a BOF. You must establish the operating limits according to the requirements in paragraphs SC III.3(a)(3)(i) through (iii):

(i) Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system.

(ii) For each operating limit parameter selected in SC III.3(a)(3)(i), designate the value or setting for the parameter at which the capture system operates during the process operation.

(iii) Include documentation in the plan to support the selection of the operating limits established for the capture system.

(4) Corrective action procedures for baghouses equipped with bag leak detection systems or continuous opacity monitoring systems (COMS). Corrective actions may include, but are not limited to:

(i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media or otherwise repairing the control device.

(iv) Sealing off a defective baghouse compartment.

(v) Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system.

(vi) Shutting down the process producing the particulate emissions.

(5) Corrective action procedures for venturi scrubbers equipped with continuous parameter monitoring systems (CPMS). In the event a venturi scrubber exceeds the operating limit in §63.7790(b)(2), you must take corrective actions consistent with your site-specific monitoring plan in accordance with §63.7831(a). (**(R 336.1911, 40 CFR 63.7800(b) and 40 CFR 63.6(e)(3))**

4. 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))**

5. During the oxygen blow, the permittee shall observe the vessel for slopping and shall manually reduce the oxygen flow rate if visible emissions from the slopping appear to have the ability to cause an exceedance of the opacity limit at the BOF Roof Monitor. **(R. 336.1301, R 336.1901)**

6. In the event steel with a carbon content of 1% or higher is produced that needs to be broken at the BOF, it shall be broken up with a breaking ball. **(MDEQ Consent Order 6-2006, Paragraph 11(D)(i))**

7. The ESP dust handling conveyor at the Basic Oxygen Furnace Building shall have a 180 degree cover over the belt. **(SIP No. 30-1993, Exhibit A, Paragraph 5 (F)(3))**

8. ESP dust shall be moved by covered belt conveyor to a storage bin and, if transported offsite, the ESP dust, including coarse dust collected in a drop chamber, shall be wetted and transported by a covered truck, or shall be transported by a pneumatic truck to a landfill or other approved facility for recycling and/or disposal. **(SIP No. 30-1993, Exhibit A, Paragraph 5 (B)(5))**

9. Within 60 days of permit issuance, 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 BOF ESP: **(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))**
g. Corrective action procedures that will be followed in the event an electrostatic precipitator exceeds the operating limit in 40 CFR 63.7790(b)(3). **(40 CFR 63.7831(a)(8))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EUBOF unless the ESP is installed and operating properly. **(R 336.1301, R 336.1331(c), R 336.1910)**

2. The permittee shall not operate the EUBOF unless the BOF secondary baghouse is installed, maintained, and operated in a satisfactory manner. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1331(c), R 336.1910, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

3. The permittee shall not operate EUBOF controlled by an ESP control system unless each transformer-rectifier set of the ESP is equipped with a saturable core reactor, silicon-controlled rectifier linear reactor, or equivalent type automatic control system approved by the AQD District Supervisor. **(R 336.1330(1))**

4. 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. **(R 336.1330(1))**

5. 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. **(R 336.1330(2))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Permittee shall conduct performance tests for particulate matter emissions from the ESP stack (including BOF oxygen blows) at least twice during the ROP renewal period. Testing shall be performed only during the steel production cycle and sampling shall be performed over an integral number of steel production cycles. Testing shall be performed with test methods as specified in 40 CFR 63.7822. **(40 CFR 63.7821, 40 CFR 63.7822(g)(1) and (2))**

2. Permittee shall conduct performance tests for particulate matter emissions and opacity at least twice during the ROP renewal period. **(40 CFR 63.7821(a))**

3. 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))**

4. The permittee shall demonstrate compliance with the opacity limitation in SC I.2 with a certified observer according to Method 9 except for the following: **(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))**

5. 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. **(40 CFR 63.7823(d)(4))**

6. Permittee shall determine and record the starting and stopping times of the steel production cycle. **(40 CFR 63.7823(d)(5))**

7. The permittee shall verify visible emissions, PM, PM10, PM2.5, NOx, and CO emission rates from the EUBOF ESP stack (including BOF oxygen blows), by testing at owner's expense, in accordance with Department requirements, within 180 days after permit issuance unless a test has been completed within two years prior to the effective date of this permit and the results submitted to the AQD for approval. The PM testing shall be performed with test methods as specified in Rule 336.1331. Subsequent testing will be required once every three years from the completion of the previous stack test. No less than 45 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the District Office. 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. **(R 336.1205(1)(a) & (b), R 336.1301, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2803, R 336.2804, R 336.2802(4))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall install, operate and maintain a continuous opacity monitor on the EUBOF ESP stack and monitor the hourly average opacity of the stack continuously when the process is in operation. The Continuous Opacity Monitoring System (COMS) shall provide valid 1 hour averages for at least 95 percent of process operating hours for every quarterly reporting period. COMS data must be reduced to 6-minute averages as specified in §63.8(g)(2) and to hourly averages where required by Subpart FFFFF. The permittee shall operate the EUBOF ESP COMS to meet the timelines, requirements and reporting detailed in Appendix 1.3.3 and shall use the COMS data for determining compliance with SC I.1. **(40 CFR 63.7830(d), 40 CFR 63.7831(h), 40 CFR 63.7832(a), 40 CFR 63.7833(g))**

3. The permittee shall perform a Method 9 certified visible emission observation of EUBOF ESP stack at least once every week during operation for a minimum of one complete heat. 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. **(R 336.1301)**

4. The permittee shall perform a Method 9C certified visible emission observation of the BOF roof monitors and a Method 9C certified visible emission observation of the BOF shop building, including reladling and desulfurization operations, at least once a week during BOF operations for a minimum of one hour, which must include one complete heat. The permittee shall initiate corrective action upon observation of visible emissions in excess of the permit limit and shall keep a written record of each required observation and corrective action taken. The written record shall include all of the information required for the BOF camera log in SC VI.28.c. The permittee shall review the written record on a monthly basis and verify all relevant information has been included. **(R 336.1301(c), R 336.1364(2), R 336.1365(2), R 336.1366(2))**

5. The permittee shall perform a Method 9C certified visible emission observation during each beaching event that occurs during daylight hours unless impractical due to an emergency situation. When beaching within the BOF building, the visible emissions observation shall include the BOF roof monitors and BOF shop building, and when beaching outdoors, the visible emissions observation shall be conducted of the outdoor beaching location. Permittee shall maintain of log of each occurrence which shall include date, start time, stop time, location of beaching event, visible emissions observations or the reason why such observation was not conducted, and reason for beaching. **(R 336.1301(c), R 336.1364(2))**

6. Within 60 days of issuance of this permit, the permittee shall update on-site screening procedure and scrap management plan, or alternate plan(s) as 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 to document that mercury-containing devices and switches have been removed from the scrap[1]. **(R 336.1228, R 336.1901)**

7. If applicable, the permittee shall operate and maintain the EUBOF ESP CPMS in continuous operation according to the site-specific monitoring plan. Unless otherwise specified, the CPMS shall: **(40 CFR 63.7831(b))**

   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; **(40 CFR 63.7831(b)(1))**
   b. Provide valid hourly data for at least 95 percent of every averaging period; and **(40 CFR 63.7831(b)(2))**
   c. Determine and record the hourly average of all recorded readings. **(40 CFR 63.7831(b)(3))**

8. The permittee shall monitor the process as required, 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. All other data collected during all other periods must be used in assessing compliance. **(40 CFR 63.7832(b))**

10. Pursuant to 40 CFR 63.7833(g), if the hourly average opacity for the EUBOF ESP exceeds 10 percent, the permittee shall follow the procedures below:

    a. Initiate corrective action to determine the cause of the exceedance within 1 hour. During any period of corrective action, the permittee must continue to monitor and record all required operating parameters for equipment that remains in operation, such as total power input (voltage and secondary current) of the ESP fields, off-gas conditioning system prior to the ESP (water flow rate within standard operating levels) and any other parameters that are necessary for proper operation of the ESP. Within 24 hours of the exceedance, the permittee must measure and record the hourly average opacity for the EUBOF ESP. If the hourly average opacity meets the 10 percent limit, then the corrective action was successful and the emission unit is in compliance with the applicable operating limit. **(R 336.1201(3), 40 CFR 63.7833(g)(1))**

    b. If the initial corrective action was not successful, the permittee must complete additional corrective action within the next 24 hours (48 hours from the time of the exceedance). During any period of corrective action, permittee must continue to monitor and record all required operating parameters for equipment that remains in operation. After this second 24-hour period, permittee must again measure and record the hourly average opacity for the EUBOF ESP. If the hourly average opacity meets the 10 percent 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))**

c. 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 was not successful, the permittee must report the exceedance as a deviation in their next semiannual compliance report according to §63.7841(b). **(40 CFR 63.7833(g)(4))**

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. **(R 336.1301(1)(c), 40 CFR 63.7830(d), 40 CFR 63.7831(h), 40 CFR 63.7832(a), 40 CFR 63.7833(g))**

11. The permittee shall perform preventative maintenance on the EUBOF ESP as specified in the operation and maintenance plan for the ESP. **(40 CFR 63.7834(a)(2))**

12. 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))**

13. 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))**

14. 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))**

15. 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))**

16. 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))**

17. The permittee shall record the oxygen flow rate at least once every minute during each oxygen blow. **(MDEQ Consent Order 6-2006, Paragraph 11(B)(iii))**

18. The effectiveness of the slopping procedure shall be monitored via the BOF Monitoring and Evaluation Requirements in paragraph 12 of MDEQ Consent Order 6-2006. **(MDEQ Consent Order 6-2006, Paragraph 11(B)(iv))**

19. The permittee shall maintain records of any new draft control equipment or instrument installation, and shall document that the draft set point programming is working properly after any such installation. **(MDEQ Consent Order 6-2006, Paragraph 11(C) (i) and (iii))**

20. The effectiveness of the draft set point program shall be monitored via the BOF Monitoring and Evaluation Requirements in Paragraph 12 of MDEQ Consent Order 6-2006. **(MDEQ Consent Order 6-2006, Paragraph 11(C)(iv))**

21. In the event steel with a carbon content of 1% or higher is produced that needs to be broken at the BOF, the permittee shall notify the AQD Southeast Michigan District office of such fact, and of its compliance with the breaking ball requirement set forth in III.8 of this section. **(MDEQ Consent Order 6-2006, Paragraph 11(D)(ii))**

22. The permittee shall inspect the exterior of the Guillotine Relief Dampers, Relief chambers and Downcomer on a weekly basis for evidence of exhaust leaks. Records of each inspection, to include the name of the inspector, the time and date of the inspection, shall be maintained for a period of five years. **(MDEQ Consent Order 6-2006, Paragraph 11(E)(i)), R 336.1301, R 336.1901)**

23. If the inspection identifies an exhaust leak likely to cause visible emissions, repair procedures shall be initiated. If the exhaust leak is identified during an operating period, temporary repairs shall be initiated within twenty-four (24) hours of verification of the leak. If the leak is identified during an outage, initiation of repairs shall be coordinated with any scheduled repairs. **(MDEQ Consent Order 6-2006, Paragraph 11(E)(ii))**

24. Following completion of either temporary or permanent repairs, an inspection will be conducted during operation of the affected vessel. The performance of the repair shall be recorded. If additional repair is necessary, it will be scheduled and implemented in accordance with SC VI.24 of this section until the leak is no longer a source of emissions. **(MDEQ Consent Order 6-2006, Paragraph 11(E)(iii))**

25. Upon termination of MDEQ Consent Order 6-2006, if an inspection of the exterior of Guillotine Dampers, Relief Dampers, and Downcomer reveals an exhaust leak likely to lead to excess visible emissions, appropriate temporary or permanent repairs shall be initiated within twenty-four (24) hours of verification of the leak and shall be completed until leak is no longer a source of excess emission. **(R 336.1301, R 336.1901)**

26. The permittee shall install 8 digital cameras at the BOF to better obtain continuous, real-time information about the status of its operations at the BOF and BOF emission points. **(MDEQ Consent Order 6-2006, Paragraph 12(A)(i))**

27. The images from the 8 cameras will be transmitted to the BOF pulpits for A and B vessels, to the ESP pulpit and to a conference room in the BOF. If excess emissions are observed from the BOF Roof Monitor, then,

    a. The appropriate operator(s), if other than the viewer of the image, shall be immediately notified.
    b. Any reasonable immediate corrective action that can be taken to address the emission shall be taken.
    c. A log entry will be made of the observation, including the date and time of the observation, the source of the emissions and the cause, if known. If the cause is not known, an immediate investigation of the cause shall be undertaken, and the log updated with the results of such investigation.**(MDEQ Consent Order 6-2006, Paragraph 12(A)(iv))**

28. The images recorded by the cameras once every three seconds shall be stored so that the images can be retrieved for up to thirty (30) days. The images shall be stored such that images of a particular date and time can be identified and recalled. **(MDEQ Consent Order 6-2006, Paragraph 12(A)(v))**

29. After the termination of the provisions of MDEQ Consent Order 6-2006, Paragraph 12(A), permittee shall utilize 8 digital cameras, of which at least 4 must be in operation at any one time and at least one of the four shall be an external view of the BOF, to obtain real-time information about the status of operations at the BOF and BOF emission points. Images from the cameras will be transmitted to the BOF pulpits for A and B vessels, or such other locations as may be approved by the AQD District Supervisor. If excess emissions are observed from the BOF Roof Monitor, then,

    a. The appropriate operator(s), if other than the viewer of the image, shall be immediately notified.
    b. Any reasonable immediate corrective action that can be taken to address the emission shall be taken.
    c. A log entry will be made of the observation, including the date and time of the observation, the source of the emissions and the cause, if known. If the cause is unknown, an immediate investigation of the cause shall be undertaken, and the log updated with the results of such investigation. **(R 336.1301, R 336.1901)**

30. The permittee shall keep daily and monthly records of the amount of steel produced, in EUBOF. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

31. The permittee shall keep monthly records of the hot metal charging tonnage, steel tapping tonnage and slag tapping tonnage in EUBOF. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

32. Using the method shown in Appendix 1.7, the permittee shall calculate monthly and 12-month rolling time period NOx emission rates from EUBOF ESP stack. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

33. Using the method shown in Appendix 1.7, the permittee shall calculate the monthly and 12-month rolling time period for PM, PM10, and PM2.5 emission rates for EUBOF roof monitor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

34. The permittee shall maintain a copy of the current operation and maintenance plans required in this section onsite and available for inspection. **(40 CFR 63.7834(b))**

35. The permittee shall maintain records of the monitoring data from the continuous opacity monitor. **(40 CFR 63.7842(d))**

36. Permittee shall conduct certified visible emissions observations of the EUBOF Roof Monitors using Method 9C for a minimum of two (2) hours per week. The observations must include two (2) complete heats. The emissions observations must be recorded as they are made, with observations recorded at fifteen (15) second intervals. If any exceedance of visible emission standards is observed at the BOF roof monitors, the permittee shall conduct an investigation into the cause of the exceedance. The investigation shall consider data collected by the cameras that are required by Consent Order 6-2006, Paragraph 12(A). **(MDEQ Consent Order 6-2006, Paragraph 12(B)(i) & (ii))**

VII. REPORTING

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. 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))**

3. The permittee shall prepare a report for each exceedance in which it shall identify the date, time and extent of the exceedance, as well as a description of the investigation into the cause of the exceedance. The report shall identify the cause of the exceedance, to the extent ascertainable, and identify corrective action to prevent a recurrence of the exceedance. The reports generated pursuant to this requirement shall be sent to the AQD Southeast Michigan District Supervisor within fourteen (14) days of the occurrence. **(MDEQ Consent Order 6-2006, Paragraph 12(B)(iii))**

4. 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 of COMS exceedances in an acceptable format to Air Quality Division, within 30 days following the end of each calendar quarter as required in Appendix 1.3.3. **(R 336.1331)**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOFESP	204	213	R 336.1225 R 336.2803, R 336.2804
2. SCBOFBH	222	200	R 336.1225 R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. The permittee shall comply with the emission limitations and operation and maintenance requirements from 40 CFR Part 63, Subpart FFFFF as specified in this section, except during periods of startup, shutdown and malfunction. **(40 CFR 63.7810(a))**

2. Records required under 40 CFR Part 63, Subpart FFFFF 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. The permittee shall evaluate the effectiveness of the draft set point program each time any new draft control equipment or instruments are installed that could cause affect use of the appropriate draft point setting. **(MDEQ Consent Order 6-2006, Paragraph 11(C)(i))**

4. The permittee may petition in writing for a modification or termination of the draft set point program as described in IX.6 of this section. The petition shall be submitted to the AQD Southeast Michigan District Supervisor for approval. In any such petition, the permittee has the burden of proof. **(MDEQ Consent Order 6-2006, Paragraph 11(C)(ii))**

5. Upon approval of the AQD Southeast Michigan District Supervisor, the permittee may change the specified location of the cameras detailed in VI.26 of this section. Such approval shall be in writing and will be incorporated by reference as a revision to MDEQ Consent Order 6-2006. **(MDEQ Consent Order 6-2006, Paragraph 12(A)(vii))**

6. Following installation of the BOF secondary emission control equipment, the permittee may petition the AQD Southeast Michigan District Supervisor for elimination of any or all of the requirements for camera operation or visible emissions monitoring as described in SC VI.24, SC VI.25, and SC VI.26 of this section. **(MDEQ Consent Order 6-2006, Paragraph 12(B)(iv))**

7. The permittee shall not conduct any torch cutting of scrap at the EAF Stockhouse or any outside areas for use in the BOF, exclusive of demolition of existing facility structures, building and equipment, and emergencies unless it first obtains any necessary permit from the AQD to conduct such activity. **(MDEQ Consent Order 6-2006, Paragraph 11(A), (R 336.1301, R 336.1901)**

8. 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. [1] **(R 336.1228, R 336.1901)**

9. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart FFFFF for Integrated Iron and Steel Manufacturing by the initial compliance date. **(40 CFR Part 63, Subparts A and Subpart FFFFF)**

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to:
EULADLEREFINE1

DESCRIPTION: No. 1 Ladle refining facility controlled by a baghouse

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: Baghouse

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	5% Opacity	6-minute average	EULADLEREFINE1 Baghouse stack	SC V.3 SC VI.2	R 336.1301(1)(c)
2. Visible emissions	No visible emissions	Instantaneous	EULADLEREFINE1 Roof monitors	SC V.3 SC VI.3	R 336.1205(1)(a) & (b) R 336.1301(1)(c) R 336.2801(ee) R 336.2802(4) R 336.2902(2)
3. Visible emissions	20% Opacity	3-minute average	EULADLEREFINE1 Roof Monitors	SC V.1 SC V.2	40 CFR 63.7790(a)
4. PM	0.005 gr/dscf	Test Protocol*	EULADLEREFINE1 Baghouse stack	SC V.6	R 336.1205(1)(a)&(b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
5. PM	0.01 gr/dscf	Test Protocol*	EULADLEREFINE1 Baghouse stack	SC V.1 SC V.2	40 CFR 63.7790(a)
6. PM	6.33 pph	Test Protocol*	EULADLEREFINE1 Baghouse stack	SC V.3	R 336.1205(1)(a)&(b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
7. PM10	6.65 pph	Test Protocol*	EULADLEREFINE1 Baghouse stack	SC V.3	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
8. PM2.5	6.65 pph	Test Protocol*	EULADLEREFINE1 Baghouse stack	SC V.3	R 336.1205(1)(a) & (b) R 336.2803, R336.2804
9. Pb	0.022 pph	Test Protocol*	EULADLEREFINE1 Baghouse stack	SC V.3	R 336.2804 40 CFR 52.21 (d)

*Test Protocol will specify averaging time.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The EULADLEREFINE1 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. **(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 EULADLEREFINE1 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))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EULADLEREFINE1 unless the baghouse is installed and operating properly. **(R 336.1331(c), R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Permittee shall conduct performance tests for particulate matter emissions at least once every five years. **(40 CFR 63.7821)**

2. Sampling during the performance tests will occur only when the operations being controlled are in operation. **(40 CFR 63.7822(h))**

3. Within three years of the issuance of this permit, the permittee shall verify visible emissions, PM, PM10, PM2.5 and Pb emission rates from the EULADLEREFINE1 baghouse stack by testing at owner's expense, in accordance with Department requirements. Subsequent testing will be required once every three years from the completion of the previous stack test. In addition, at the time of the first testing after the date of issuance of this permit, the permittee shall obtain Pb dust concentrations in the EULADLEREFINE1 baghouse hoppers. Subsequent Pb sampling of the baghouse dust is not required. No less than 45 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the District Office. 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, including baghouse dust analysis for Pb, to the AQD within 60 days following the last date of the test. **(R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

4. The permittee shall verify the capture efficiency for EULADLEREFINE1 using computational fluid dynamics (CFD) modeling or other approved method within three years of the issuance of this permit. The permittee shall perform CFD modeling or other approved method to verify the capture efficiency every three years thereafter. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD District Office. The AQD must approve the final plan prior to testing. The permittee shall submit a complete report of the analysis results to the AQD within 60 days following the completion of the analysis. **(R 336.1205(1)(a) & (b), R 336.1301, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall perform a Method 9 certified visible emission observation for the EULADLEREFINE1 baghouse stack at least once every month during EULADLEREFINE1 processing activity for a minimum of one complete heat or a maximum of one hour during a heat. 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. **(R 336.1301(c))**

3. The permittee shall perform Method 9 certified visible emission observation for the EULADLEREFINE1 roof monitors at least once a week during EULADLEREFINE1 operations for a minimum of one complete heat or a maximum of one hour during a heat. 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. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

4. 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 operation and maintenance manual. **(40 CFR 63.7830(b)(4)(i))**

5. The permittee shall conduct inspections of the Ladle Refining Baghouse at the specified frequencies according to the requirements in paragraphs (a) through (h) below. The permittee shall maintain records needed to document conformance with these requirements.

   a. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
   b. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
   c. Check the compressed air supply for pulse-jet baghouses each day.
   d. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
   e. Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.
   f. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.
   g. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
   h. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means. **(40 CFR 63.7830(b)(4), 40 CFR 63.7833(c))**

6. Except as allowed in S.C. VI.8, the 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))**

7. 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 COMS as specified in S.C. VI.8. **(40 CFR 63.7831(f)(6))**

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 63.7830(b))**

9. The permittee shall monitor the process as required by 40 CFR 63, Subpart FFFFF, 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))**

10. 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))**

11. 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 63.7833(c)(4), CFR 63.7842(d))**

12. 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 COMS as specified in S.C. VI.8. **(40 CFR 63.7833(c)(1))**

13. 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))**

14. 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))**

15. 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))**

VII. REPORTING

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))**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVLADELREFINE1	108	148	R 336.1225 R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. The permittee shall comply with the emission limitations and operation and maintenance requirements from 40 CFR Part 63, Subpart FFFFF, 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 section 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. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart FFFFF for Integrated Iron and Steel Manufacturing by the initial compliance date. **(40 CFR Part 63, Subparts A and Subpart FFFFF)**

The following conditions apply to:
EULADLEREFINE2

DESCRIPTION: No. 2 Ladle refining facility controlled by a baghouse.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT: Baghouse

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	5% Opacity	6-minute average	EULADLEREFINE2 Baghouse stack	SC V.3 SC VI.2	R 336.1301(1)(c)
2. Visible emissions	No visible emissions	Instantaneous	EULADLEREFINE2 Roof monitors	SCV.3 SC VI.3	R 336.1205(1)(a) & (b) R 336.1301(1)(c) R 336.2801(ee) R 336.2802(4) R 336.2902(2)
3. Visible emissions	20% Opacity	3-minute average	EULADLEREFINE2 Roof monitors	SC V.1 SC V.2	40 CFR 63.7790(a)
4. PM	0.005 gr/dscf	Test Protocol*	EULADLEREFINE2 Baghouse stack	SC V.3	R 336.1205(1)(a)&(b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
5. PM	0.01 gr/dscf	Test Protocol*	EULADLEREFINE2 Baghouse stack	SC V.1 SC V.2 SC V.3	40 CFR 63.7790(a)
6. PM	3.72 pph	Test Protocol*	EULADLEREFINE2 Baghouse stack	SC V.3	R 336.1205(1)(a)&(b) R 336.1331(1)(c) R 336.2801(ee) R 336.2802(4)
7. PM10	3.91 pph	Test Protocol*	EULADLEREFINE2 Baghouse stack	SC V.3	R 336.1205(1)(a)&(b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
8. PM2.5	3.91 pph	Test Protocol*	EULADLEREFINE2 Baghouse stack	SC V.3	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
9. Pb	0.013 pph	Test Protocol*	EULADLEREFINE2 Baghouse stack	SC V.3	R 336.2804
*Test Protocol will specify averaging time.					

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The EULADLEREFINE2 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. **(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 EULADLEREFINE2 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))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EULADLEREFINE2 unless the baghouse is installed and operating properly. **(R 336.1331(c), R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Permittee shall conduct performance tests for particulate matter emissions at least once during the ROP renewal period. **(40 CFR 63.7821)**

2. Sampling during the performance tests will occur only when the operations being controlled are in operation. **(40 CFR 63.7822(h))**

3. Within three years of the issuance of this permit, the permittee shall verify visible emissions, PM, PM10, PM2.5 and Pb emission rates from the EULADLEREFINE2 baghouse stack by testing at owner's expense, in accordance with Department requirements. Subsequent testing will be required once every three years from the completion of the previous stack test. In addition, at the time of the first testing after the date of issuance of this permit, the permittee shall obtain Pb dust concentrations in the EULADLEREFINE2 baghouse hoppers. Subsequent Pb sampling of the baghouse dust is not required. No less than 45 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the District Office. 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, including baghouse dust analysis for Pb, to the AQD within 60 days following the last date of the test. **(R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

4. The permittee shall verify the capture efficiency for EULADLEREFINE2 with computational fluid dynamics (CFD) modeling or other approved method within three years of the issuance of this permit. The permittee shall perform CFD modeling or other approved method to verify the capture efficiency every three years thereafter. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the District Office. The AQD must approve the final plan prior to testing. The permittee shall submit a complete report of the analysis results to the AQD within 60 days following the completion of the analysis. **(R 336.1205(1)(a) & (b), R 336.1301, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall perform a Method 9 certified visible emission observation for the EULADLEREFINE2 baghouse stack at least once every month during EULADLEREFINE2 processing activity for a minimum of one complete heat or a maximum of one hour during a heat. 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. **(R 336.1301(c))**

3. The permittee shall perform a Method 9 certified visible emission observation for the EULADLEREFINE2 roof monitors at least once a week during EULADLEREFINE2 operations for a minimum of one complete heat or a maximum of one hour during a heat. 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. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

4. 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 operation and maintenance manual. **(40 CFR 63.7830(b)(4)(i))**

5. The permittee shall conduct inspections of the Ladle Refining Baghouse at the specified frequencies according to the requirements in paragraphs (a) through (h) below. The permittee shall maintain records needed to document conformance with these requirements.

   a. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
   b. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
   c. Check the compressed air supply for pulse-jet baghouses each day.
   d. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
   e. Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.
   f. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.
   g. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
   h. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means. **(40 CFR 63.7830(b)(4), 40 CFR 63.7833(c))**

6. Except as allowed in S.C. VI.8, the 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))**

7. 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 COMS as specified in S.C. VI.8. **(40 CFR 63.7831(f)(6))**

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 63.7830(b))**

9. The permittee shall monitor the process as required by 40 CFR 63, Subpart FFFFF, 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))**

10. 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))**

11. 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 63.7833(c)(4), CFR 63.7842(d))**

12. 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 COMS as specified in S.C. VI.8. **(40 CFR 63.7833(c)(1))**

13. 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))**

14. 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))**

15. 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))**

VII. REPORTING

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))**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVLADELREFINE2	72	150	R 336.1225 R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. The permittee shall comply with the emission limitations and operation and maintenance requirements from 40 CFR Part 63, Subpart FFFFF, 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 section 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. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart FFFFF for Integrated Iron and Steel Manufacturing by the initial compliance date. **(40 CFR Part 63, Subparts A and Subpart FFFFF)**

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGB&CFURNACES	B & C Blast Furnace casthouses and stoves	EUBFURNACE EUCFURNACE
FGBOFSHOP	Two Basic Oxygen Furnace vessels and BOF Reladling south and north	EUBOF EURELADLINGBOF
FGANNEALFURNACES	52 annealing furnaces (composed of 34 hydrogen nitrogen annealing furnaces and 18 hydrogen annealing furnaces) located in the Cold Mill Building.	EUANNEALFURNACES
FGHSMFURNACES123	Three Slab reheat furnace Nos. 1, 2 and 3 located in the Hot Strip Mill Building.	EUREHEATFURN1 EUREHEATFURN2 EUREHEATFURN3
FG-ENG2007>500	Two SI engines at a major source greater than 500 horsepower.	EU-ENGCBFTC EU-ENGCBFHS
FG-ENG2007<500	Four SI engines at a major source less than 500 horsepower and limited use.	EU-ENGCBFBS EU-ENGWSAC EU-ENGCBFDM EU-ENGCBFGS
FGORDERS	Facility wide restrictions per consent orders	

The following conditions apply to:
FGB&CFURNACES

DESCRIPTION: B & C Blast Furnace casthouses and stoves

Emission Units: EUBFURNACE, EUCFURNACE

POLLUTION CONTROL EQUIPMENT: Casthouse: baghouse; Stoves: Low-NOx technology, venturi scrubber and mechanical collector for blast furnace gas precleaning

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	87.4 tpy	12-month rolling time period basis as determined at the end of each calendar month	FGB&CFURNACES Baghouse stacks	SC VI.3	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4)
2. PM	27.75 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Roof monitors	SC VI.4	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4)
3. PM	35.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Stoves	SC VI.5	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4)
4. PM10	87.01 tpy	12-month rolling time period basis as determined at the end of each calendar month	FGB&CFURNACES Baghouse stacks	SC VI.3	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804 (c)
5. PM10	15.04 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Roof monitors	SC VI.4	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
6. PM10	99.1 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Stoves	SC VI.5	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
7. PM2.5	87.01 tpy	12-month rolling time period basis as determined at the end of each calendar month	FGB&CFURNACES Baghouse stacks	SC VI.3	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
8. PM2.5	7.27 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Roof monitors	SC VI.4	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
9. PM2.5	99.1 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Stove stacks	SC VI.5	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
10. SO_2	1,188 tpy	12-month rolling average as determined at the end of each calendar month	FGB&CFURNACES Baghouse stacks and Stove stacks	VI.6	R 336.2803, R 336.2804
11. NOx	25.74 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Baghouse stacks	SC VI.3	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
12. NOx	439.2 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Stove stacks	SC VI.5	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
13. CO	8,760 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Stove stacks	SC VI.5	R 336.2810 R 336.2804
14. VOC	49.42 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Baghouse stacks	SC VI.3	R 336.1205(1)(a) & (b) R 336.1702(a)
15. Pb	0.05 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Baghouse stacks	SC VI.3	R 336.1205(1)(a) & (b) R 336.2804
16. Pb	0.044 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Roof monitors	SC VI.4	R 336.1205(1)(a) & (b) R 336.2804
17. Pb	0.06 tpy	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Stove stacks	SC VI.5	R 336.1205(1)(a) & (b) R 336.2804
18. Mn	0.24 tpy [1]	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Baghouse stacks	SC VI.3	R 336.1225
19. Mn	0.26 tpy [1]	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Roof monitors	SC VI.4	R 336.1225
20. Mn	0.06 tpy [1]	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Stove stacks	SC VI.5	R 336.1225
21. Total Hg	0.0146 tpy [1]	12-month rolling time period as determined at the end of each calendar month	FGB&CFURNACES Stove stacks	SC VI.5	R 336.1228

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Iron Production	Combined maximum of 3,321,500 tons per year	12-month rolling time period basis as determined at the end of each calendar month	FGB&CFURNACES	SC VI. 2	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the SO_2 emissions and flow from each EUBFURNACE stove stack and baghouse stack on a continuous basis. **(R 336.2803, R 336.2804)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall keep on a daily basis, monthly, and previous 12-month rolling time period record of the amount of iron production from FGB&CFURNACES combined at the B and C Blast Furnace Casthouses. The permittee shall keep the records on file at the facility and make them available to the department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

3. The permittee shall calculate monthly and 12-month rolling time period PM, PM10, PM2.5, NOx, VOC, Pb and Mn emission rates from FGB&CFURNACES baghouse stacks based upon stack testing data and iron throughput limits. The permittee shall keep the records on file at the facility and make them available to the department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1702, R 336.2802(4), R 336.2803, R 336.2804, R 336.2902(2), 40 CFR 51 (Appendix S), 40 CFR 52.21 (a)(2),40 CFR 52.21 (c) & (d))**

4. Using the method shown in Appendix 1.7, the permittee shall calculate monthly and 12-month rolling time period PM, PM10, PM2.5, Pb and Mn emission calculations from FGB&CFURNACES roof monitor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

5. Using the method shown in Appendix 1.7, the permittee shall calculate monthly and 12-month rolling time period PM, PM10, PM2.5, NOx, CO, Pb, Mn and Total Hg emission rates from FGB&CFURNACES stoves. The permittee shall keep the records on file at the facility and make them available to the department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1228, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

6. The permittee shall continuously monitor and record, in a satisfactory manner, the SO_2 emissions and flow from each EUBFURNACE stove stack and baghouse stack and each EUCFURNACE stove stack and baghouse stack. The permittee shall operate the Continuous Emission Rate Monitoring System (CERMS) to meet the timelines, requirements and reporting detailed in Appendix 1.3.1 and 1.3.2 and shall use the CERMS data for determining compliance with SC I.1. **(R 336.2803, R 336.2804)**

7. The permittee shall keep, in a satisfactory manner, monthly and previous 12-month records of SO_2 emission calculations for FGB&CFURNACES, using actual emissions data obtained from the CERMS installed on EUBFURNACE stove stack and baghouse stack and EUCFURNACE stove stack and baghouse stack. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.2803, R 336.2804)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rules 201(1)(b).

The following conditions apply to:
FGBOFSHOP

DESCRIPTION: Two Basic Oxygen Furnace vessels and BOF Reladling south and north

Emission Units: EUBOF, EURELADLINGBOF

POLLUTION CONTROL EQUIPMENT: One Electrostatic Precipitator for both BOF Vessels, Secondary Baghouse for process emissions from the two Basic Oxygen Furnace vessels and BOF Reladling south and north.

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	20% Opacity	3-minute average	FGBOFSHOP Secondary Baghouse stack	SC V.6 SC VI.2	R 336.1364(1) R 336.1365(1)
2. Visible emissions	15% Opacity	3-minute average	FGBOFSHOP Roof Monitor	SC VI.22	R 336.1331
3. PM	0.003 gr/dscf	Test Protocol*	FGBOFSHOP Secondary Baghouse stack	SC V.6	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4)
4. PM	0.01 gr/dscf	Test Protocol*	FGBOFSHOP Secondary Baghouse stack	SC V.1 SC V.2 SC V.3	40 CFR 63.7990(a)
5. PM	15.6 pph	Test Protocol*	FGBOFSHOP Secondary Baghouse stack	SC V.6	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4)
6. PM10	17.71 pph	Test Protocol*	FGBOFSHOP Secondary Baghouse stack	SC V.6	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
7. PM2.5	17.71 pph	Test Protocol*	FGBOFSHOP Secondary Baghouse stack	SC V.6	R 336.1205(1)(a) & (b) R 336.2803, R 336.2804
8. NOx	10.2 pph	Test Protocol*	FGBOFSHOP Secondary Baghouse stack	SC V.6	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
9. NOx	39.7 tpy	12-month rolling time period as determined at the end of each calendar month	FGBOFSHOP Secondary Baghouse stack	SC VI.20	R 336.1205(1)(a) & (b) R 336.2802(4) R 336.2803, R 336.2804
10. Pb	0.067 pph	Test Protocol*	FGBOFSHOP Secondary Baghouse and ESP stacks	SC V.7	R 336.1205(1)(a)&(b) R 336.2804

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
11. Mn	0.07 pph [1]	Test Protocol*	FGBOFSHOP Secondary Baghouse stack	SC V.7	R 336.1225
12. Mn	0.10 pph [1]	Test Protocol*	FGBOFSHOP Secondary Baghouse and ESP stacks	SC V.7	R 336.1225
13. Total Hg	0.0086 pph [1]	Test Protocol*	FGBOFSHOP Secondary Baghouse and ESP stacks	SC V.7	R 336.1228
*Test Protocol will specify averaging time.					

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Iron Processing	10,000 tons per day	Calendar day	FGBOFSHOP (Reladling, Desulfurization)	SC VI. 21	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall maintain a copy of the BOF secondary baghouse capture system design plans and a signed certification from the designer on site, 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. **(R 336.1205(1)(a) & (b), R 336.1301, R 336.1331, R 336.1910, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

IV. DESIGN/EQUIPMENT PARAMETERS

1 The permittee shall not operate the Basic Oxygen Furnaces or the Reladling South Operation unless the secondary baghouse is installed, maintained, and operated in a satisfactory manner. **(R 336.1225, R 336.1301, R 336.1331(c), R 336.1910, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall make the following modifications to FGBOFSHOP within 180 days of the issuance of this permit:

   a) Install a steam ring or other equivalent barrier at A and B Vessels to mitigate the potential for emissions to escape through the lance hole,
   b) Close the gaps at the reline tower door/boiler hood door in the primary capture hood, and;
   c) Modify the charge hood flap to prevent emissions escaping during charge as the flap is drawn. **(R 336.12051(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Permittee shall conduct overlapping performance tests for particulate matter emissions from the BOF secondary baghouse and opacity from the BOF roof monitor (including reladling operation and BOF oxygen blows) at least once during the ROP renewal period **(40 CFR 63.7821)**

2. Permittee shall conduct performance tests for particulate matter emissions from the ESP stack (including BOF oxygen blows) at least twice during the ROP renewal period. Testing shall be performed only during the steel production cycle and sampling shall be performed over an integral number of steel production cycles. **(40 CFR 63.7821, 40 CFR 63.7822(g)(1) and (2))**

3. Permittee shall determine and record the starting and stopping times of the steel production cycle. **(40 CFR 63.7823(d)(5))**

4. 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))**

5. The permittee may change the operating limits for the baghouse capture system if the following requirements are met: **(40 CFR 63.7824(c))**

   a. Submit a written notification to the Administrator requesting to conduct a new performance test to revise the operating limit. **(40 CFR 63.7824(c)(1))**
   b. Conduct a performance test to demonstrate compliance with the applicable operating limitation. **(40 CFR 63.7824(c)(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(c)(3))**

6. Within three years of the issuance of this permit, the permittee shall verify visible emissions, PM, PM10, PM2.5, and NOx emission rates from the BOF secondary baghouse stack during typical operations (including reladling operation) by testing at owner's expense, in accordance with Department requirements. Subsequent testing will be required once every three years from the completion of the previous stack test. No less than 45 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the District Office. 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. **(R 336.1205(1)(a) & (b), R 336.1301, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2803, R 336.2804, R 336.2802(4))**

7. Within three years of the issuance of this permit, the permittee shall verify and quantify Mn, Pb, and total Hg emissions rates from the FGBOFSHOP (secondary baghouse stack and ESP stack simultaneously) by testing at owner's expense, in accordance with Department requirements. Subsequent testing will be required once every three years from the completion of the previous stack test. In addition, at the time of the first testing after the date of issuance of this permit, the permittee shall obtain Mn, Pb and Hg dust concentrations in both the ESP hoppers and the baghouse hoppers. Subsequent Mn, Pb and Hg sampling of the ESP and baghouse hoppers is not required, unless requested by the AQD District Supervisor. No less than 45 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and the District Office. 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, including ESP and baghouse dust analysis for Mn, Pb and Hg, to the AQD within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.1301, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee))**

8. The permittee shall verify the capture efficiency for FGBOFSHOP using computational fluid dynamics (CFD) modeling or other approved method within three years of the issuance of this permit. The permittee shall perform CFD modeling or other approved method to verify the capture efficiency every three years thereafter. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD District Office. The AQD must approve the final plan prior to testing. The permittee shall submit a complete report of the analysis results to the AQD within 60 days following the completion of the analysis. **(R 336.1205(1)(a) & (b), R 336.1301, R 336.2001, R 336.2003, R336.2004, R 336.2801(ee))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall perform a Method 9 certified visible emission observation for the FGBOFSHOP secondary baghouse stack at least once every month during BOF operations (including reladling 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. **(R 336.1364(1), R 336.1365(1))**

3. 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; **(R 336.1301, R 336.1364(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))**

4. The permittee shall install, maintain, and operate a Continuous Parametric Monitoring System (CPMS) for the baghouse capture system according to the following requirements of 40 CFR 63.7830(a):

    a. Dampers that are manually set and remain in the same position are exempt from the requirement to install and operate a CPMS. If dampers are not manually set and remain in the same position, the permittee shall make a visual check at least once every 24 hours to verify that each damper for the capture system is in the same position as during the initial performance test.

b. If the permittee uses a flow measurement device to monitor the operating limit parameter for a sinter plant discharge end or blast furnace casthouse, the permittee shall monitor the hourly average rate (*e.g.,* the hourly average actual volumetric flow rate through each separately ducted hood, the average hourly total volumetric flow rate at the inlet to the control device) according to the requirements in 40 CFR 63.7832.
c. If the permittee uses a flow measurement device to monitor the operating limit parameter for a capture system applied to secondary emissions from a BOPF, the permittee shall monitor the average rate for each steel production cycle (*e.g.,* the average actual volumetric flow rate through each separately ducted hood for each steel production cycle, the average total volumetric flow rate at the inlet to the control device for each steel production cycle) according to the requirements in §63.7832. **(40 CFR 63.7830(a))**

5. 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)(4)(i))**

6. The permittee shall conduct inspections of the EUBOFSHOP at the specified frequencies according to the requirements in paragraphs (a) through (h) below. The permittee shall maintain records needed to document conformance with these requirements.

a. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.
b. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.
c. Check the compressed air supply for pulse-jet baghouses each day.
d. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.
e. Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.
f. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.
g. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.
h. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means. **(40 CFR 63.7830(b)(4), 40 CFR 63.7833(c))**

7. 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))**

8. 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: **(40 CFR 63.7831(b))**

    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; **(40 CFR 63.7831(b)(1))**
    b. Provide valid hourly data for at least 95 percent of every averaging period; and **(40 CFR 63.7831(b)(2))**
    c. Determine and record the hourly average of all recorded readings. **(40 CFR 63.7831(b)(3))**

9. Except as allowed in S.C. VI.11, the 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))**

10. 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 COMS as specified in S.C. VI.11. **(40 CFR 63.7831(f)(6))**

11. 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 63.7830(b))**

12. The permittee shall monitor the process as required by 40 CFR 63, Subpart FFFFF, 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))**

13. 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))**

14. 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. **(40 CFR 63.7833(b))**

15. 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 COMS as specified in S.C. VI.11. **(40 CFR 63.7833(c)(1))**

16. 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))**

17. 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))**

18. 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))**

19. 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))**

20. Using the method shown in Appendix 1.7, the permittee shall calculate monthly and 12-month rolling time period NOx emission calculations for FGBOFSHOP secondary baghouse stack. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

21. The permittee shall keep on a daily basis, record of the amount of iron processed at the BOF shop. The permittee shall keep the records on file at the facility and make them available to the department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2802(4), R 336.2801(ee), R 336.2803, R 336.2804)**

22. The permittee shall perform a Method 9C certified visible emission observation for the FGBOFSHOP roof monitors at least three times per week on separate days during BOF operations for a minimum of two hours which must include two complete heats. 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. **(R 336.1331)**

    a) If visible emissions from the EUBOFSHOP Roof Monitor exhibit opacity greater than 10%, on a three-minute average, the permittee shall investigate the reasons for the exceedance and shall verify that the appropriate work practices set forth in SC VI.22.b were followed. Any instance of EUBOFSHOP Roof Monitor opacity in excess of 10% for a 3-minute average shall be defined herein as a period of Elevated Opacity.

    b) In the event of a period of Elevated Opacity, the permittee must be able to demonstrate that the following work practices standards for FGBOFSHOP were followed. The following work practices can be amended or revised upon approval of the AQD District Supervisor:

        i) Hot metal shall not be poured at the reladling station until the hood is in the closed position.
        ii) Additive injections shall not occur until the desulfurization baghouse ID fan is operating at greater than 65 amps.
        iii) The fan speed for the BOF Secondary Baghouse control system shall be maintained in accordance with the set points (+/- 2% of the measured speed) set forth in the updated operation and maintenance plan during charging and/or tapping operations at the BOF vessels as applicable.
        iv) The dampers in the BOF Secondary capture system shall be maintained in accordance the set points (+/- 10% the measured position) set forth in the updated operation and maintenance plan during charging and/or tapping operations at the BOF vessels as applicable.
        v) The hot metal charges at the BOF vessels are a minimum 90 second long.
        vi) During charging of the BOF Vessels the charge angle shall be no less than 40 degrees and not exceed 55 degrees from vertical as the charge progresses.
        vii) During the oxygen blow, the permittee shall observe the vessel for slopping and shall manually reduce the oxygen rate if visible emissions from the slopping appear to have the ability to cause an exceedance of the opacity limit at the BOF Roof Monitor.
        viii) Charging should not be conducted until the associated dampers have been set to charging mode and had time to move to correct position.
        ix) After charging, the vessel shall not be moved to an upright position until online mode has been selected.
        x) The current operating mode on the off charge vessel shall not change from tapping to online or offline, or online to offline mode, until the charge is complete.
        xi) Maintain steel ladle under the tapping hood during kicker addition until the emissions have subsided.
        xii) Tapping should not be conducted until the associated dampers have been set to tapping mode and had time to move to correct position. **(R 336.12051(a) & (b), R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

c) In the event of deviation from any work practice requirement, the permittee shall undertake immediate corrective action to address the deviation. The permittee shall keep a written record of each corrective action taken. The permittee shall keep the records on file at the facility and make them available to the department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

23. The permittee shall monitor and record the work practice standards listed in SC VI.22.b using a data control system and work logs. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

24. The permittee shall conduct quarterly visual inspections to confirm the continued presence of physical barriers utilized to assist in maintaining capture efficiency, including shrouds and gap closures. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

25. The permittee shall verify the fan flow conditions for FGBOFSHOP, as specified in the operation and maintenance plan, at least once per calendar year or more frequently as deemed necessary by the AQD District Supervisor. The flow rate verifications will be conducted in the ductwork riser connecting the charge and tap hoods to the main duct connecting it to the baghouse avoiding, to the extent possible, cyclonic flows. If the flow rate verification identifies a need to revise any set points, then Severstal shall update the fan speed and/or damper positions, as necessary, in the operation and maintenance plan as well as all procedures necessary to implement any such new set points. Any changes in the set points are subject to a retest under SC V.5. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

26. The permittee shall verify the damper positions for FGBOFSHOP on a quarterly basis. The permittee shall also inspect and calibrate the damper position to ensure that the actuator is achieving the desired set point for each operating scenario as defined in the operation and maintenance plan. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

27. The permittee shall verify the fan speed/amperage set point for FGBOFSHOP on a quarterly basis, this will include verification of fan speed measurements and calibrations using an independent measurement of the amperage/speed. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

28. The permittee shall perform preventative maintenance on the EUBOFSHOP ESP and baghouses as specified in the operation and maintenance plan for each control device. **(40 CFR 63.7834(a)(2))**

29. 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 63.7833(c)(4) and 40 CFR 63.7842(d))**

30. The permittee shall maintain a copy of the current operation and maintenance plans required in SC VI.27 onsite and available for inspection. **(40 CFR 63.7834(b))**

VII. REPORTING

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. 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))**

3. The permittee shall provide quarterly reports to MDEQ AQD Detroit Office regarding each instance of Elevated Opacity. The report shall include the relevant visible emissions readings, documentation of compliance with work practice requirements, and identification of all corrective actions taken. The quarterly report shall be provided by the last day of the month following the end of each calendar quarter. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

4. Within 60 days of completing the CFD modeling or other approved method required in V.8, the permittee shall submit a report regarding the evaluation of emission collection equipment to the AQD District Supervisor that will identify whether boundary conditions have materially changed. The report shall state whether equipment or process adjustments are necessary to maintain the minimum capture efficiency indicated by the computational fluid dynamics (CFD) modeling submitted with the 182-05C Application and if so, identify what adjustments are anticipated and identify a schedule for making such adjustments. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOFESP	204	213	R 336.1225 R 336.2803, R 336.2804
2. SVBOFBH	222	200	R 336.1225 R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

1. Records required under 40 CFR Part 63, Subpart FFFFF and specified in this section 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))**

2. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart FFFFF for Integrated Iron and Steel Manufacturing by the initial compliance date. **(40 CFR Part 63, Subparts A and Subpart FFFFF)**

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to:
FGANNEALFURNACES

DESCRIPTION: 52 annealing furnaces (composed of 34 hydrogen nitrogen annealing furnaces and 18 hydrogen annealing furnaces) located in the Cold Mill Building.

Flexible Group ID: FGANNEALFURNACES

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	20% Opacity	6-minute average	FGANNEALFURNACES	GC 13	R 336.1301(1)(c)
2. PM	10 lb/MMscf	Test Protocol*	FGANNEALFURNACES	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4)
3. PM10	10 lb/MMscf	Test Protocol*	FGANNEALFURNACES	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
4. PM2.5	10 lb/MMscf	Test Protocol*	FGANNEALFURNACES	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
5. NOx	140 lb/MMscf	Test Protocol*	FGANNEALFURNACES	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
*Test Protocol will specify averaging time.					

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. Oil shall not be used as fuel in the FGANNEALFURNACES. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall monitor and record, in a satisfactory manner, the total natural gas usage for the FGANNEALFURNACES on a monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804, R 336.2810)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to:
FGHSMFURNACES123

DESCRIPTION: Three Slab reheat furnaces Nos. 1, 2 and 3 located in the Hot Strip Mill Building.

Emission Units: EUREHEATFURN1, EUREHEATFURN2, EUREHEATFURN3

POLLUTION CONTROL EQUIPMENT:

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Visible emissions	20%	6-minute average	FGHSMFURNACES123	GC 13	R 336.1301(1)(c)
2. PM	10 lb/MMscf	Test Protocol*	FGHSMFURNACES123	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4)
3. PM10	10 lb/MMscf	Test Protocol*	FGHSMFURNACES123	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
4. PM2.5	10 lb/MMscf	Test Protocol*	FGHSMFURNACES123	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
5. NOx	0.11 lb/MMBtu	Test Protocol*	FGHSMFURNACES123	SC V.1	R 336.1205(1)(a) & (b) R 336.1801 R 336.2801(ee) R 336.2802(4)

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. Oil shall not be used as fuel in the FGHSMFURNACES123. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall verify NOx emission rates from a representative reheat furnace from FGHSMFURNACES123 by testing at owner's expense, in accordance with Department requirements once every ROP renewal period. 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. **(R 336.1205(1)(a) & (b), R 336.1801, R 336.2001, R 336.2003, R 336.2004, R 336.2801(ee), R 336.2803, R 336.2804)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall monitor and record, in a satisfactory manner, the total natural gas usage for the FGHSMFURNACES123 on a monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804, R 336.2810)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVHSMREHEAT1-S	168	208	R 336.1225 R 336.2803, R 336.2804
2. SVHSMREHEAT1-N	168	208	R 336.1225 R 336.2803, R 336.2804
3. SVHSMREHEAT2-S	168	208	R 336.1225 R 336.2803, R 336.2804
4. SVHSMREHEAT2-N,	168	208	R 336.1225 R 336.2803, R 336.2804
5. SVHSMREHEAT3-S	168	208	R 336.1225, R 336.2803, R 336.2804
6. SVHSMREHEAT3-N	168	208	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENTS

NA

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to:
FG-ENG2007>500

DESCRIPTION: Two SI engines at a major source greater than 500 horsepower.

Emission Units: EU-ENGCBFTC, EU-ENGCBFHS

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO_x	3.04 pph	Test Protocol*	EU-ENGCBFTC of FG-ENG2007>500	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
2. NO_x	4.58 pph	Test Protocol*	EU-ENGCBFHS of FG-ENG2007>500	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
*Test Protocol will specify averaging time.					

II. MATERIAL LIMITS

1. The permittee shall burn only pipeline quality natural gas, in FG-ENG2007>500. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate FG-ENG2007>500 for more than 500 hours per year per engine on a 12-month rolling time period basis as determined at the end of each calendar month. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

2. The permittee shall install, maintain, and operate each engine in FG-ENG2007>500 according to the manufacturer written instructions, or procedures developed by the owner/operator and approved by the engine manufacturer, over the entire life of the engine. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip and maintain each engine in FG-ENG2007>500 with non-resettable hours meters to track the operating hours. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

2. The nameplate capacity of each engine in FG-ENG2007>500 shall not exceed the following horsepower, as certified by the equipment manufacturer:

   a. EU-ENGCBFTC – 530 hp

   b. EU-ENGCBFHS – 800 hp

   (R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall monitor and record, the hours of operation of each engine in FG-ENG2007>500, on a monthly and 12- month rolling time period basis, in a manner that is acceptable to the District Supervisor, Air Quality Division. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-ENGCBFTC[1]	5.9	35	R 336.1225, R 336.2803, R 336.2804,
2. SV-ENGCBFHS[1]	9.8	40	R 336.1225, R 336.2803, R 336.2804,
[1] – Stack is capped			

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines, as they apply to FG-ENG2007>500. **(40 CFR, Part 63, Subparts A and ZZZZ)**

The following conditions apply to:
FG-ENG2007<500

DESCRIPTION: Four SI engines at a major source less than 500 horsepower and limited use.
Emission Units: EU-ENGCBFBS, EU-ENGWSAC, EU-ENGCBFDM, and EU-ENGCBFGS

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO_x	9.91 pph	Test Protocol*	EU-ENGCBFBS of FG-ENG2007<500	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
2. NO_x	9.91 pph	Test Protocol*	EU-ENGWSAC of FG-ENG2007<500	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
3. NO_x	7.70 pph	Test Protocol*	EU-ENGCBFDM of FG-ENG2007<500	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
4. NO_x	1.64 pph	Test Protocol*	EU-ENGCBFGS of FG-ENG2007<500	GC 13	R 336.1205(1)(a) & (b) R 336.2801(ee) R 336.2802(4) R 336.2803, R 336.2804
*Test Protocol will specify averaging time.					

II. MATERIAL LIMITS

1. The permittee shall burn only pipeline quality natural gas, in FG-ENG2007<500. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate FG-ENG2007<500 for more than 500 hours per year per engine on a 12-month rolling time period basis as determined at the end of each calendar month. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

2. The permittee shall install, maintain, and operate each engine in FG-ENG2007<500 according to the manufacturer written instructions, or procedures developed by the owner/operator and approved by the engine manufacturer, over the entire life of the engine. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip and maintain each engine in FG-ENG2007<500 with non-resettable hours meters to track the operating hours. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

2. The nameplate capacity of each engine in FG-ENG2007<500 shall not exceed the following horsepower, as certified by the equipment manufacturer:

   a. EU-ENGCBFBS – 250 hp

   b. EU-ENGWSAC – 250 hp

   c. EU-ENGCBFDM – 145 hp

   d. EU-ENGCBFGS – 95 hp

   (R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2801(ee), R 336.2802(4), R 336.2803, R 336.2804)**

2. The permittee shall monitor and record, the hours of operation of each engine in FG-ENG2007<500, on a monthly and 12- month rolling time period basis, in a manner that is acceptable to the District Supervisor, Air Quality Division. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2801(ee), R 336.2802(4))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-ENGCBFBS[1]	5.9	35	R 336.1225, R 336.2803, R 336.2804,
2. SV-ENGWSAC[2]	3.9	16	R 336.1225, R 336.2803, R 336.2804,
3. SV-ENGCBFDM[1]	16.1	20	R 336.1225, R 336.2803, R 336.2804,
4. SV-ENGCBFGS[2]	5.9	10	R 336.1225, R 336.2803, R 336.2804,
[1] – Stack is capped [2] – Stack is horizontal			

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines, as they apply to FG-ENG2007<500. **(40 CFR, Part 63, Subparts A and ZZZZ)**

2. The permittee shall comply with all provisions of the New Source Performance Standards, as specified in 40 CFR Part 60, Subpart A and Subpart JJJJ, for Spark Ignition Stationary Reciprocating Internal Combustion Engines, as they apply to FG-ENG2007<500. **(40 CFR Part 60, Subparts A and JJJJ)**

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply Source-Wide to:
FGORDERS

DESCRIPTION: Facility wide restrictions per consent orders

Emission Units:

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

1. The conditions contained in this permit for which a Consent Order is the only identified applicable requirement shall be considered null and void upon the effective date of termination of the Consent Order. The effective date of termination is defined for the purposes of the conditions as the date upon which the Termination Order is signed by the Chief of the Air Quality Division or by an authorized U.S Environmental Protection Agency representative. **(R 336.1201(3))**

2. The conditions contained in this permit for which a Consent Judgment or Consent Decree is the only identified applicable requirement shall be considered null and void upon the effective date of termination of the Consent Judgment or Decree. The effective date of termination is defined for the purposes of the conditions as the date upon which a Stipulation and Order for Termination is signed by a Circuit Court Judge or by a United States District Court Judge or Magistrate Justice. **(R 336.1201(3))**

APPENDIX 1.3

Monitoring Requirements

1.3.1 SO_2 Monitoring Continuous Emission Rate Monitoring System (CERMS) Requirements for EUBFURNACE

1. Within 30 calendar days after commencement of trial operation, 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 CERMS.

2. Within 150 calendar days after commencement of trial operation, the permittee shall submit two copies of a complete test plan for the CERMS to the AQD for approval.

3. Within 180 calendar days after commencement of trial operation, the permittee shall complete the installation and testing of the CERMS.

4. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CERMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table.

Pollutant	Applicable PS
SO_2	2
CERMS	6

5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.

6. The CERMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13, PS 2 and PS 6 of Appendix B to 40 CFR Part 60.

7. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CERMS 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.

Pollutant	Limit	Time Period / Operating Scenario	Equipment
1. SO_2	71.9 pph	Based on a calendar day average	EUBFURNACE baghouse stack
2. SO_2	38.75 pph	Based on a calendar day average	EUBFURNACE stove stack
3. SO_2	77.8 pph	Based on a calendar day average	Total of EUBFCASTHOUSE

   b. A report of all periods of CERMS downtime and corrective action.

   c. A report of the total operating time of each of the EUBFURNACE and EUBFCESTOVE during the reporting period.

   d. A report of any periods that the CERMS exceeds the instrument range.

   e. If no exceedances or CERMS downtime occurred during the reporting period, the permittee shall report that fact.

The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request.

1.3.2 SO_2 Monitoring Continuous Emission Rate Monitoring System (CERMS) Requirements for EUCFURNACE

1. For EUCFURNACE, 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 CERMS.

2. For EUCFURNACE, within 150 calendar days of the issuance of this permit, the permittee shall submit two copies of a complete test plan for the CERMS to the AQD for approval.

3. For EUCFURNACE, within 180 calendar days of the issuance of this permit, the permittee shall complete the installation and testing of the CERMS.

4. For EUCFURNACE, within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CERMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table.

Pollutant	Applicable PS
SO_2	2
CERMS	6

5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.

6. The CERMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13, PS 2 and PS 6 of Appendix B to 40 CFR Part 60.

7. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CERMS 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.

Pollutant	Limit	Time Period / Operating Scenario	Equipment
1. SO_2	179.7 pph	Based on a calendar day average	EUCFURNACE baghouse stack
2. SO_2	193.6 pph	Based on a calendar day average	EUCFURNACE stove stack
3. SO_2	271.4 pph	Based on a calendar day average	Total of EUCFURNACE

   b. A report of all periods of CERMS downtime and corrective action.

   c. A report of the total operating time of each of the EUCFURNACE and EUCFCESTOVE during the reporting period.

   d. A report of any periods that the CERMS exceeds the instrument range.

   e. If no exceedances or CERMS downtime occurred during the reporting period, the permittee shall report that fact.

The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request.

1.3.3 Continuous Opacity Monitoring System (COMS) Requirements

1. 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.

2. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.

3. 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.

4. 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.

5. 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.

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.

EURELADLINGBOF ROOF MONITOR SC VI.6

The permittee shall use the following calculations with the emission factors listed or the most recent calculated emission factor based on stack testing and by a calculation method acceptable to the AQD District Supervisor to determine compliance with the recordkeeping requirements referenced in EURELADLINGBOF SC VI.6:

The calculations for equipment controlled by EUBOF secondary baghouse must consider capture efficiency of the baghouse in the calculation to determine the proposed emission factor for the roof monitor.

The 12-month rolling average emissions are calculated by summing current monthly emissions plus the previous 11-month emissions.

PM

PM Monthly EURELADLINGBOF roof monitor emissions =
Monthly Reladling throughput (ton/month) x 0.0038 lb PM/ton / 2,000 lb/ton

PM10

PM10 Monthly EURELADLINGBOF roof monitor emissions =
Monthly Reladling throughput (ton/month) x 2.17E-3 lb PM10/ton / 2,000 lb/ton

PM2.5

PM2.5 Monthly EURELADLINGBOF roof monitor emissions =
Monthly Reladling throughput (ton/month) x 1.10E-3 lb PM2.5/ton / 2,000 lb/ton

EUBOFDESULF ROOF MONITOR SC VI.15

The permittee shall use the following calculations with the emission factors listed or the most recent calculated emission factor based on stack testing and by a calculation method acceptable to the AQD District Supervisor to determine compliance with the recordkeeping requirements referenced in EUBOFDESULF SC VI.15:

The calculations for equipment controlled by EUDESULFURIZTION baghouse must consider capture efficiency of the baghouse in the calculation to determine the proposed emission factor for the roof monitor.

The 12-month rolling average emissions are calculated by summing current monthly emissions plus the previous 11-month emissions.

PM

PM Monthly EUBOFDESULF roof monitor emissions =
Monthly throughput (ton/month) x 0.0763 lb PM/ton / 2,000 lb/ton

PM10

PM10 Monthly EUBOFDESULF roof monitor emissions =
Monthly throughput (ton/month) x 0.0147 lb PM10/ton / 2,000 lb/ton

PM2.5

PM2.5 Monthly EUBOFDESULF roof monitor emissions =
Monthly throughput (ton/month) x 0.00858 lb PM2.5/ton / 2,000 lb/ton

EUBOF ESP STACK SC VI.33

The permittee shall use the following calculations with the emission factors listed or the most recent calculated emission factor based on stack testing and by a calculation method acceptable to the AQD District Supervisor to determine compliance with the recordkeeping requirements referenced in EUBOF SC VI.33:

The 12-month rolling average emissions are calculated by summing current monthly emissions plus the previous 11-month emissions.

NOx

NOx Monthly EUBOF ESP stack emissions =
Monthly steel throughput (ton/month) x 0.08 lb NOx/ton / 2,000 lb/ton

EUBOF ROOF MONITOR SC VI.34

The permittee shall use the following calculations with the emission factors listed or the most recent calculated emission factor based on stack testing and by a calculation method acceptable to the AQD District Supervisor to determine compliance with the recordkeeping requirements referenced in EUBOF SC VI.34:

The calculations for equipment controlled by EUBOF baghouse must consider capture efficiency of the baghouse in the calculation to determine the proposed emission factor for the roof monitor.

The 12-month rolling average emissions are calculated by summing current monthly emissions plus the previous 11-month emissions.

PM

PM Monthly EUBOF roof monitor emissions =
Monthly throughput steel tapping (ton/month) x 0.0184 lb PM/ton / 2,000 lb/ton +
Monthly throughput slag tapping (ton/month) x 0.0184 lb PM/ton / 2,000 lb/ton +
Monthly throughput iron charging (ton/month) x 0.0120 lb PM/ton / 2,000 lb/ton

PM10

PM10 Monthly EUBOF roof monitor emissions =
Monthly throughput steel tapping (ton/month) x 0.00834 lb PM10/ton / 2,000 lb/ton +
Monthly throughput slag tapping (ton/month) x 0.00828 lb PM10/ton / 2,000 lb/ton +
Monthly throughput iron charging (ton/month) x 0.00559 lb PM10/ton / 2,000 lb/ton

PM2.5

PM2.5 Monthly EUBOF roof monitor emissions =
Monthly throughput steel tapping (ton/month) x 0.00687 lb PM2.5/ton / 2,000 lb/ton +
Monthly throughput slag tapping (ton/month) x 0.00681 lb PM2.5/ton / 2,000 lb/ton +
Monthly throughput iron charging (ton/month) x 0.00271 lb PM2.5/ton / 2,000 lb/ton

FGB&CFURNACES BAGHOUSE STACK SC VI.3

The permittee shall use the following calculations with the emission factors listed or the most recent calculated emission factor based on stack testing and by a calculation method acceptable to the AQD District Supervisor to determine compliance with the recordkeeping requirements referenced in FGB&CFURNACES SC VI.3:

The 12-month rolling average emissions are calculated by summing current monthly emissions plus the previous 11-month emissions.

PM

PM Monthly FGB&CFURNACES Baghouse stack emissions =
Monthly B casthouse throughput (ton/month) x 0.0456 lb PM/ton / 2,000 lb/ton +
Monthly C casthouse throughput (ton/month) x 0.0416 lb PM/ton / 2,000 lb/ton

PM10

PM10 Monthly FGB&CFURNACES Baghouse stack emissions =
Monthly B casthouse throughput (ton/month) x 0.0567 lb PM10/ton / 2,000 lb/ton +
Monthly C casthouse throughput (ton/month) x 0.0547 lb PM10/ton / 2,000 lb/ton

PM2.5

PM2.5 Monthly FGB&CFURNACES Baghouse stack emissions =
Monthly B casthouse throughput (ton/month) x 0.0567 lb PM2.5/ton / 2,000 lb/ton +
Monthly C casthouse throughput (ton/month) x 0.0547 lb PM2.5/ton / 2,000 lb/ton

NOx

NOx Monthly FGB&CFURNACES Baghouse stack emissions =
Monthly combined casthouse throughput (ton/month) x 0.00588 lb NOx/ton / 2,000 lb/ton +
Monthly natural gas suppression usage combined (MMSCF/month) x 140 lb/MMSCF/2,000 lb/ton

VOC

VOC Monthly FGB&CFURNACES Baghouse stack emissions =
Monthly combined casthouse throughput (ton/month) x 0.0298 lb VOC/ton / 2,000 lb/ton

Pb

Pb Monthly FGB&CFURNACES Baghouse stack emissions =
Monthly B casthouse throughput (ton/month) x 2.424E-5 lb Pb/ton / 2,000 lb/ton +
Monthly C casthouse throughput (ton/month) x 2.296E-5 lb Pb/ton / 2,000 lb/ton

Mn

Mn Monthly FGB&CFURNACES Baghouse stack emissions =
Monthly B casthouse throughput (ton/month) x 1.333E-4 lb Mn/ton / 2,000 lb/ton +
Monthly C casthouse throughput (ton/month) x 1.258E-4 lb Mn/ton / 2,000 lb/ton

FGB&CFURNACES STOVE STACKS SC VI.5

The permittee shall use the following calculations with the emission factors listed or the most recent calculated emission factor based on stack testing and by a calculation method acceptable to the AQD District Supervisor to determine compliance with the recordkeeping requirements referenced in FGB&CFURNACES SC VI.5:

The 12-month rolling average emissions are calculated by summing current monthly emissions plus the previous 11-month emissions.

PM

PM Monthly FGB&CFURNACES stove stack emissions =
Monthly combined casthouse natural gas usage (MMSCF/month) x 1.9 lb PM/MMSCF / 2,000 lb/ton +
Monthly combined casthouse blast furnace gas usage (MMSCF/month) x 1.28 lb PM/MMSCF / 2,000 lb/ton

PM10

PM10 Monthly FGB&CFURNACES stove stack emissions =
Monthly combined casthouse natural gas usage (MMSCF/month) x 7.6 lb PM10/MMSCF / 2,000 lb/ton +
Monthly combined casthouse blast furnace gas usage (MMSCF/month) x 3.58 lb PM10/MMSCF / 2,000 lb/ton

PM2.5

PM2.5 Monthly FGB&CFURNACES stove stack emissions =
Monthly combined casthouse natural gas usage (MMSCF/month) x 7.6 lb PM2.5/MMSCF / 2,000 lb/ton +
Monthly combined casthouse blast furnace gas usage (MMSCF/month) x 3.58 lb PM2.5/MMSCF / 2,000 lb/ton

NOx

NOx Monthly FGB&CFURNACES stove stack emissions =
Monthly combined casthouse natural gas usage (MMSCF/month) x 140 lb NOx/MMSCF / 2,000 lb/ton +
Monthly combined casthouse blast furnace gas usage (MMSCF/month) x 13.57 lb NOx/MMSCF / 2,000 lb/ton

CO

CO Monthly FGB&CFURNACES stove stack emissions =
Monthly combined casthouse natural gas usage (MMSCF/month) x 84 lb CO/MMSCF / 2,000 lb/ton +
Monthly combined casthouse blast furnace gas usage (MMSCF/month) x 328.9 lb CO/MMSCF / 2,000 lb/ton

Pb

Pb Monthly FGB&CFURNACES stove stack emissions =
Monthly combined casthouse natural gas usage (MMSCF/month) x 5E-4 lb Pb/MMSCF / 2,000 lb/ton +
0.03557 mg/m^3 x BFG usage (MMSCF/month) x 0.002096 lb/MMSCF x 1 ton/2,000 lb

Mn

Mn Monthly FGB&CFURNACES stove stack emissions =
Monthly combined casthouse natural gas usage (MMSCF/month) x 3.8E-4 lb Mn/MMSCF / 2,000 lb/ton +
Monthly combined casthouse blast furnace gas usage (MMSCF/month) x 2.31E-3 lb Mn/MMSCF / 2,000 lb/ton

Hg

Hg Monthly FGB&CFURNACES stove stack emissions =
Monthly combined casthouse natural gas usage (MMSCF/month) x 2.6E-4 lb Hg/MMSCF / 2,000 lb/ton +
Monthly combined casthouse blast furnace gas usage (MMSCF/month) x 5.43E-4 lb Hg/MMSCF / 2,000 lb/ton

FGB&CFURNACES ROOF MONITOR SC VI.4

The permittee shall use the following calculations with the emission factors listed or the most recent calculated emission factor based on stack testing and by a calculation method acceptable to the AQD District Supervisor to determine compliance with the recordkeeping requirements referenced in FGB&CFURNACES SC VI.4:

The calculations for equipment controlled by FGB&CFURNACES baghouse must consider capture efficiency of the baghouse in the calculation to determine the proposed emission factor for the roof monitor.

The 12-month rolling average emissions are calculated by summing current monthly emissions plus the previous 11-month emissions.

PM

PM Monthly FGB&CFURNACES roof monitor emissions =
Monthly combined casthouse throughput (ton/month) x 0.0167 lb PM/ton / 2,000 lb/ton

PM10

PM10 Monthly FGB&CFURNACES roof monitor emissions =
Monthly combined casthouse throughput (ton/month) x 0.009 lb PM10/ton / 2,000 lb/ton

PM2.5

PM2.5 Monthly FGB&CFURNACES roof monitor emissions =
Monthly combined casthouse throughput (ton/month) x 0.00438 lb PM2.5/ton / 2,000 lb/ton

Pb

Pb Monthly FGB&CFURNACES roof monitor emissions =
Monthly combined casthouse throughput (ton/month) x 2.65E-5 lb Pb/ton / 2,000 lb/ton

Mn

Mn Monthly FGB&CFURNACES roof monitor emissions =
Monthly combined casthouse throughput (ton/month) x 1.55E-4 lb Mn/ton / 2,000 lb/ton

FGBOFSHOP SECONDARY BAGHOUSE STACK SC VI. 20

The permittee shall use the following calculations with the emission factors listed or the most recent calculated emission factor based on stack testing and by a calculation method acceptable to the AQD District Supervisor to determine compliance with the recordkeeping requirements referenced in FGBOFSHOP SC VI. 20:

The 12-month rolling average emissions are calculated by summing current monthly emissions plus the previous 11-month emissions.

NOx

NOx Monthly FGBOFSHOP secondary baghouse stack emissions =
Monthly steel production rate (ton/month) x 0.02 lb NOx/ton / 2,000 lb/ton